Men's 110m Hurdles Touchdown Times - by athlete

LAST UPDATE: 22-May-25

Abate, Emanuele (ITA) (1985)			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2016 Golden Gala Pietro Mennea (Roma, ITA) (TV Analysis)															*Henson (2020) - Athlete First: 2016 year end hurdle report*			
date	02-Jun-16	time	2.60	3.72	4.78	5.82	6.86	7.94	8.98	10.08	11.16	12.26		13.83	9 / 6			
reaction time	0.149	interval	7 steps	1.12	1.06	1.04	1.04	1.08	1.04	1.10	1.08	1.10	1.57			3.22	3.16	3.28
wind	0.6 m/s	velocity	5.28	8.16	8.62	8.79	8.79	8.46	8.79	8.31	8.46	8.31	8.93	7.95		8.52	8.68	8.36
FINAL - 2012 IAAF World Indoor Championships (Istanbul, TUR) (TV Analysis)															*Henson (2020) - Athlete First: 2012 Aries Merritt world record season*			
date	11-Mar-12	time	2.60	3.62	4.64	5.66	6.68							7.63	7 / 6			
reaction time	0.155	interval	*7 steps*	1.02	1.02	1.02	1.02						0.95			3.06		
		velocity	5.28	8.96	8.96	8.96	8.96						10.23	7.86		8.96		

Abe, Hirofumi (JPN) (1985)			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Nambu Memorial (Sapporo, JPN)															*(2017) - tfdata-store.com/2017/07/12/post-1025/*			
date	09-Jul-17	time	2.68	3.79	4.86	5.95	7.04	8.13	9.20	10.34	11.47	12.62		14.07	6 / 4			
reaction time		interval		1.11	1.07	1.09	1.09	1.09	1.07	1.14	1.13	1.15	1.45			3.27	3.25	3.42
wind	2.7 m/s	velocity	5.12	8.23	8.54	8.39	8.39	8.39	8.54	8.02	8.09	7.95	9.67	7.82		8.39	8.44	8.02
FINAL - 2017 East Japan Business Athletics Championships (Yuma, JPN)															*(2017) - tfdata-store.com/2017/05/20/post-579/*			
date	20-May-17	time	2.61	3.71	4.80	5.88	6.95	8.06	9.14	10.26	11.40	12.53		14.02	3 / 6			
reaction time		interval		1.10	1.09	1.08	1.07	1.11	1.08	1.12	1.14	1.13	1.49	**PB**		3.27	3.26	3.39
wind	1.1 m/s	velocity	5.26	8.31	8.39	8.46	8.54	8.23	8.46	8.16	8.02	8.09	9.41	7.85		8.39	8.41	8.09

Abe, Masaya (JPN) (1996)			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Nambu Memorial (Sapporo, JPN)															*(2017) - tfdata-store.com/2017/07/12/post-1025/*			
date	09-Jul-17	time	2.69	3.83	4.95	6.08	7.23	8.35	9.47	10.61	11.76	12.93		14.45	2 / 7			
reaction time		interval		1.14	1.12	1.13	1.15	1.12	1.12	1.14	1.15	1.17	1.52			3.39	3.39	3.46
wind	2.7 m/s	velocity	5.10	8.02	8.16	8.09	7.95	8.16	8.16	8.02	7.95	7.81	9.22	7.61		8.09	8.09	7.92

Abe, Ryoto (JPN) (2000)			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN) (99cm)															*Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection*			
date	06-Aug-18	time	2.62	3.69	4.79	5.86	6.96	8.06	9.17	10.28	11.41	12.58		14.09	8 / 1			
reaction time		interval		1.07	1.10	1.07	1.10	1.10	1.11	1.11	1.13	1.17	1.51	**PB**		3.24	3.31	3.41
wind	1.6 m/s	velocity	5.24	8.54	8.31	8.54	8.31	8.31	8.23	8.23	8.09	7.81	9.28	7.81		8.46	8.28	8.04
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN) (99cm)															*Kota (2017) - 70th high school championships: JAF scientific committee- biomechanics data*			
date	02-Aug-17	time	2.65	3.76	4.92	6.03	7.20	8.34	9.48	10.63	11.82	12.99		14.48	8 / 5			
reaction time	0.144	interval		1.11	1.16	1.11	1.17	1.14	1.14	1.15	1.19	1.17	1.49			3.38	3.45	3.51
wind	-0.7 m/s	velocity	5.18	8.23	7.88	8.23	7.81	8.02	8.02	7.95	7.68	7.81	9.41	7.60		8.11	7.95	7.81
Heat 4 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm)															*(2016.11.08) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date	21-Oct-16	time	2.66	3.76	4.85	5.96	7.06	8.18	9.32	10.45	11.63	12.83		14.30	2 / 3			
reaction time		interval		1.10	1.09	1.11	1.10	1.12	1.14	1.13	1.18	1.20	1.47			3.30	3.36	3.51
wind	1.5 m/s	velocity	5.16	8.31	8.39	8.23	8.31	8.16	8.02	8.09	7.75	7.62	9.54	7.69		8.31	8.16	7.81

Abe, Tatsuki (JPN) (2003)			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2024 Japanese National Championsips (Niigata, JPN)															*Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*			
date	30-Jun-24	time	2.64	3.70	4.72	5.76	6.79	7.81	8.85	9.90	10.95	12.02		13.41	4 / 4			
reaction time	0.158	interval	7 steps	1.06	1.02	1.04	1.03	1.02	1.04	1.05	1.05	1.07	1.39			3.12	3.09	3.17
wind	0.2 m/s	velocity	5.20	8.62	8.96	8.79	8.87	8.96	8.79	8.70	8.70	8.54	10.09	8.20		8.79	8.87	8.65
FINAL - 2024 Fuse Sprint (Tottori, JPN)															*Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*			
date	02-Jun-24	time	2.63	3.70	4.75	5.78	6.81	7.83	8.86	9.89	10.92	11.97		13.35	4 / 3			
reaction time	0.147	interval	7 steps	1.07	1.05	1.03	1.03	1.02	1.03	1.03	1.03	1.05	1.38	**PB**		3.15	3.08	3.11
wind	1.3 m/s	velocity	5.22	8.54	8.70	8.87	8.87	8.96	8.87	8.87	8.87	8.70	10.16	8.24		8.70	8.90	8.82
FINAL - 2024 Seiko Golden Grand Prix (Tokyo, JPN)															*Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*			
date	19-May-24	time	2.61	3.69	4.77	5.83	6.88	7.95	9.00	10.09	11.14	12.25		13.63	2 / 6			
reaction time	0.140	interval	7 steps	1.08	1.08	1.06	1.05	1.07	1.05	1.09	1.05	1.11	1.38			3.22	3.17	3.25
wind	-0.6 m/s	velocity	5.26	8.46	8.46	8.62	8.70	8.54	8.70	8.39	8.70	8.23	10.16	8.07		8.52	8.65	8.44
FINAL - 2024 Mikio Oda Memorial (Hiroshima, JPN)															*Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*			
date	29-Apr-24	time	2.65	3.73	4.78	5.80	6.85	7.89	8.94	9.99	11.06	12.14		13.52	5 / 2			
reaction time	0.147	interval	7 steps	1.08	1.05	1.02	1.05	1.04	1.05	1.05	1.07	1.08	1.38	**PB**		3.15	3.14	3.20
wind	-0.6 m/s	velocity	4.91	7.87	8.10	8.33	8.10	8.17	8.10	8.10	7.94	7.87	10.16	8.14		8.70	8.73	8.57
FINAL - 2022 Japanese U20 National Championsips (Osaka, JPN) (99cm)															*Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*			
date	12-Jun-22	time	2.65	3.73	4.77	5.80	6.82	7.85	8.91	9.96	11.01	12.09		13.49	4 / 1			
reaction time	0.157	interval	7 steps	1.08	1.04	1.03	1.02	1.03	1.06	1.05	1.05	1.08	1.40	**PB**		3.15	3.11	3.18
wind	1.1 m/s	velocity	5.18	8.46	8.79	8.87	8.96	8.87	8.62	8.70	8.70	8.46	10.01	8.15		8.70	8.82	8.62

Abudoula Afuzileasimu (CHN) (2002	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Chinese National Grand Prix Final (Rizhao, CHN) *Shandong Athletics Sport Science (2024)*

date	30-Jun-24	time	2.64	3.70	4.77	5.82	6.87	7.91	8.97	10.04	11.12	12.25		13.66	2 / 7			
reaction time	0.136	interval		1.06	1.07	1.05	1.05	1.04	1.06	1.07	1.08	1.13	1.41	=PB		3.18	3.15	3.28
wind	0.9 m/s	velocity	5.20	8.62	8.54	8.70	8.70	8.79	8.62	8.54	8.46	8.09	9.94	8.05		8.62	8.70	8.36

Acson, Dennis (SWE) (1981)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2011 Windsprint (Sundsvall, SWE) *Blomkvist (2011) - www.sub13.se*

date	31-Jul-11	time	2.74	3.85	4.97	6.09	7.24							14.99	/ 5			
reaction time		interval		1.11	1.12	1.12	1.15									3.35		
wind	2.8 m/s	velocity	5.01	8.23	8.16	8.16	7.95							7.34		8.19		

FINAL - 2007 Windsprint (Sundsvall, SWE) *(2007) - www.ssg.se/en/Windsprint/Split-times/*

date	24-Jul-07	time		3.80			7.21			10.63				14.62	/ 5			
reaction time		interval					3.41			3.42			3.99					
wind	1.3 m/s	velocity		6.02			8.04			8.02			8.10	7.52				

Adachi, Eiji (JPN) (2006)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 Japanese U16 National Championships (Matsuyama, JPN) (99cm) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	24-Oct-21	time	2.73	3.92	5.07	6.25	7.42	8.61	9.79	10.97	12.13	13.32		14.89	/ 7			
reaction time		interval		1.19	1.15	1.18	1.17	1.19	1.18	1.18	1.16	1.19	1.57			3.52	3.54	3.53
wind	1.0 m/s	velocity	5.03	7.68	7.95	7.75	7.81	7.68	7.75	7.75	7.88	7.68	8.93	7.39		7.79	7.75	7.77

Adachi, Hayato (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2019 Shimane High School Championships (Izumo, JPN) *Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*

date	26-May-19	time	2.82	3.99	5.14	6.29	7.47	8.62	9.79	11.01	12.24	13.42		14.99	4 / 1			
reaction time		interval		1.17	1.15	1.15	1.18	1.15	1.17	1.22	1.23	1.18	1.57			3.47	3.50	3.63
wind	2.3 m/s	velocity	4.87	7.81	7.95	7.95	7.75	7.95	7.81	7.49	7.43	7.75	8.93	7.34		7.90	7.83	7.55

FINAL - 2018 Shimane High School Championships (Izumo, JPN) *Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*

date	27-May-18	time	2.85	4.03	5.23	6.43	7.65	8.90	10.17	11.45	12.73	14.03		15.65	4 / 2			
reaction time		interval		1.18	1.20	1.20	1.22	1.25	1.27	1.28	1.28	1.30	1.62			3.58	3.74	3.86
wind	1.2 m/s	velocity	4.81	7.75	7.62	7.62	7.49	7.31	7.20	7.14	7.14	7.03	8.65	7.03		7.66	7.33	7.10

Adams, Spencer (USA) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Drake Relays (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	29-Apr-17	time	2.50	3.56	4.60	5.63	6.66	7.70	8.73	9.80	10.90	12.00		13.56	8 / 6			
reaction time		interval	7 steps	1.06	1.04	1.03	1.03	1.04	1.03	1.07	1.10	1.10	1.56			3.13	3.10	3.27
wind	1.8 m/s	velocity	5.49	8.62	8.79	8.87	8.87	8.79	8.87	8.54	8.31	8.31	8.99	8.11		8.76	8.85	8.39

FINAL - 2016 Doha Diamond League (Doha, QAT) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	06-May-16	time	2.52	3.56	4.60	5.64	6.68	7.72	8.76	9.80	10.88	11.96		13.44	8 / 7			
reaction time	0.124	interval	7 steps	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.08	1.08	1.48			3.12	3.12	3.20
wind	1.4 m/s	velocity	5.44	8.79	8.79	8.79	8.79	8.79	8.79	8.79	8.46	8.46	9.47	8.18		8.79	8.79	8.57

Agawa, Kimiki (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Shimane High School Championships (Izumo, JPN) *Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*

date	28-May-17	time	2.80	4.00	5.20	6.37	7.57	8.77	9.97	11.20	12.47	13.70		15.29	7 / 3			
reaction time		interval		1.20	1.20	1.17	1.20	1.20	1.20	1.23	1.27	1.23	1.59			3.57	3.60	3.73
wind	0.3 m/s	velocity	4.90	7.62	7.62	7.81	7.62	7.62	7.62	7.43	7.20	7.43	8.82	7.19		7.68	7.62	7.35

Aihaiti Yisikandaer (CHN) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 1 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	11-Jul-19	time	2.88	4.10	5.34	6.59	7.81	9.07	10.34	11.58	12.84	14.14		15.80	8 / 5			
reaction time	0.193	interval		1.22	1.24	1.25	1.22	1.26	1.27	1.24	1.26	1.30	1.66			3.71	3.75	3.80
wind	-0.6 m/s	velocity	4.76	7.49	7.37	7.31	7.49	7.25	7.20	7.37	7.25	7.03	8.45	6.96		7.39	7.31	7.22

Aiso, Ibuki (JPN) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Kansai Regional University Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/05/13/post-441/*

date	11-May-17	time	2.69	3.82	4.95	6.06	7.15	8.27	9.42	10.54	11.68	12.85		14.34	3 / 6			
reaction time		interval		1.13	1.13	1.11	1.09	1.12	1.15	1.12	1.14	1.17	1.49			3.37	3.36	3.43
wind	1.6 m/s	velocity	5.10	8.09	8.09	8.23	8.39	8.16	7.95	8.16	8.02	7.81	9.41	7.67		8.14	8.16	7.99

Heat 2 - 2017 Mito Invitational (Mito, JPN) *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.70	3.84	4.98	6.11	7.23	8.35	9.47	10.59	11.73	12.91		14.40	9 / 4			
reaction time		interval		1.14	1.14	1.13	1.12	1.12	1.12	1.12	1.14	1.18	1.49			3.41	3.36	3.44
wind	0.6 m/s	velocity	5.08	8.02	8.02	8.09	8.16	8.16	8.16	8.16	8.02	7.75	9.41	7.64		8.04	8.16	7.97

FINAL - 2017 Kyoto University Meeting (Kyoto, JPN) *(2017) - tfdata-store.com/2017/04/12/post-362/*

date	09-Apr-17	time	2.70	3.84	4.95	6.04	7.17	8.28	9.38	10.50	11.64	12.82		14.33	4 / 3			
reaction time		interval		1.14	1.11	1.09	1.13	1.11	1.10	1.12	1.14	1.18	1.51			3.34	3.34	3.44
wind	1.5 m/s	velocity	5.08	8.02	8.23	8.39	8.09	8.23	8.31	8.16	8.02	7.75	9.28	7.68		8.21	8.21	7.97

Akindele, Oladayo (USA) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2020 Leonard Hilton Memorial Invitational (Houston, TX) *CAA Hurdle Development (2020)*

date	17-Jan-20	time	2.53	3.60	4.64	5.67	6.71						7.78	5 / 1		
reaction time		interval	7 steps	1.07	1.04	1.03	1.04					1.07	PB		3.14	
		velocity	5.42	8.54	8.79	8.87	8.79					9.08	7.71		8.73	

Akins, Ty (USA) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2012 USA Olympic Trials (Eugene, OR) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	30-Jun-12	time	2.40	3.47	4.50	5.54	6.59	7.61	8.61				dnf	1 / --		
reaction time	0.179	interval		1.07	1.03	1.04	1.05	1.02	1.00						3.14	3.07
wind	1.2 m/s	velocity	5.72	8.54	8.87	8.79	8.70	8.96	9.14						8.73	8.93

FINAL - 2011 Folksam GP (Göteborg, SWE) *Blomkvist (2011) - www.sub13.se*

date	11-Jun-11	time	2.44	3.48	4.52	5.56	6.60	7.64	8.68	9.72	10.76	11.84	13.41	/ 1		
reaction time		interval		1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.08	1.57		3.12	3.12	3.16
wind	0.6 m/s	velocity	5.62	8.79	8.79	8.79	8.79	8.79	8.79	8.79	8.79	8.46	8.93	8.20	8.79	8.79	8.68

FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Sep-08	time	2.61	3.69	4.76	5.80	6.86	7.93	9.00	10.06	11.13	12.22	13.62	5 / 6		
reaction time	0.150	interval		1.08	1.07	1.04	1.06	1.07	1.07	1.06	1.07	1.09	1.40		3.19	3.20	3.22
wind	-1.3 m/s	velocity	5.26	8.46	8.54	8.79	8.62	8.54	8.54	8.62	8.54	8.39	10.01	8.08	8.60	8.57	8.52

FINAL - 2008 USA Olympic Trials (Eugene, OR) *USATF Hurdle Development (2008)*

date	06-Jul-08	time	2.57	3.67	4.74	5.79	6.84	7.89	8.94	9.98	11.03	12.19	13.82	8 / 7		
reaction time	0.175	interval		1.10	1.07	1.05	1.05	1.05	1.05	1.04	1.05	1.16	1.63		3.22	3.15	3.25
wind	3.5 m/s	velocity	5.34	8.31	8.54	8.70	8.70	8.70	8.70	8.79	8.70	7.88	8.60	7.96	8.52	8.70	8.44

Heat 4 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.69	3.82	4.90	6.02	7.12	8.19	9.29	10.37	11.49	12.61	14.09	3 / 6		
reaction time		interval		1.13	1.08	1.12	1.10	1.07	1.10	1.08	1.12	1.12	1.48		3.33	3.27	3.32
wind	-2.8 m/s	velocity	5.10	8.09	8.46	8.16	8.31	8.54	8.31	8.46	8.16	8.16	9.47	7.81	8.23	8.39	8.26

Al-Ameen, Alex (GBR) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2010 Windsprint (Sundsvall, SWE) *Blomkvist (2010) - www.sub13.se*

date	08-Aug-10	time	2.75	3.86	4.95	6.03	7.11	8.21	9.31	10.42	11.53	12.67	14.20	/ 6		
reaction time		interval		1.11	1.09	1.08	1.08	1.10	1.10	1.11	1.11	1.14	1.53		3.28	3.28	3.36
wind	1.1 m/s	velocity	4.99	8.23	8.39	8.46	8.46	8.31	8.31	8.23	8.23	8.02	9.16	7.75	8.36	8.36	8.16

Al-Moualed, Ahmad (KSA) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 IAAF Continental Cup (Ostrava, CZE) (TV Analysis) *Henson (2021) - Athlete First: 2018 year end hurdle report*

date	09-Sep-18	time	2.56	3.62	4.68	5.72	6.76	7.86	8.92	10.04	11.16	12.28	13.83	1 / 7		
reaction time	0.143	interval		1.06	1.06	1.04	1.04	1.10	1.06	1.12	1.12	1.12	1.55		3.16	3.20	3.36
wind	0.9 m/s	velocity	5.36	8.62	8.62	8.79	8.79	8.31	8.62	8.16	8.16	8.16	9.05	7.95	8.68	8.57	8.16

FINAL - 2018 Asian Games (Jakarta, INA) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	28-Aug-18	time	2.53	3.58	4.62	5.63	6.66	7.70	8.73	9.82	10.92	12.03	13.50	3 / 4		
reaction time	0.115	interval		1.05	1.04	1.01	1.03	1.04	1.03	1.09	1.10	1.11	1.47		3.10	3.10	3.30
wind	0.0 m/s	velocity	5.42	8.70	8.79	9.05	8.87	8.79	8.87	8.39	8.31	8.23	9.54	8.15	8.85	8.85	8.31

Al-Yoha, Yaqoub (KUW) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 5 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.50	3.65	4.86	6.45	8.73						dnf	7 / --		
reaction time	0.151	interval	7 steps	1.15	1.21	1.59	2.28								3.95	
wind	0.7 m/s	velocity	5.49	7.95	7.55	5.75	4.01								6.94	

Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.58	3.63	4.66	5.68	6.70	7.70	8.73	9.80	10.86	11.95	13.44	2 / 6		
reaction time	0.157	interval	7 steps	1.05	1.03	1.02	1.02	1.00	1.03	1.07	1.06	1.09	1.49		3.10	3.05	3.22
wind	-0.1 m/s	velocity	5.32	8.70	8.87	8.96	8.96	9.14	8.87	8.54	8.62	8.39	9.41	8.18	8.85	8.99	8.52

Heat 1 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.60	3.68	4.72	5.75	6.77	7.80	8.86	9.92	10.96	12.06	13.56	1 / 5		
reaction time	0.140	interval	7 steps	1.08	1.04	1.03	1.02	1.03	1.06	1.06	1.04	1.10	1.50		3.15	3.11	3.20
wind	-0.3 m/s	velocity	5.28	8.46	8.79	8.87	8.96	8.87	8.62	8.62	8.79	8.31	9.35	8.11	8.70	8.82	8.57

Semi-Final 1 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.50	3.53	4.56	5.56	6.60						7.59	6 / 5		
reaction time	0.156	interval		1.03	1.03	1.00	1.04					0.99			3.06	
		velocity	5.49	8.87	8.87	9.14	8.79					9.82	7.91		8.96	

FINAL - 2022 Müller Indoor Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	19-Feb-22	time	2.49	3.53	4.58	5.61	6.65						7.65	5 / 6		
reaction time	0.146	interval		1.04	1.05	1.03	1.04					1.00			3.12	
		velocity	5.51	8.79	8.70	8.87	8.79					9.72	7.84		8.79	

Heat 2 - 2022 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	17-Feb-22	time	2.53	3.58	4.62	5.66	6.70								7.73	7 / 6			
reaction time	0.166	interval		1.05	1.04	1.04	1.04						1.03				3.13		
		velocity	5.42	8.70	8.79	8.79	8.79						9.44	7.76			8.76		

Heat 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.66	3.70	4.70	5.73	6.81	7.86	8.90	10.01	11.09	12.22			13.69	3 / 7			
reaction time	0.117	interval		1.04	1.00	1.03	1.08	1.05	1.04	1.11	1.08	1.13	1.47				3.07	3.17	
wind	-0.1 m/s	velocity	5.16	8.79	9.14	8.87	8.46	8.70	8.79	8.23	8.46	8.09	9.54	8.04			8.93	8.65	

FINAL - 2021 Copernicus Cup (Toruń, POL) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	17-Feb-21	time	2.59	3.65	4.70	5.72	6.75								7.75	5 / 5			
reaction time	0.166	interval		1.06	1.05	1.02	1.03						1.00				3.13		
		velocity	5.30	8.62	8.70	8.96	8.87						9.72	7.74			8.76		

FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	17-Sep-20	time	2.56	3.64	4.68	5.70	6.74	7.78	8.82	9.86	10.94	12.08			13.60	9 / 5			
reaction time	0.139	interval		1.08	1.04	1.02	1.04	1.04	1.04	1.04	1.08	1.14	1.52				3.14	3.12	3.26
wind	0.1 m/s	velocity	5.36	8.46	8.79	8.96	8.79	8.79	8.79	8.79	8.46	8.02	9.22	8.09			8.73	8.79	8.41

Semi-Final 1 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.62	3.66	4.70	5.72	6.74	7.76	8.82	9.90	10.98	12.10			13.57	9 / 4			
reaction time	0.154	interval		1.04	1.04	1.02	1.02	1.02	1.06	1.08	1.08	1.12	1.47				3.10	3.10	3.28
wind	1.1 m/s	velocity	5.24	8.79	8.79	8.96	8.96	8.96	8.62	8.46	8.46	8.16	9.54	8.11			8.85	8.85	8.36

FINAL - 2019 Asian Athletics Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	24-Apr-19	time	2.51	3.56	4.58	5.60	6.62	7.64	8.69	9.74	10.82	11.91			13.35	6 / 2			
reaction time	0.120	interval		1.05	1.02	1.02	1.02	1.02	1.05	1.05	1.08	1.09	1.44	NR PB			3.09	3.09	3.22
wind	1.7 m/s	velocity	5.47	8.70	8.96	8.96	8.96	8.96	8.70	8.70	8.46	8.39	9.74	8.24			8.87	8.87	8.52

Semi-Final 1 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.43	3.47	4.52										dnf	3 / --			
reaction time	0.152	interval		1.04	1.05														
wind	0.2 m/s	velocity	5.65	8.79	8.70														

Alkana, Antonio (RSA) (1990)

Heat 1 - 2023 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2023) - diamond league race analysis*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	16-Jul-23	time	2.44	3.51	4.55	5.58	6.60	7.63	8.67	9.71	10.77	11.84		13.44	1 / 7			
reaction time	0.132	interval		1.07	1.04	1.03	1.02	1.03	1.04	1.04	1.06	1.07	1.60			3.14	3.09	3.17
wind	0.3 m/s	velocity	5.62	8.54	8.79	8.87	8.96	8.87	8.79	8.79	8.62	8.54	8.76	8.18		8.73	8.87	8.65

Heat 2 - 2023 Meeting de Paris (Paris, FRA) *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.39	3.46	4.50	5.52	6.54	7.57	8.62	9.69	10.78	11.88		13.52	2 / 6			
reaction time	0.114	interval		1.07	1.04	1.02	1.02	1.03	1.05	1.07	1.09	1.10	1.64			3.13	3.10	3.26
wind	-0.6 m/s	velocity	5.74	8.54	8.79	8.96	8.96	8.87	8.70	8.54	8.39	8.31	8.55	8.14		8.76	8.85	8.41

Heat 5 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.58	3.65	4.71	5.71	6.75	7.79	8.82	9.89	10.97	12.06		13.55	4 / 6			
reaction time	0.118	interval		1.07	1.06	1.00	1.04	1.04	1.03	1.07	1.08	1.09	1.49			3.13	3.11	3.24
wind	-0.1 m/s	velocity	5.32	8.54	8.62	9.14	8.79	8.79	8.87	8.54	8.46	8.39	9.41	8.12		8.76	8.82	8.46

FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	17-Sep-20	time	2.52	3.60	4.68	5.76	6.80	7.84	8.88	9.96	11.04	12.14		13.66	8 / 7			
reaction time	0.130	interval		1.08	1.08	1.08	1.04	1.04	1.04	1.08	1.08	1.10	1.52			3.24	3.12	3.26
wind	0.1 m/s	velocity	5.44	8.46	8.46	8.46	8.79	8.79	8.79	8.46	8.46	8.31	9.22	8.05		8.46	8.79	8.41

FINAL - 2020 Meeting Pro Athlé Tour de Marseille (Marseille, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	03-Sep-20	time	2.56	3.60	4.71	5.75	6.81	7.84	8.89	9.96	11.11	12.18		13.81	3 / 4			
reaction time	0.201	interval		1.04	1.11	1.04	1.06	1.03	1.05	1.07	1.15	1.07	1.63			3.19	3.14	3.29
wind	-0.3 m/s	velocity	5.36	8.79	8.23	8.79	8.62	8.87	8.70	8.54	7.95	8.54	8.60	7.97		8.60	8.73	8.33

FINAL - 2020 Herculis Meeting International d'Athletisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	14-Aug-20	time	2.57	3.63	4.70	5.77	6.84	7.91	8.98	10.07	11.18	12.31		13.87	7 / 8			
reaction time	0.134	interval		1.06	1.07	1.07	1.07	1.07	1.07	1.09	1.11	1.13	1.56			3.20	3.21	3.33
wind	0.8 m/s	velocity	5.34	8.62	8.54	8.54	8.54	8.54	8.54	8.39	8.23	8.09	8.99	7.93		8.57	8.54	8.23

FINAL - 2020 Paavo Nurmi Games (Turku, FIN) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	11-Aug-20	time	2.57	3.60	4.64	5.70	6.77	7.84	8.88	9.91	11.01	12.08		13.58	8 / 4			
reaction time	0.158	interval		1.03	1.04	1.06	1.07	1.07	1.04	1.03	1.10	1.07	1.50			3.13	3.18	3.20
wind	1.1 m/s	velocity	5.34	8.87	8.79	8.62	8.54	8.54	8.79	8.87	8.31	8.54	9.35	8.10		8.76	8.62	8.57

Semi-Final 3 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.58	3.61	4.67	5.69	6.73	7.77	8.81	9.87	10.94	12.03		13.47	5 / 3			
reaction time	0.123	interval		1.03	1.06	1.02	1.04	1.04	1.04	1.06	1.07	1.09	1.44			3.11	3.12	3.22
wind	0.6 m/s	velocity	5.32	8.87	8.62	8.96	8.79	8.79	8.79	8.62	8.54	8.39	9.74	8.17		8.82	8.79	8.52

FINAL - 2019 AG Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	06-Sep-19	time	2.48	3.56	4.60	5.64	6.70	7.76	8.82	9.88	10.96	12.04		13.61	8 / 7			
reaction time	0.136	interval		1.08	1.04	1.04	1.06	1.06	1.06	1.06	1.08	1.08	1.57			3.16	3.18	3.22
wind	0.0 m/s	velocity	5.53	8.46	8.79	8.79	8.62	8.62	8.62	8.62	8.46	8.46	8.93	8.08		8.68	8.62	8.52

FINAL - 2019 Müller Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	21-Jul-19	time	2.43	3.46	4.51	5.53	6.55	7.57	8.62	9.71	10.78	11.91		13.51	7 / 5			
reaction time	0.111	interval		1.03	1.05	1.02	1.02	1.02	1.05	1.09	1.07	1.13	1.60			3.10	3.09	3.29
wind	0.4 m/s	velocity	5.65	8.87	8.70	8.96	8.96	8.96	8.70	8.39	8.54	8.09	8.76	8.14		8.85	8.87	8.33

FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Jun-19	time	2.48	3.52	4.52	5.56	6.60	7.64	8.68	9.74	10.88	11.98		13.51	3 / 6			
reaction time	0.168	interval		1.04	1.00	1.04	1.04	1.04	1.04	1.06	1.14	1.10	1.53			3.08	3.12	3.30
wind	0.3 m/s	velocity	5.53	8.79	9.14	8.79	8.79	8.79	8.79	8.62	8.02	8.31	9.16	8.14		8.90	8.79	8.31

FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	06-Jun-19	time	2.53	3.60	4.62	5.63	6.63	7.63	8.68	9.72	10.78	11.83		13.30	8 / 3			
reaction time	0.133	interval		1.07	1.02	1.01	1.00	1.00	1.05	1.04	1.06	1.05	1.47			3.10	3.05	3.15
wind	0.4 m/s	velocity	5.42	8.54	8.96	9.05	9.14	9.14	8.70	8.79	8.62	8.70	9.54	8.27		8.85	8.99	8.70

FINAL - 2019 Nanjing World Challenge (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	21-May-19	time	2.55	3.60	4.66	5.72	6.76	7.81	8.87	9.95	11.03	12.14		13.61	3 / 7			
reaction time	0.140	interval		1.05	1.06	1.06	1.04	1.05	1.06	1.08	1.08	1.11	1.47			3.17	3.15	3.27
wind	0.1 m/s	velocity	5.38	8.70	8.62	8.62	8.79	8.70	8.62	8.46	8.46	8.23	9.54	8.08		8.65	8.70	8.39

FINAL - 2019 Shanghai Diamond League (Shanghai, CHN) *CAA Hurdle Development (2019)*

date	18-May-19	time	2.54	3.60	4.68	5.72	6.76	7.78	8.82	9.86	10.92	12.02		13.47	2 / 8			
reaction time	0.132	interval		1.06	1.08	1.04	1.04	1.02	1.04	1.04	1.06	1.10	1.45			3.18	3.10	3.20
wind	0.7 m/s	velocity	5.40	8.62	8.46	8.79	8.79	8.96	8.79	8.79	8.62	8.31	9.67	8.17		8.62	8.85	8.57

FINAL - 2018 IAAF Continental Cup (Ostrava, CZE) (TV Analysis) *Henson (2021) - Athlete First: 2018 year end hurdle report*

date	09-Sep-18	time	2.48	3.56	4.60	5.62	6.64	7.64	8.66	9.68	10.76	11.84		13.36	4 / 4			
reaction time	0.117	interval		1.08	1.04	1.02	1.02	1.00	1.02	1.02	1.08	1.08	1.52			3.14	3.04	3.18
wind	0.9 m/s	velocity	5.53	8.46	8.79	8.96	8.96	9.14	8.96	8.96	8.46	8.46	9.22	8.23		8.73	9.02	8.62

FINAL - 2018 Müller Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	22-Jul-18	time	2.52	3.56	4.58	5.60	6.62	7.66	8.70	9.74	10.84	11.94		13.40	7 / 5			
reaction time	0.140	interval		1.04	1.02	1.02	1.02	1.04	1.04	1.04	1.10	1.10	1.46			3.08	3.10	3.24
wind	0.2 m/s	velocity	5.44	8.79	8.96	8.96	8.96	8.79	8.79	8.79	8.31	8.31	9.60	8.21		8.90	8.85	8.46

FINAL - 2018 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	30-Jun-18	time	2.50	3.54	4.58	5.58	6.60	7.64	8.66	9.72	10.74	11.82		13.32	7 / 4			
reaction time	0.138	interval		1.04	1.04	1.00	1.02	1.04	1.02	1.06	1.02	1.08	1.50			3.08	3.08	3.16
wind	1.5 m/s	velocity	5.49	8.79	8.79	9.14	8.96	8.79	8.96	8.62	8.96	8.46	9.35	8.26		8.90	8.90	8.68

Semi-Final 3 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.66	3.74	4.78	5.81	6.82	7.85	8.88	9.95	11.02	12.13		13.59	9 / 4			
reaction time	0.230	interval		1.08	1.04	1.03	1.01	1.03	1.03	1.07	1.07	1.11	1.46			3.15	3.07	3.25
wind	0.3 m/s	velocity	5.16	8.46	8.79	8.87	9.05	8.87	8.87	8.54	8.54	8.23	9.60	8.09		8.70	8.93	8.44

FINAL - 2017 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	04-Jul-17	time	2.54	3.58	4.62	5.64	6.64	7.68	8.72	9.76	10.80	11.86		13.31	5 / 5			
reaction time		interval		1.04	1.04	1.02	1.00	1.04	1.04	1.04	1.04	1.06	1.45			3.10	3.08	3.14
wind	0.3 m/s	velocity	5.40	8.79	8.79	8.96	9.14	8.79	8.79	8.79	8.79	8.62	9.67	8.26		8.85	8.90	8.73

FINAL - 2017 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	01-Jul-17	time	2.52	3.56	4.56	5.58	6.58	7.60	8.62	9.66	10.70	11.78		13.24	1 / 5			
reaction time	0.139	interval		1.04	1.00	1.02	1.00	1.02	1.02	1.04	1.04	1.08	1.46			3.06	3.04	3.16
wind	-0.1 m/s	velocity	5.44	8.79	9.14	8.96	9.14	8.96	8.96	8.79	8.79	8.46	9.60	8.31		8.96	9.02	8.68

FINAL - 2017 Golden Spike (Ostrava, CZE) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	28-Jun-17	time	2.52	3.56	4.58	5.60	6.64	7.68	8.74	9.80	10.86	11.92		13.37	4 / 4			
reaction time	0.155	interval		1.04	1.02	1.02	1.04	1.04	1.06	1.06	1.06	1.06	1.45			3.08	3.14	3.18
wind	0.6 m/s	velocity	5.44	8.79	8.96	8.96	8.79	8.79	8.62	8.62	8.62	8.62	9.67	8.23		8.90	8.73	8.62

FINAL - 2016 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	15-Jul-16	time	2.48	3.54	4.60	5.64	6.68	7.76	8.80	9.88	11.04	12.12		13.66	7 / 7			
reaction time	0.130	interval		1.06	1.06	1.04	1.04	1.08	1.04	1.08	1.16	1.08	1.54			3.16	3.16	3.32
wind	0.0 m/s	velocity	5.53	8.62	8.62	8.79	8.79	8.46	8.79	8.46	7.88	8.46	9.10	8.05		8.68	8.68	8.26

FINAL - 2016 Meeting International Mohammed VI D'Athletisme (Rabat, MAR) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	22-May-16	time	2.48	3.52	4.52	5.52	6.52	7.56	8.58	9.62	10.68	11.78		13.28	9 / 3			
reaction time	0.129	interval		1.04	1.00	1.00	1.00	1.04	1.02	1.04	1.06	1.10	1.50	PB		3.04	3.06	3.20
wind	1.4 m/s	velocity	5.53	8.79	9.14	9.14	9.14	8.79	8.96	8.79	8.62	8.31	9.35	8.28		9.02	8.96	8.57

FINAL - 2016 Doha Diamond League (Doha, QAT) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	06-May-16	time	2.56	3.60	4.66	5.72	6.74	7.78	8.82	9.88	10.94	12.04		13.50	1 / 8			
reaction time	0.139	interval		1.04	1.06	1.06	1.02	1.04	1.04	1.06	1.06	1.10	1.46			3.16	3.10	3.22
wind	1.4 m/s	velocity	5.36	8.79	8.62	8.62	8.96	8.79	8.79	8.62	8.62	8.31	9.60	8.15		8.68	8.85	8.52

Allen, Charles (CAN) (1977)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2004 Olympic Games (Athens, GRE) *Ruiz (2004) - las carreras con vallas de juegos olimpicos de atenas '04*

date	27-Aug-04	time	2.46	3.50	4.53	5.57	6.63	7.66	8.71	9.75	10.82	11.88		13.48	1 / 6			
reaction time	0.139	interval		1.04	1.03	1.04	1.06	1.03	1.05	1.04	1.07	1.06	1.60			3.11	3.14	3.17
wind	0.3 m/s	velocity	5.58	8.79	8.87	8.79	8.62	8.87	8.70	8.79	8.54	8.62	8.76	8.16		8.82	8.73	8.65

Allen, Devon (USA) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2023 USATF New York City Grand Prix (Randalls Island, NY) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	24-Jun-23	time	2.57	3.62	4.64	5.62	6.61	7.61	8.61	9.62	10.64	11.66		13.04	5 / 2			
reaction time	0.173	interval	7 steps	1.05	1.02	0.98	0.99	1.00	1.00	1.01	1.02	1.02	1.38			3.05	2.99	3.05
wind	1.6 m/s	velocity	5.34	8.70	8.96	9.33	9.23	9.14	9.14	9.05	8.96	8.96	10.16	8.44		8.99	9.17	8.99

Heat 1 - 2023 Meeting de Paris (Paris, FRA) *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.44	4.48										dnf	5 / --			
reaction time	0.140	interval	7 steps	2.04														
wind	-2.0 m/s	velocity	5.62	4.48														

FINAL - 2023 FBK Games (Hengelo, NED) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	04-Jun-23	time	2.56	3.61	4.62	5.63	6.62	7.62	8.64	9.68	10.72	11.78		13.12	5 / 2			
reaction time	0.137	interval	7 steps	1.05	1.01	1.01	0.99	1.00	1.02	1.04	1.04	1.06	1.34			3.07	3.01	3.14
wind	0.4 m/s	velocity	5.36	8.70	9.05	9.05	9.23	9.14	8.96	8.79	8.79	8.62	10.46	8.38		8.93	9.11	8.73

FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	02-Jun-23	time	2.56	3.61	4.65	5.65	6.65	7.65	8.66	9.68	10.72	11.76		13.19	5 / 3			
reaction time	0.136	interval	7 steps	1.05	1.04	1.00	1.00	1.00	1.01	1.02	1.04	1.04	1.43			3.09	3.01	3.10
wind	-0.2 m/s	velocity	5.36	8.70	8.79	9.14	9.14	9.14	9.05	8.96	8.79	8.79	9.80	8.34		8.87	9.11	8.85

FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) *Omega Timing (2023) - diamond league race analysis*

date	28-May-23	time	2.38	3.45	4.47	5.48	6.49	7.51	8.54	9.57	10.62	11.68		13.25	3 / 4			
reaction time	0.152	interval	7 steps	1.07	1.02	1.01	1.01	1.02	1.03	1.03	1.05	1.06	1.57			3.10	3.06	3.14
wind	-1.3 m/s	velocity	5.76	8.54	8.96	9.05	9.05	8.96	8.87	8.87	8.70	8.62	8.93	8.30		8.85	8.96	8.73

Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	17-Jul-22	time	2.60	3.64	4.65	5.65	6.63	7.62	8.63	9.63	10.67	11.72		13.09	5 / 2			
reaction time	0.101	interval	7 steps	1.04	1.01	1.00	0.98	0.99	1.01	1.00	1.04	1.05	1.37			3.05	2.98	3.09
wind	2.5 m/s	velocity	5.28	8.79	9.05	9.14	9.33	9.23	9.05	9.14	8.79	8.70	10.23	8.40		8.99	9.20	8.87

Heat 5 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.56	3.58	4.63	5.63	6.66	7.70	8.76	9.83	10.93	12.00		13.47	3 / 1			
reaction time	0.123	interval	7 steps	1.02	1.05	1.00	1.03	1.04	1.06	1.07	1.10	1.07	1.47			3.07	3.13	3.24
wind	0.4 m/s	velocity	5.36	8.96	8.70	9.14	8.87	8.79	8.62	8.54	8.31	8.54	9.54	8.17		8.93	8.76	8.46

FINAL - 2022 USATF National Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	26-Jun-22	time	2.53	3.56	4.55	5.58	6.57	7.57	8.59	9.61	10.64	11.70		13.09	4 / 3			
reaction time		interval	7 steps	1.03	0.99	1.03	0.99	1.00	1.02	1.02	1.03	1.06	1.39			3.05	3.01	3.11
wind	1.2 m/s	velocity	5.42	8.87	9.23	8.87	9.23	9.14	8.96	8.96	8.87	8.62	10.09	8.40		8.99	9.11	8.82

Semi-Final 2 - 2022 USATF National Championships (Eugene, OR) *USATF (2022) - Results powered by Karmarush.com*

date	26-Jun-22	time	2.45	3.52	4.55	5.54	6.55	7.61	8.55	9.61	10.63	11.64		13.14	5 / 2			
reaction time		interval	7 steps	1.07	1.03	0.99	1.01	1.06	0.94	1.06	1.02	1.01	1.50			3.09	3.01	3.09
wind	0.1 m/s	velocity	5.60	8.54	8.87	9.23	9.05	8.62	9.72	8.62	8.96	9.05	9.35	8.37		8.87	9.11	8.87

FINAL - 2022 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	18-Jun-22	time	2.50	3.54	4.56	5.56	6.56	7.60	8.60	9.64	10.70	11.76		13.16	5 / 1			
reaction time	0.138	interval	7 steps	1.04	1.02	1.00	1.00	1.04	1.00	1.04	1.06	1.06	1.40			3.06	3.04	3.16
wind	-0.2 m/s	velocity	5.49	8.79	8.96	9.14	9.14	8.79	9.14	8.79	8.62	8.62	10.01	8.36		8.96	9.02	8.68

FINAL - 2022 Bislett Games (Oslo, NOR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jun-22	time	2.52	3.56	4.57	5.58	6.56	7.58	8.60	9.62	10.70	11.80		13.22	5 / 1			
reaction time	0.140	interval	7 steps	1.04	1.01	1.01	0.98	1.02	1.02	1.02	1.08	1.10	1.42			3.06	3.02	3.20
wind	-1.2 m/s	velocity	5.44	8.79	9.05	9.05	9.33	8.96	8.96	8.96	8.46	8.31	9.87	8.32		8.96	9.08	8.57

FINAL - 2022 New York Grand Prix (New York, NY) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	12-Jun-22	time	2.42	3.44	4.43	5.42	6.38	7.38	8.36	9.38	10.38	11.42		12.84	5 / 1			
reaction time	0.128	interval	7 steps	1.02	0.99	0.99	0.96	1.00	0.98	1.02	1.00	1.04	1.42	PB		3.00	2.94	3.06
wind	1.6 m/s	velocity	5.67	8.96	9.23	9.23	9.52	9.14	9.33	8.96	9.14	8.79	9.87	8.57		9.14	9.33	8.96

FINAL - 2022 New Balance Indoor Grand Prix (Staten Island, NY) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	06-Feb-22	time	2.51	3.55	4.58	5.57	6.58							7.51	5 / 3			
reaction time	0.143	interval		1.04	1.03	0.99	1.01						0.93			3.06		
		velocity	5.47	8.79	8.87	9.23	9.05						10.45	7.99		8.96		

FINAL - 2021 Boris Hanžeković Memorial (Zagreb, CRO) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	14-Sep-21	time	2.46	3.50	4.50	5.47	6.47	7.47	8.47	9.47	10.50	11.53		12.99	5 / 1			
reaction time	0.126	interval		1.04	1.00	0.97	1.00	1.00	1.00	1.00	1.03	1.03	1.46	PB		3.01	3.00	3.06
wind	0.7 m/s	velocity	5.58	8.79	9.14	9.42	9.14	9.14	9.14	9.14	8.87	8.87	9.60	8.47		9.11	9.14	8.96

FINAL - 2021 Weltklasse (Zürich, SUI) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	09-Sep-21	time	2.48	3.52	4.52	5.52	6.54	7.56	8.58	9.60	10.60	11.64		13.06	4 / 1			
reaction time	0.115	interval		1.04	1.00	1.00	1.02	1.02	1.02	1.02	1.00	1.04	1.42			3.04	3.06	3.06
wind	0.6 m/s	velocity	5.53	8.79	9.14	9.14	8.96	8.96	8.96	8.96	9.14	8.79	9.87	8.42		9.02	8.96	8.96

FINAL - 2021 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	28-Aug-21	time	2.52	3.54	4.56	5.56	6.56	7.56	8.58	9.58	10.60	11.62		13.08	5 / 2			
reaction time	0.141	interval		1.02	1.02	1.00	1.00	1.00	1.02	1.00	1.02	1.02	1.46			3.04	3.02	3.04
wind	0.7 m/s	velocity	5.44	8.96	8.96	9.14	9.14	9.14	8.96	9.14	8.96	8.96	9.60	8.41		9.02	9.08	9.02

FINAL - 2021 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Aug-21	time	2.48	3.48	4.52	5.56	6.56	7.56	8.56	9.56	10.56	11.62		13.07	5 / 1			
reaction time	0.140	interval		1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.06	1.45			3.08	3.00	3.06
wind	2.5 m/s	velocity	5.53	9.14	8.79	8.79	9.14	9.14	9.14	9.14	9.14	8.62	9.67	8.42		8.90	9.14	8.96

FINAL - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	06-Aug-21	time	2.52	3.56	4.58	5.60	6.58	7.62	8.62	9.66	10.70	11.72		13.14	6 / 4			
reaction time	0.133	interval		1.04	1.02	1.02	0.98	1.04	1.00	1.04	1.04	1.02	1.42			3.08	3.02	3.10
wind	-0.5 m/s	velocity	5.44	8.79	8.96	8.96	9.33	8.79	9.14	8.79	8.79	8.96	9.87	8.37		8.90	9.08	8.85

Semi-Final 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.56	3.64	4.64	5.65	6.65	7.65	8.68	9.71	10.73	11.79		13.18	5 / 1			
reaction time	0.121	interval		1.08	1.00	1.01	1.00	1.00	1.03	1.03	1.02	1.06	1.39			3.09	3.03	3.11
wind	0.1 m/s	velocity	5.36	8.46	9.14	9.05	9.14	9.14	8.87	8.87	8.96	8.62	10.09	8.35		8.87	9.05	8.82

Heat 5 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.61	3.66	4.66	5.65	6.65	7.62	8.61	9.63	10.66	11.78		13.21	5 / 1			
reaction time	0.146	interval		1.05	1.00	0.99	1.00	0.97	0.99	1.02	1.03	1.12	1.43			3.04	2.96	3.17
wind	-0.1 m/s	velocity	5.26	8.70	9.14	9.23	9.14	9.42	9.23	8.96	8.87	8.16	9.80	8.33		9.02	9.26	8.65

FINAL - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.50	3.53	4.53	5.53	6.54	7.57	8.56	9.58	10.60	11.64		13.10	5 / 2			
reaction time	0.152	interval		1.03	1.00	1.00	1.01	1.03	0.99	1.02	1.02	1.04	1.46			3.03	3.03	3.08
wind	0.4 m/s	velocity	5.49	8.87	9.14	9.14	9.05	8.87	9.23	8.96	8.96	8.79	9.60	8.40		9.05	9.05	8.90

Semi-Final 2 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.53	3.56	4.56	5.54	6.55	7.56	8.55	9.58	10.61	11.64		13.10	5 / 1			
reaction time	0.124	interval		1.03	1.00	0.98	1.01	1.01	0.99	1.03	1.03	1.03	1.46			3.01	3.01	3.09
wind	1.2 m/s	velocity	5.42	8.87	9.14	9.33	9.05	9.05	9.23	8.87	8.87	8.87	9.60	8.40		9.11	9.11	8.87

Heat 3 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	25-Jun-21	time	2.50	3.53	4.56	5.63	6.63	7.63	8.66	9.73	10.73	11.76		13.26	3 / 1			
reaction time	0.139	interval		1.03	1.03	1.07	1.00	1.00	1.03	1.07	1.00	1.03	1.50			3.13	3.03	3.10
wind	0.5 m/s	velocity	5.49	8.87	8.87	8.54	9.14	9.14	8.87	8.54	9.14	8.87	9.35	8.30		8.76	9.05	8.85

FINAL - 2021 Golden Gala Pietro Mennea (Florence, ITA) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	10-Jun-21	time	2.52	3.56	4.58	5.60	6.62	7.64	8.68	9.72	10.76	11.82		13.32	5 / 4			
reaction time	0.136	interval		1.04	1.02	1.02	1.02	1.02	1.04	1.04	1.04	1.06	1.50			3.08	3.08	3.14
wind	-0.1 m/s	velocity	5.44	8.79	8.96	8.96	8.96	8.96	8.79	8.79	8.79	8.62	9.35	8.26		8.90	8.90	8.73

FINAL - 2021 Fanny Blankers Koen Games (Hengelo, NED) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	06-Jun-21	time	2.47	3.54	4.54	5.60	6.64	7.67	8.73	9.74	10.77	11.86		13.32	4 / 2			
reaction time		interval		1.07	1.00	1.06	1.04	1.03	1.06	1.01	1.03	1.09	1.46			3.13	3.13	3.13
wind	1.7 m/s	velocity	5.55	8.54	9.14	8.62	8.79	8.87	8.62	9.05	8.87	8.39	9.60	8.26		8.76	8.76	8.76

FINAL - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.58	3.67	4.73	5.77	6.80	7.82	8.88	9.94	11.05	12.19		13.70	3 / 7			
reaction time	0.124	interval		1.09	1.06	1.04	1.03	1.02	1.06	1.06	1.11	1.14	1.51			3.19	3.11	3.31

wind	0.6 m/s	velocity	5.32	8.39	8.62	8.79	8.87	8.96	8.62	8.62	8.23	8.02	9.28	8.03		8.60	8.82	8.28

Semi-Final 2 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.60	3.64	4.67	5.69	6.76	7.75	8.80	9.83	10.87	11.95		13.36	9 / 4			
reaction time	0.119	interval		1.04	1.03	1.02	1.07	0.99	1.05	1.03	1.04	1.08	1.41			3.09	3.11	3.15
wind	0.9 m/s	velocity	5.28	8.79	8.87	8.96	8.54	9.23	8.70	8.87	8.79	8.46	9.94	8.23		8.87	8.82	8.70

FINAL - 2019 USATF National Championships (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	28-Jul-19	time	2.50	3.60	4.63	5.67	6.69	7.70	8.74	9.77	10.83	11.90		13.38	8 / 3			
reaction time		interval		1.10	1.03	1.04	1.02	1.01	1.04	1.03	1.06	1.07	1.48			3.17	3.07	3.16
wind	-0.8 m/s	velocity	5.49	8.31	8.87	8.79	8.96	9.05	8.79	8.87	8.62	8.54	9.47	8.22		8.65	8.93	8.68

FINAL - 2019 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	05-Jul-19	time	2.56	3.58	4.58	5.60	6.60	7.64	8.68	9.72	10.78	11.86		13.35	1 / 7			
reaction time	0.133	interval		1.02	1.00	1.02	1.00	1.04	1.04	1.04	1.06	1.08	1.49			3.04	3.08	3.18
wind	1.0 m/s	velocity	5.36	8.96	9.14	8.96	9.14	8.79	8.79	8.79	8.62	8.46	9.41	8.24		9.02	8.90	8.62

FINAL - 2019 Prefontaine Classic (Stanford, CA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	30-Jun-19	time	2.56	3.60	4.62	5.64	6.66	7.68	8.75	9.76	10.82	11.86		13.33	3 / 5			
reaction time	0.145	interval		1.04	1.02	1.02	1.02	1.02	1.07	1.01	1.06	1.04	1.47			3.08	3.11	3.11
wind	0.3 m/s	velocity	5.36	8.79	8.96	8.96	8.96	8.96	8.54	9.05	8.62	8.79	9.54	8.25		8.90	8.82	8.82

FINAL - 2018 IAAF Continental Cup (Ostrava, CZE) (TV Analysis) *Henson (2021) - Athlete First: 2018 year end hurdle report*

date	09-Sep-18	time	2.52	3.60	4.64	5.68	6.72	7.72	8.80	9.88	10.96	12.02		13.57	7 / 5			
reaction time	0.118	interval		1.08	1.04	1.04	1.04	1.00	1.08	1.08	1.08	1.06	1.55			3.16	3.12	3.22
wind	0.9 m/s	velocity	5.44	8.46	8.79	8.79	8.79	9.14	8.46	8.46	8.46	8.62	9.05	8.11		8.68	8.79	8.52

FINAL - 2018 AG Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	31-Aug-18	time	2.54	3.56	4.60	5.62	6.64	7.68	8.72	9.78	10.84	11.94		13.41	2 / 6			
reaction time	0.126	interval		1.02	1.04	1.02	1.02	1.04	1.04	1.06	1.06	1.10	1.47			3.08	3.10	3.22
wind	-0.1 m/s	velocity	5.40	8.96	8.79	8.96	8.96	8.79	8.79	8.62	8.62	8.31	9.54	8.20		8.90	8.85	8.52

FINAL - 2018 Müller Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	22-Jul-18	time	2.54	3.58	4.62	5.62	6.62	7.66	8.70	9.74	10.78	11.90		13.30	6 / 2			
reaction time	0.111	interval		1.04	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.12	1.40			3.08	3.08	3.20
wind	0.2 m/s	velocity	5.40	8.79	8.79	9.14	9.14	8.79	8.79	8.79	8.79	8.16	10.01	8.27		8.90	8.90	8.57

FINAL - 2018 Herculis Meeting International d'Athletisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	20-Jul-18	time	2.50	3.56	4.60	5.62	6.66	7.70	8.74	9.78	10.82	11.88		13.38	2 / 5			
reaction time	0.141	interval		1.06	1.04	1.02	1.04	1.04	1.04	1.04	1.04	1.06	1.50			3.12	3.12	3.14
wind	-0.2 m/s	velocity	5.49	8.62	8.79	8.96	8.79	8.79	8.79	8.79	8.79	8.62	9.35	8.22		8.79	8.79	8.73

FINAL - 2018 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	05-Jul-18	time	2.57	3.59	4.63	5.63	6.64	7.68	8.70	9.72	10.80	11.87		13.29	4 / 2			
reaction time	0.121	interval		1.02	1.04	1.00	1.01	1.04	1.02	1.02	1.08	1.07	1.42			3.06	3.07	3.17
wind	0.6 m/s	velocity	5.34	8.96	8.79	9.14	9.05	8.79	8.96	8.96	8.46	8.54	9.87	8.28		8.96	8.93	8.65

FINAL - 2018 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	02-Jul-18	time	2.52	3.58	4.62	5.64	6.66	7.70	8.74	9.78	10.84	11.90		13.36	5 / 3			
reaction time	0.130	interval		1.06	1.04	1.02	1.02	1.04	1.04	1.04	1.06	1.06	1.46			3.12	3.10	3.16
wind	0.6 m/s	velocity	5.44	8.62	8.79	8.96	8.96	8.79	8.79	8.79	8.62	8.62	9.60	8.23		8.79	8.85	8.68

FINAL - 2018 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	30-Jun-18	time	2.52	3.56	4.60	5.64	6.64	7.68	8.70	9.70	10.72	11.76		13.23	1 / 3			
reaction time	0.123	interval		1.04	1.04	1.04	1.00	1.04	1.02	1.00	1.02	1.04	1.47			3.12	3.06	3.06
wind	1.5 m/s	velocity	5.44	8.79	8.79	8.79	9.14	8.79	8.96	9.14	8.96	8.79	9.54	8.31		8.79	8.96	8.96

FINAL - 2018 USATF Championships (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	24-Jun-18	time	2.50	3.55	4.62	5.66	6.70	7.74	8.77	9.82	10.88	11.95		13.46	3 / 1			
reaction time		interval		1.05	1.07	1.04	1.04	1.04	1.03	1.05	1.06	1.07	1.51			3.16	3.11	3.18
wind	-1.8 m/s	velocity	5.49	8.70	8.54	8.79	8.79	8.79	8.87	8.70	8.62	8.54	9.28	8.17		8.68	8.82	8.62

FINAL - 2018 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	26-May-18	time	2.52	3.56	4.58	5.60	6.60	7.60	8.62	9.66	10.68	11.72		13.13	8 / 3			
reaction time	0.122	interval		1.04	1.02	1.02	1.00	1.00	1.02	1.04	1.02	1.04	1.41			3.08	3.02	3.10
wind	3.0 m/s	velocity	5.44	8.79	8.96	8.96	9.14	9.14	8.96	8.79	8.96	8.79	9.94	8.38		8.90	9.08	8.85

FINAL - 2017 Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	01-Sep-17	time	2.52	3.58	4.62	5.62	6.66	7.68	8.72	9.74	10.78	11.82		13.24	4 / 4			
reaction time	0.122	interval		1.06	1.04	1.00	1.04	1.02	1.04	1.02	1.04	1.04	1.42			3.10	3.10	3.10
wind	0.5 m/s	velocity	5.44	8.62	8.79	9.14	8.79	8.96	8.79	8.96	8.79	8.79	9.87	8.31		8.85	8.85	8.85

FINAL - 2017 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	20-Aug-17	time	2.52	3.56	4.58	5.58	6.62	7.62	8.68	9.74	10.78	11.86		13.40	9 / 3			
reaction time	0.119	interval		1.04	1.02	1.00	1.04	1.00	1.06	1.06	1.04	1.08	1.54			3.06	3.10	3.18
wind	-0.6 m/s	velocity	5.44	8.79	8.96	9.14	8.79	9.14	8.62	8.62	8.79	8.46	9.10	8.21		8.96	8.85	8.62

Semi-Final 2 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.29	3.35	4.37	5.40	6.42	7.47	8.50	9.54	10.58	11.65		13.27	4 / 3			
reaction time	0.126	interval		1.06	1.02	1.03	1.02	1.05	1.03	1.04	1.04	1.07	1.62			3.11	3.10	3.15
wind	0.6 m/s	velocity	5.99	8.62	8.96	8.87	8.96	8.70	8.87	8.79	8.79	8.54	8.65	8.29		8.82	8.85	8.70

FINAL - 2017 Spitzen Leichtathletik (Luzern, SUI) *(2017.07.11) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	18-Jul-17	time	2.60	3.64	4.68	5.71	6.73	7.75	8.77	9.82	10.88	11.94		13.31	5 / 1			
reaction time		interval		1.04	1.04	1.03	1.02	1.02	1.02	1.05	1.06	1.06	1.37			3.11	3.06	3.17
wind	-0.1 m/s	velocity	5.28	8.79	8.79	8.87	8.96	8.96	8.96	8.70	8.62	8.62	10.23	8.26		8.82	8.96	8.65

FINAL - 2017 Müller's Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	09-Jul-17	time	2.52	3.56	4.56	5.64	6.70	7.70	8.74	9.80	10.82	11.88		13.30	6 / 4			
reaction time	0.104	interval		1.04	1.00	1.08	1.06	1.00	1.04	1.06	1.02	1.06	1.42			3.12	3.10	3.14
wind	0.0 m/s	velocity	5.44	8.79	9.14	8.46	8.62	9.14	8.79	8.62	8.96	8.62	9.87	8.27		8.79	8.85	8.73

FINAL - 2017 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	27-May-17	time	2.48	3.52	4.54	5.54	6.56	7.56	8.58	9.60	10.60	11.64		13.11	5 / 3			
reaction time	0.131	interval		1.04	1.02	1.00	1.02	1.00	1.02	1.02	1.00	1.04	1.47			3.06	3.04	3.06
wind	0.9 m/s	velocity	5.53	8.79	8.96	9.14	8.96	9.14	8.96	8.96	9.14	8.79	9.54	8.39		8.96	9.02	8.96

FINAL - 2016 Olympic Games (Rio de Janeiro, BRA) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	16-Aug-16	time	2.50	3.58	4.60	5.60	6.62	7.66	8.70	9.74	10.76	11.82		13.31	3 / 5			
reaction time	0.135	interval		1.08	1.02	1.00	1.02	1.04	1.04	1.04	1.02	1.06	1.49			3.10	3.10	3.12
wind	0.2 m/s	velocity	5.49	8.46	8.96	9.14	8.96	8.79	8.79	8.79	8.96	8.62	9.41	8.26		8.85	8.85	8.79

FINAL - 2016 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	09-Jul-16	time	2.53	3.55	4.57	5.55	6.54	7.54	8.52	9.54	10.56	11.57		13.03	3 / 1			
reaction time	0.157	interval		1.02	1.02	0.98	0.99	1.00	0.98	1.02	1.02	1.01	1.46	**PB**		3.02	2.97	3.05
wind	1.0 m/s	velocity	5.42	8.96	8.96	9.33	9.23	9.14	9.33	8.96	8.96	9.05	9.60	8.44		9.08	9.23	8.99

Almgren, Daniel (SWE) (1979)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

B FINAL - 2010 Folksam GP (Sollentuna, SWE) *Blomkvist (2010) - www.sub13.se*

date	01-Jul-10	time	2.66	3.87	5.04	6.25	7.43	8.66		11.09				15.44	/ 5			
reaction time		interval		1.21	1.17	1.21	1.18	1.23		2.43						3.59		
wind	0.8 m/s	velocity	5.16	7.55	7.81	7.55	7.75	7.43		7.52				7.12		7.64		

Decathlon - Heat 4 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.89	4.08	5.25	6.39	7.53	8.75	9.93	11.11	12.31	13.52		15.14	3 / 6			
reaction time	0.193	interval		1.19	1.17	1.14	1.14	1.22	1.18	1.18	1.20	1.21	1.62			3.50	3.54	3.59
wind	0.0 m/s	velocity	4.75	7.68	7.81	8.02	8.02	7.49	7.75	7.75	7.62	7.55	8.65	7.27		7.83	7.75	7.64

Amaoka, Naoki (JPN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

U20 FINAL - 2018 National Sports Festival (Fukui, JPN) (99cm) *Joshi (2018) - research on athlete performance and technique- 2018 data book*

date	07-Oct-18	time	2.64	3.71	4.77	5.83	6.86	7.91	8.96	10.02	11.08	12.17		13.57	5 / 2			
reaction time	0.140	interval		1.07	1.06	1.06	1.03	1.05	1.05	1.06	1.06	1.09	1.40			3.19	3.13	3.21
wind	1.5 m/s	velocity	5.20	8.54	8.62	8.62	8.87	8.70	8.70	8.62	8.62	8.39	10.01	8.11		8.60	8.76	8.54

Ames, Brendan (USA) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.56	3.63	4.65	5.67	6.70	7.73	8.88	10.00	11.13	12.30		13.96	8 / ~~8~~ 7			
reaction time	0.208	interval	7 steps	1.07	1.02	1.02	1.03	1.03	1.15	1.12	1.13	1.17	1.66			3.11	3.21	3.42
wind	1.2 m/s	velocity	5.36	8.54	8.96	8.96	8.87	8.87	7.95	8.16	8.09	7.81	8.45	7.88		8.82	8.54	8.02

FINAL - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	15-Feb-20	time	2.58	3.63	4.67	5.72	6.74							7.65	5 / 3			
reaction time	0.145	interval	7 Steps	1.05	1.04	1.05	1.02						0.91			3.14		
		velocity	5.32	8.70	8.79	8.70	8.96						10.68	7.84		8.73		

Semi-Final 2 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	15-Feb-20	time	2.58	3.65	4.69	5.70	6.75							7.65	3 / 1			
reaction time	0.174	interval	7 Steps	1.07	1.04	1.01	1.05						0.90			3.12		
		velocity	5.32	8.54	8.79	9.05	8.70						10.80	7.84		8.79		

Heat 3 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.60	3.69	4.74	5.75	6.81							7.71	3 / 2			
reaction time	0.183	interval	7 Steps	1.09	1.05	1.01	1.06						0.90			3.15		
		velocity	5.28	8.39	8.70	9.05	8.62						10.80	7.78		8.70		

FINAL - 2007 USATF National Junior Championships (Indianapolis, IN) (99cm) *USATF Men's Hurdle Development (2007)*

date	21-Jun-07	time	2.59	3.67	4.70	5.69	6.67	7.66	8.64	9.63	10.64	11.68		13.15	/ 1		
reaction time		interval		1.08	1.03	0.99	0.98	0.99	0.98	0.99	1.01	1.04	1.47			3.10	2.95	3.04
wind	2.7 m/s	velocity	5.30	8.46	8.87	9.23	9.33	9.23	9.33	9.23	9.05	8.79	9.54	8.37		8.85	9.29	9.02

Anderson, Joseph (USA) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	15-Feb-20	time	2.68	3.78	4.88	5.97	7.07							8.03	1 / 7		
reaction time	0.171	interval		1.10	1.10	1.09	1.10						0.96			3.29	
		velocity	5.12	8.31	8.31	8.39	8.31						10.13	7.47		8.33	

Heat 3 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.67	3.79	4.89	5.96	7.06							7.97	2 / 5		
reaction time	0.160	interval		1.12	1.10	1.07	1.10						0.91			3.29	
		velocity	5.14	8.16	8.31	8.54	8.31						10.68	7.53		8.33	

Anderson, Nick (USA) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2022 USATF National Championships (Eugene, OR) *USATF (2022) - Results powered by Karmarush.com*

date	26-Jun-22	time	2.50	3.56	4.61	5.66	6.66	7.78	8.82	9.90	10.94	12.04		13.69	3 / 7		
reaction time		interval		1.06	1.05	1.05	1.00	1.12	1.04	1.08	1.04	1.10	1.65			3.16	3.16	3.22
wind	0.1 m/s	velocity	5.49	8.62	8.70	8.70	9.14	8.16	8.79	8.46	8.79	8.31	8.50	8.04		8.68	8.68	8.52

Andersson, Andreas (SWE) (1987)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2013 Windsprint (Sundsvall, SWE) *(2013) - www.ssg.se/windsprint/Splittider/*

date	28-Jul-13	time	2.78	3.96	5.08	6.20	7.35	8.56	9.75	10.94	12.14	13.35		14.97	8 / 8		
reaction time		interval		1.18	1.12	1.12	1.15	1.21	1.19	1.19	1.20	1.21	1.62	PB		3.42	3.55	3.60
wind	1.7 m/s	velocity	4.94	7.75	8.16	8.16	7.95	7.55	7.68	7.68	7.62	7.55	8.65	7.35		8.02	7.72	7.62

Andrews, Antoine (BAH) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	2.41	3.50	4.54	5.57	6.60	7.63	8.65	9.71	10.78	11.85		13.43	7 / 8		
reaction time	0.135	interval	7 steps	1.09	1.04	1.03	1.03	1.03	1.02	1.06	1.07	1.07	1.58			3.16	3.08	3.20
wind	0.1 m/s	velocity	5.69	8.39	8.79	8.87	8.87	8.87	8.96	8.62	8.54	8.54	8.87	8.19		8.68	8.90	8.57

Heat 3 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.36	3.45	4.50	5.54	6.59	7.62	8.66	9.71	10.76	11.85		13.43	6 / 2		
reaction time	0.151	interval	7 steps	1.09	1.05	1.04	1.05	1.03	1.04	1.05	1.05	1.09	1.58			3.18	3.12	3.19
wind	1.1 m/s	velocity	5.81	8.39	8.70	8.79	8.70	8.87	8.79	8.70	8.70	8.39	8.87	8.19		8.62	8.79	8.60

Andrews, Nicholas (AUS) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2022 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	01-May-22	time	2.60	3.66	4.72	5.76	6.81	7.86	8.93	10.04	11.17	12.27		13.72	8 / 5		
reaction time	0.119	interval		1.06	1.06	1.04	1.05	1.05	1.07	1.11	1.13	1.10	1.45			3.16	3.17	3.34
wind	0.8 m/s	velocity	5.28	8.62	8.62	8.79	8.70	8.70	8.54	8.23	8.09	8.31	9.67	8.02		8.68	8.65	8.21

B FINAL - 2022 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	29-Apr-22	time	2.64	3.76	4.86	5.95	7.01	8.11	9.20	10.29	11.40	12.53		13.98	4 / 3		
reaction time	0.150	interval		1.12	1.10	1.09	1.06	1.10	1.09	1.09	1.11	1.13	1.45			3.31	3.25	3.33
wind	-0.7 m/s	velocity	5.20	8.16	8.31	8.39	8.62	8.31	8.39	8.39	8.23	8.09	9.67	7.87		8.28	8.44	8.23

Andrews, Ron (USA) (1979)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2007 Windsprint (Sundsvall, SWE) *(2007) - www.ssg.se/en/Windsprint/Split-times/*

date	24-Jul-07	time		3.74			6.98			10.22				13.97	/ 3		
reaction time		interval					3.24			3.24			3.75				
wind	1.3 m/s	velocity		6.11			8.46			8.46			8.61	7.87			

Aoki, Yuto (JPN) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2009 Mikio Oda Memorial (Hiroshima, JPN) *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*

date	29-Apr-09	time	2.65	3.74	4.81	5.84	6.92	7.98	9.07	10.16	11.28	12.37		13.80	/ 7		
reaction time		interval		1.09	1.07	1.03	1.08	1.06	1.09	1.09	1.12	1.09	1.43			3.19	3.23	3.30
wind	1.9 m/s	velocity	5.18	8.39	8.54	8.87	8.46	8.62	8.39	8.39	8.16	8.39	9.80	7.97		8.60	8.49	8.31

FINAL - 2008 Seiko Super Grand Prix (Kawasaki, JPN) *Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles*

date	23-Sep-08	time	2.59	3.69	4.75	5.83	6.89	8.00	9.07	10.22	11.31	12.43		14.16	/ 6		
reaction time		interval		1.10	1.06	1.08	1.06	1.11	1.07	1.15	1.09	1.12	1.73			3.24	3.24	3.36
wind	-0.7 m/s	velocity	5.30	8.31	8.62	8.46	8.62	8.23	8.54	7.95	8.39	8.16	8.10	7.77		8.46	8.46	8.16

Ariga, Takashi (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/04/07/post-249/*

date	06-Apr-17	time	2.71	3.87	5.07	6.32	7.68							19.33	7 / 8		
reaction time		interval		1.16	1.20	1.25	1.36									3.61		
wind	-1.8 m/s	velocity	5.06	7.88	7.62	7.31	6.72							5.69		7.60		

Arnold, Dominique (USA) (1973)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.62	3.67	4.70	5.69	6.69	7.69	8.69	9.69	10.71	11.73		13.17	5 / 2		
reaction time		interval		1.05	1.03	0.99	1.00	1.00	1.00	1.00	1.02	1.02	1.44			3.07	3.00	3.04
wind	0.5 m/s	velocity	5.24	8.70	8.87	9.23	9.14	9.14	9.14	9.14	8.96	8.96	9.74	8.35		8.93	9.14	9.02

Semi-Final 1 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.62	3.67	4.69	5.71	6.72	7.72	8.74	9.79	10.81	11.88		13.35	3 / 2		
reaction time		interval		1.05	1.02	1.02	1.01	1.00	1.02	1.05	1.02	1.07	1.47			3.09	3.03	3.14
wind	-0.6 m/s	velocity	5.24	8.70	8.96	8.96	9.05	9.14	8.96	8.70	8.96	8.54	9.54	8.24		8.87	9.05	8.73

Heat 2 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.74	3.80	4.87	5.91	6.89	7.92	8.96	10.01	11.09	12.24		13.66	6 / 1		
reaction time		interval		1.06	1.07	1.04	0.98	1.03	1.04	1.05	1.08	1.15	1.42			3.17	3.05	3.28
wind	-1.9 m/s	velocity	5.01	8.62	8.54	8.79	9.33	8.87	8.79	8.70	8.46	7.95	9.87	8.05		8.65	8.99	8.36

Race 2 - 2006 Athletissima Meeting (Lausanne, SUI) *Li (2013) - technical characteristics of Merritt, the 110m hurdle champion at London Olympics*

date	11-Jul-06	time	2.59	3.61	4.59	5.55	6.51	7.47	8.45	9.45	10.47	11.48		12.90	4 / 2		
reaction time		interval		1.02	0.98	0.96	0.96	0.96	0.98	1.00	1.02	1.01	1.42	AR		2.96	2.90	3.03
wind	1.1 m/s	velocity	5.30	8.96	9.33	9.52	9.52	9.52	9.33	9.14	8.96	9.05	9.87	8.53		9.26	9.46	9.05

FINAL - 2006 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2006)*

date	25-Jun-06	time	2.55	3.59	4.57	5.56	6.56	7.57	8.56	9.59	10.61	11.68		13.10	/ 1		
reaction time		interval		1.04	0.98	0.99	1.00	1.01	0.99	1.03	1.02	1.07	1.42			3.01	3.00	3.12
wind	-0.4 m/s	velocity	5.38	8.79	9.33	9.23	9.14	9.05	9.23	8.87	8.96	8.54	9.87	8.40		9.11	9.14	8.79

FINAL - 2005 USATF National Championships (Carson, CA) *USATF Women's Sprint Development (2005)*

date	24-Jun-05	time	2.61	3.66	4.66	5.66	6.61	7.60	8.56	9.61	10.61	11.62		13.01	5 / 2		
reaction time		interval		1.05	1.00	1.00	0.95	0.99	0.96	1.05	1.00	1.01	1.39	PB		3.05	2.90	3.06
wind	0.2 m/s	velocity	5.26	8.70	9.14	9.14	9.62	9.23	9.52	8.70	9.14	9.05	10.09	8.46		8.99	9.46	8.96

FINAL - 2001 ISTAF (Berlin, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	31-Aug-09	time	2.58	3.60	4.63	5.67	6.68	7.67	8.69	9.70	10.74	11.80		13.21	3 / 3		
reaction time	0.167	interval		1.02	1.03	1.04	1.01	0.99	1.02	1.01	1.04	1.06	1.41			3.09	3.02	3.11
wind	1.0 m/s	velocity	5.32	8.96	8.87	8.79	9.05	9.23	8.96	9.05	8.79	8.62	9.94	8.33		8.87	9.08	8.82

FINAL - 2000 ISTAF (Berlin, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	01-Sep-00	time	2.55	3.63	4.66	5.68	6.70	7.73	8.76	9.78	10.82	11.88		13.31	/ 2		
reaction time	0.157	interval		1.08	1.03	1.02	1.02	1.03	1.03	1.02	1.04	1.06	1.43			3.13	3.08	3.12
wind	-0.4 m/s	velocity	5.38	8.46	8.87	8.96	8.96	8.87	8.87	8.96	8.79	8.62	9.80	8.26		8.76	8.90	8.79

Asai, Seira (JPN) (2006)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN) *Takashima (2024) - national high school sports festival - biomechanics data*

date	01-Aug-24	time	2.69	3.79	4.87	5.97	7.04	8.13	9.22	10.32	11.45	12.58		14.05	6 / 3		
reaction time	0.159	interval		1.10	1.08	1.10	1.07	1.09	1.09	1.10	1.13	1.13	1.47	PB		3.28	3.25	3.36
wind	-0.7 m/s	velocity	5.10	8.31	8.46	8.31	8.54	8.39	8.39	8.31	8.09	8.09	9.54	7.83		8.36	8.44	8.16

FINAL - 2022 Japanese National High School Championships (Naruto, JPN) *Kishima (2022) - national high school championships biomechanics data collection*

date	07-Aug-22	time	2.74	3.88	5.03	6.19	7.35	8.50	9.70	10.92	12.17	13.40		14.97	3 / 7		
reaction time	0.145	interval		1.14	1.15	1.16	1.16	1.15	1.20	1.22	1.25	1.23	1.57			3.45	3.51	3.70
wind	-3.8 m/s	velocity	5.01	8.02	7.95	7.88	7.88	7.95	7.62	7.49	7.31	7.43	8.93	7.35		7.95	7.81	7.41

FINAL - 2021 Japanese U16 National Championships (Matsuyama, JPN) (99cm) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	24-Oct-21	time	2.83	3.96	5.10	6.27	7.44	8.60	9.75	10.87	12.02	13.18		14.77	/ 3		
reaction time		interval		1.13	1.14	1.17	1.17	1.16	1.15	1.12	1.15	1.16	1.59			3.44	3.48	3.43
wind	1.0 m/s	velocity	4.85	8.09	8.02	7.81	7.81	7.88	7.95	8.16	7.95	7.88	8.82	7.45		7.97	7.88	7.99

Ash, Ronnie (USA) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2016 Olympic Games (Rio de Janeiro, BRA) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	16-Aug-16	time	2.52	3.58	4.60	5.60	6.60	7.60	8.62	9.64	10.70	11.72			9 / --		
reaction time	0.160	interval	7 steps	1.06	1.02	1.00	1.00	1.00	1.02	1.02	1.06	1.02		DQ		3.08	3.02	3.10
wind	0.2 m/s	velocity	5.44	8.62	8.96	9.14	9.14	9.14	8.96	8.96	8.62	8.96				8.90	9.08	8.85

FINAL - 2016 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	09-Jul-16	time	2.53	3.57	4.57	5.60	6.57	7.60	8.60	9.62	10.65	11.71		13.21	4 / 2		
reaction time	0.203	interval	*7 steps*	1.04	1.00	1.03	0.97	1.03	1.00	1.02	1.03	1.06	1.50			3.07	3.00	3.11
wind	1.0 m/s	velocity	5.42	8.79	9.14	8.87	9.42	8.87	9.14	8.96	8.87	8.62	9.35	8.33		8.93	9.14	8.82

Askros, Rafael (SWE) (1981)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2011 Landskamp FIN-SWE-NOR (Tampere, FIN) *Blomkvist (2011) - www.sub13.se*

date	05-Feb-11	time	2.68	3.86	4.94	6.04	7.12							8.15	2 / 6		
reaction time		interval		1.18	1.08	1.10	1.08						1.03			3.36		
		velocity	5.12	7.75	8.46	8.31	8.46						9.44	7.36		8.16		

FINAL - 2010 Swedish National Championships (Falun, SWE) *Blomkvist (2010) - www.sub13.se*

date	22-Aug-10	time	2.79	3.91	5.02	6.14	7.25	8.36	9.50	10.64	11.80	12.97		14.45	/ 2		
reaction time		interval		1.12	1.11	1.12	1.11	1.11	1.14	1.14	1.16	1.17	1.48			3.35	3.36	3.47
wind	-0.7 m/s	velocity	4.92	8.16	8.23	8.16	8.23	8.23	8.02	8.02	7.88	7.81	9.47	7.61		8.19	8.16	7.90

FINAL - 2010 Windsprint (Sundsvall, SWE) *Blomkvist (2010) - www.sub13.se*

date	08-Aug-10	time	2.79	3.91	5.01	6.11	7.20	8.33	9.44	10.58	11.74	12.90		14.43	/ 7		
reaction time		interval		1.12	1.10	1.10	1.09	1.13	1.11	1.14	1.16	1.16	1.53			3.32	3.33	3.46
wind	1.1 m/s	velocity	4.92	8.16	8.31	8.31	8.39	8.09	8.23	8.02	7.88	7.88	9.16	7.62		8.26	8.23	7.92

FINAL - 2010 Folksam GP (Sollentuna, SWE) *Blomkvist (2010) - www.sub13.se*

date	01-Jul-10	time	2.60	3.73	4.83	5.93	7.03	8.15	9.27	10.40	11.56	12.76		14.48	1 / 7		
reaction time		interval		1.13	1.10	1.10	1.10	1.12	1.12	1.13	1.16	1.20	1.72			3.33	3.34	3.49
wind	0.4 m/s	velocity	5.28	8.09	8.31	8.31	8.31	8.16	8.16	8.09	7.88	7.62	8.15	7.60		8.23	8.21	7.86

B FINAL - 2010 Folksam GP (Sollentuna, SWE) *Blomkvist (2010) - www.sub13.se*

date	01-Jul-10	time	2.56	3.67	4.77	5.88	6.99	8.10	9.23	10.38	11.56	12.74		14.55	/ 1		
reaction time		interval		1.11	1.10	1.11	1.11	1.11	1.13	1.15	1.18	1.18	1.81			3.32	3.35	3.51
wind	0.4 m/s	velocity	5.36	8.23	8.31	8.23	8.23	8.23	8.09	7.95	7.75	7.75	7.75	7.56		8.26	8.19	7.81

FINAL - 2007 Windsprint (Sundsvall, SWE) *(2007) - www.ssg.se/en/Windsprint/Split-times/*

date	24-Jul-07	time		3.76			7.19			10.59				14.46	/ 4		
reaction time		interval					3.43			3.40			3.87				
wind	1.3 m/s	velocity		6.08			7.99			8.06			8.35	7.61			

Aubert, Philippe (FRA) (1957)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1986 French National Indoor Championships (Lievin, FRA) *Aubert (1986) - indoor - video - haies, etude des performances*

date	26-Jan-86	time	2.61	3.69	4.78	5.83	6.91							7.82	/ 2		
reaction time		interval		1.08	1.09	1.05	1.08						0.91			3.22	
		velocity	5.26	8.46	8.39	8.70	8.46						10.68	7.67		8.52	

Semi-Final ? - 1986 French National Indoor Championships (Lievin, FRA) *Aubert (1986) - indoor - video - haies, etude des performances*

date	26-Jan-86	time	2.66	3.75	4.79	5.86	6.95							7.86	/ 2		
reaction time		interval		1.09	1.04	1.07	1.09						0.91			3.20	
		velocity	5.16	8.39	8.79	8.54	8.39						10.68	7.63		8.57	

Baba, Kazuki (JPN) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 4 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.67	3.77	4.83	5.88	6.97	8.06	9.15	10.27	11.39	12.53		13.93	4 / 5		
reaction time	0.136	interval		1.10	1.06	1.05	1.09	1.09	1.09	1.12	1.12	1.14	1.40	PB		3.21	3.27	3.38
wind	0.0 m/s	velocity	5.14	8.31	8.62	8.70	8.39	8.39	8.39	8.16	8.16	8.02	10.01	7.90		8.54	8.39	8.11

Babiš, Ivo (CZE) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.99	4.16	5.33	6.49	7.72	8.95	10.15	11.38	12.60	13.96		15.74	6 / 5		
reaction time	0.258	interval		1.17	1.17	1.16	1.23	1.23	1.20	1.23	1.22	1.36	1.78			3.50	3.66	3.81
wind	-0.3 m/s	velocity	4.59	7.81	7.81	7.88	7.43	7.43	7.62	7.43	7.49	6.72	7.88	6.99		7.83	7.49	7.20

Bacari, Elie (BEL) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 2025 European Athletics Indoor Championships (Apeldoorn, NED) *European Athletics (2025) - european athletics indoor championships results book*

date	07-Mar-25	time	2.39	3.47	4.51	5.51	6.55							7.75	3 / 7		
reaction time	0.111	interval	7 steps	1.08	1.04	1.00	1.04						1.20			3.12	
		velocity	5.74	8.46	8.79	9.14	8.79						8.10	7.74		8.79	

Repechage 3 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	06-Aug-24	time	2.39	3.47	4.53	5.58	6.64	7.70	8.79	9.90	11.02	12.18		14.13	4 / 7		
reaction time	0.147	interval	7 steps	1.08	1.06	1.05	1.06	1.06	1.09	1.11	1.12	1.16	1.95			3.19	3.21	3.39
wind	-1.1 m/s	velocity	5.74	8.46	8.62	8.70	8.62	8.62	8.39	8.23	8.16	7.88	7.19	7.78		8.60	8.54	8.09

Heat 4 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.39	3.47	4.51	5.53	6.57	7.61	8.67	9.74	10.81	11.91		13.66	3 / 7		
reaction time	0.135	interval	7 steps	1.08	1.04	1.02	1.04	1.04	1.06	1.07	1.07	1.10	1.75			3.14	3.14	3.24
wind	0.3 m/s	velocity	5.74	8.46	8.79	8.96	8.79	8.79	8.62	8.54	8.54	8.31	8.01	8.05		8.73	8.73	8.46

FINAL - 2024 European Athletics Championships (Roma, ITA) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	08-Jun-24	time	2.53	3.58	4.60	5.63	6.65	7.68	8.75	9.83	10.87	12.00		13.88	2 / ~~8~~	no official time given		
reaction time	0.115	interval	7 steps	1.05	1.02	1.03	1.02	1.03	1.07	1.08	1.04	1.13	1.88	DQ		3.10	3.12	3.25
wind	0.6 m/s	velocity	5.42	8.70	8.96	8.87	8.96	8.87	8.54	8.46	8.79	8.09	7.46	7.93		8.85	8.79	8.44

FINAL - 2024 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	10-Feb-24	time	2.44	3.52	4.58	5.60	6.60							7.73	7 / 8		
reaction time	0.149	interval	7 steps	1.08	1.06	1.02	1.00						1.13			3.16	
		velocity	5.62	8.46	8.62	8.96	9.14						8.60	7.76		8.68	

Heat 2 - 2024 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	10-Feb-24	time	2.46	3.50	4.56	5.58	6.60						7.61	7 / 3			
reaction time	0.138	interval	7 steps	1.04	1.06	1.02	1.02					1.01	PB		3.12		
		velocity	5.58	8.79	8.62	8.96	8.96					9.62	7.88		8.79		

Baillie, Chris (GBR) (1981)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2010 Samsung Galan (Göteborg, SWE) *Blomkvist (2010) - www.sub13.se*

date	02-Feb-10	time	2.52	3.60	4.66	5.72	6.78						7.80	/ 3			
reaction time		interval		1.08	1.06	1.06	1.06					1.02			3.20		
		velocity	5.44	8.46	8.62	8.62	8.62					9.53	7.69		8.57		

Baji, Balázs (HUN) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2020 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	19-Aug-20	time	2.54	3.67	4.74	5.80	6.84	7.91	8.95	10.04	11.14	12.28		13.86	2 / 8			
reaction time	0.137	interval	7 steps	1.13	1.07	1.06	1.04	1.07	1.04	1.09	1.10	1.14	1.58			3.26	3.15	3.33
wind	0.3 m/s	velocity	5.40	8.09	8.54	8.62	8.79	8.54	8.79	8.39	8.31	8.02	8.87	7.94		8.41	8.70	8.23

FINAL - 2018 AG Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	31-Aug-18	time	2.56	3.62	4.64	5.68	6.70	7.72	8.82	9.88	10.96	12.08		13.63	1 / 8			
reaction time	0.140	interval	7 steps	1.06	1.02	1.04	1.02	1.02	1.10	1.06	1.08	1.12	1.55			3.12	3.14	3.26
wind	-0.1 m/s	velocity	5.36	8.62	8.96	8.79	8.96	8.96	8.31	8.62	8.46	8.16	9.05	8.07		8.79	8.73	8.41

FINAL - 2018 Müller Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	22-Jul-18	time	2.54	3.60	4.64	5.66	6.68	7.70	8.74	9.78	10.86	11.94		13.42	8 / 7			
reaction time	0.146	interval	7 steps	1.06	1.04	1.02	1.02	1.02	1.04	1.04	1.08	1.08	1.48			3.12	3.08	3.20
wind	0.2 m/s	velocity	5.40	8.62	8.79	8.96	8.96	8.96	8.79	8.79	8.46	8.46	9.47	8.20		8.79	8.90	8.57

FINAL - 2018 Herculis Meeting International d'Athletisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	20-Jul-18	time	2.48	3.52	4.56	5.58	6.60	7.62	8.66	9.70	10.74	11.82		13.38	7 / 6			
reaction time	0.139	interval	7 steps	1.04	1.04	1.02	1.02	1.02	1.04	1.04	1.04	1.08	1.56			3.10	3.08	3.16
wind	-0.2 m/s	velocity	5.53	8.79	8.79	8.96	8.96	8.96	8.79	8.79	8.79	8.46	8.99	8.22		8.85	8.90	8.68

FINAL - 2018 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	05-Jul-18	time	2.59	3.63	4.67	5.69	6.71	7.71	8.74	9.76	10.86	11.93		13.36	7 / 4			
reaction time	0.135	interval	7 steps	1.04	1.04	1.02	1.02	1.00	1.03	1.02	1.10	1.07	1.43			3.10	3.05	3.19
wind	0.6 m/s	velocity	5.30	8.79	8.79	8.96	8.96	9.14	8.87	8.96	8.31	8.54	9.80	8.23		8.85	8.99	8.60

FINAL - 2018 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	02-Jul-18	time	2.48	3.54	4.56	5.58	6.58	7.62	8.64	9.68	10.72	11.76		13.27	2 / 2			
reaction time	0.143	interval	7 steps	1.06	1.02	1.02	1.00	1.04	1.02	1.04	1.04	1.04	1.51			3.10	3.06	3.12
wind	0.6 m/s	velocity	5.53	8.62	8.96	8.96	9.14	8.79	8.96	8.79	8.79	8.79	9.28	8.29		8.85	8.96	8.79

FINAL - 2017 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	20-Aug-17	time	2.48	3.56	4.60	5.64	6.64	7.66	8.70	9.74	10.82	11.90		13.47	8 / 4			
reaction time	0.132	interval	7 steps	1.08	1.04	1.04	1.00	1.02	1.04	1.04	1.08	1.08	1.57			3.16	3.06	3.20
wind	-0.6 m/s	velocity	5.53	8.46	8.79	8.79	9.14	8.96	8.79	8.79	8.46	8.46	8.93	8.17		8.68	8.96	8.57

FINAL - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	07-Aug-17	time	2.39	3.47	4.49	5.52	6.54	7.56	8.58	9.61	10.66	11.71		13.28	5 / 3			
reaction time	0.122	interval	7 steps	1.08	1.02	1.03	1.02	1.02	1.02	1.03	1.05	1.05	1.57			3.13	3.06	3.13
wind	0.0 m/s	velocity	5.74	8.46	8.96	8.87	8.96	8.96	8.96	8.87	8.70	8.70	8.93	8.28		8.76	8.96	8.76

Semi-Final 3 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.34	3.40	4.44	5.46	6.48	7.50	8.51	9.54	10.57	11.63		13.23	5 / 1			
reaction time	0.120	interval	7 steps	1.06	1.04	1.02	1.02	1.02	1.01	1.03	1.03	1.06	1.60			3.12	3.05	3.12
wind	0.3 m/s	velocity	5.86	8.62	8.79	8.96	8.96	8.96	9.05	8.87	8.87	8.62	8.76	8.31		8.79	8.99	8.79

FINAL - 2017 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	04-Jul-17	time	2.50	3.56	4.56	5.56	6.56	7.56	8.58	9.58	10.62	11.66		13.15	2 / 4			
reaction time	0.139	interval	7 steps	1.06	1.00	1.00	1.00	1.00	1.02	1.00	1.04	1.04	1.49	NR PB		3.06	3.02	3.08
wind	0.3 m/s	velocity	5.49	8.62	9.14	9.14	9.14	9.14	8.96	9.14	8.79	8.79	9.41	8.37		8.96	9.08	8.90

FINAL - 2017 Golden Spike (Ostrava, CZE) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	28-Jun-17	time	2.52	3.56	4.58	5.60	6.60	7.60	8.62	9.64	10.68	11.74		13.23	6 / 2			
reaction time	0.152	interval	7 steps	1.04	1.02	1.02	1.00	1.00	1.02	1.02	1.04	1.06	1.49	NR PB		3.08	3.02	3.12
wind	0.6 m/s	velocity	5.44	8.79	8.96	8.96	9.14	9.14	8.96	8.96	8.79	8.62	9.41	8.31		8.90	9.08	8.79

FINAL - 2016 Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	09-Sep-16	time	2.53	3.60	4.64	5.67	6.70	7.70	8.74	9.81	10.88	11.99		13.50	2 / 7			
reaction time	0.183	interval	7 steps	1.07	1.04	1.03	1.03	1.00	1.04	1.07	1.07	1.11	1.51			3.14	3.07	3.25
wind	0.2 m/s	velocity	5.42	8.54	8.79	8.87	8.87	9.14	8.79	8.54	8.54	8.23	9.28	8.15		8.73	8.93	8.44

FINAL - 2016 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	25-Aug-16	time	2.52	3.56	4.60	5.60	6.60	7.62	8.64	9.66	10.72	11.78		13.34	1 / 5		
reaction time	0.141	interval	7 steps	1.04	1.04	1.00	1.00	1.02	1.02	1.02	1.06	1.06	1.56			3.08	3.04	3.14
wind	0.5 m/s	velocity	5.44	8.79	8.79	9.14	9.14	8.96	8.96	8.96	8.62	8.62	8.99	8.25		8.90	9.02	8.73

FINAL - 2016 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	15-Jul-16	time	2.48	3.54	4.56	5.58	6.60	7.60	8.64	9.68	10.72	11.86		13.45	8 / 5		
reaction time	0.131	interval	7 steps	1.06	1.02	1.02	1.02	1.00	1.04	1.04	1.04	1.14	1.59			3.10	3.06	3.22
wind	0.0 m/s	velocity	5.53	8.62	8.96	8.96	8.96	9.14	8.79	8.79	8.79	8.02	8.82	8.18		8.85	8.96	8.52

FINAL - 2013 European Indoor Championships (Göteborg, SWE) *Blomkvist (2013) - www.elitlandslag.se/SprintHäck/KortHäck.aspx*

date	01-Mar-13	time	2.55	3.61	4.65	5.66	6.67							7.56	8 / 4		
reaction time	0.159	interval	7 steps	1.06	1.04	1.01	1.01						0.89	=NR		3.11	
		velocity	5.38	8.62	8.79	9.05	9.05						10.92	7.94		8.82	

FINAL - 2011 Folksam GP (Göteborg, SWE) *Blomkvist (2011) - www.sub13.se*

date	11-Jun-11	time	2.53	3.64	4.72	5.78	6.84	7.88	8.96	10.04	11.12	12.20		13.80	/ 5		
reaction time		interval		1.11	1.08	1.06	1.06	1.04	1.08	1.08	1.08	1.08	1.60			3.25	3.18	3.24
wind	0.6 m/s	velocity	5.42	8.23	8.46	8.62	8.62	8.79	8.46	8.46	8.46	8.46	8.76	7.97		8.44	8.62	8.46

Baldwin, Heath (USA) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 3 - 2024 Olympic Games (Paris, FRA)													*Paris 2024 Olympic Games - Results Book (2024)*			
date	03-Aug-24	time	2.57	3.66	4.74	5.81	6.88	7.97	9.06	10.15	11.27	12.38		14.04	7 / 6			
reaction time	0.145	interval	7 steps	1.09	1.08	1.07	1.07	1.09	1.09	1.09	1.12	1.11	1.66			3.24	3.25	3.32
wind	0.7 m/s	velocity	5.34	8.39	8.46	8.54	8.54	8.39	8.39	8.39	8.16	8.23	8.45	7.83		8.46	8.44	8.26

Balnuweit, Erik (GER) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2019 PSD Bank Meeting (Düsseldorf, GER) (TV Analysis)													*Henson (2020) - Athlete First: 2019 year end hurdle report*			
date	20-Feb-19	time	2.42	3.46	4.52	5.52	6.56							7.67	1 / 6			
reaction time	0.148	interval		1.04	1.06	1.00	1.04						1.11			3.10		
		velocity	5.67	8.79	8.62	9.14	8.79						8.76	7.82		8.85		

FINAL - 2013 European Indoor Championships (Göteborg, SWE) *Blomkvist (2013) - www.elitlandslag.se/SprintHäck/KortHäck.aspx*

date	01-Mar-13	time	2.55	3.60	4.62	5.65	6.68							7.58	5 / 5		
reaction time	0.146	interval	7 steps	1.05	1.02	1.03	1.03						0.90	PB		3.10		
		velocity	5.38	8.70	8.96	8.87	8.87						10.80	7.92		8.85		

Balzer, Falk (GER) (1973)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2000 ISTAF (Berlin, GER)													*Graubner (2009) - http://www.fgs.uni-halle.de*			
date	01-Sep-00	time	2.60	3.67	4.70	5.72	6.72	7.73	8.78	9.80	10.88	12.00		13.47	/ 4			
reaction time	0.158	interval		1.07	1.03	1.02	1.00	1.01	1.05	1.02	1.08	1.12	1.47			3.12	3.06	3.22
wind	-0.4 m/s	velocity	5.28	8.54	8.87	8.96	9.14	9.05	8.70	8.96	8.46	8.16	9.54	8.17		8.79	8.96	8.52

FINAL - 1999 IAAF World Championships (Sevilla, ESP) *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	25-Aug-99	time	2.60	3.64	4.65	5.67	6.69	7.71	8.71	9.72	10.76	11.84		13.26	2 / 5		
reaction time	0.153	interval		1.04	1.01	1.02	1.02	1.02	1.00	1.01	1.04	1.08	1.42			3.07	3.04	3.13
wind	1.0 m/s	velocity	5.28	8.79	9.05	8.96	8.96	8.96	9.14	9.05	8.79	8.46	9.87	8.30		8.93	9.02	8.76

Semi-Final 1 - 1999 IAAF World Championships (Sevilla, ESP) *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	24-Aug-99	time	2.58	3.61	4.62	5.63	6.65	7.66	8.70	9.74	10.80	11.88		13.32	6 / 4		
reaction time	0.136	interval		1.03	1.01	1.01	1.02	1.01	1.04	1.04	1.06	1.08	1.44			3.05	3.07	3.18
wind	0.0 m/s	velocity	5.32	8.87	9.05	9.05	8.96	9.05	8.79	8.79	8.62	8.46	9.74	8.26		8.99	8.93	8.62

FINAL - 1998 European Championships (Budapest, HUN) *Sanchez (1998) - Budapest '98: análisis de la carreras con villas*

date	22-Aug-98	time	2.60	3.62	4.63	5.64	6.67	7.67	8.68	9.68	10.71	11.77		13.12	6 / 2		
reaction time		interval		1.02	1.01	1.01	1.03	1.00	1.01	1.00	1.03	1.06	1.35	PB		3.04	3.04	3.09
wind	1.5 m/s	velocity	5.28	8.96	9.05	9.05	8.87	9.14	9.05	9.14	8.87	8.62	10.39	8.38		9.02	9.02	8.87

Barras, Romain (FRA) (1980)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 3 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date	20-Aug-09	time	2.72	3.85	4.96	6.07	7.15	8.27	9.37	10.49	11.61	12.75		14.27	8 / 3			
reaction time	0.135	interval		1.13	1.11	1.11	1.08	1.12	1.10	1.12	1.12	1.14	1.52			3.35	3.30	3.38
wind	-0.1 m/s	velocity	5.04	8.09	8.23	8.23	8.46	8.16	8.31	8.16	8.16	8.02	9.22	7.71		8.19	8.31	8.11

Bárta, Dan (CZE) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2015 Czech Republic National U18 Indoor Championships (Praha, CZE) (91cm)													*Feher (2015) - Final report U18 & U20 Czech Republic indoor national champs*			
date	14-Feb-15	time	2.70	3.86	5.00	6.09	7.23							8.20	6 / 5			
reaction time	0.158	interval		1.16	1.14	1.09	1.14						0.97			3.39		
		velocity	5.08	7.88	8.02	8.39	8.02						10.02	7.32		8.09		

FINAL - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.80	3.97	5.13	6.28	7.44	8.59	9.83					dnf	3 / --		
reaction time	0.169	interval		1.17	1.16	1.15	1.16	1.15	1.24							3.48	3.55	

wind	-3.7 m/s	velocity	4.90	7.81	7.88	7.95	7.88	7.95	7.37							7.88	7.72	

Heat 3 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.79	3.94	5.08	6.22	7.33	8.50	9.67	10.86	12.08	13.28		14.90	4 / 1			
reaction time	0.166	interval		1.15	1.14	1.14	1.11	1.17	1.17	1.19	1.22	1.20	1.62			3.43	3.45	3.61
wind	-1.6 m/s	velocity	4.92	7.95	8.02	8.02	8.23	7.81	7.81	7.68	7.49	7.62	8.65	7.38		7.99	7.95	7.60

Bascou, Dimitri (FRA) (1987)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 2 - 2023 French National Championships (Albi, FRA) (TV Analysis)															*Henson (2023) - Athlete First: 2023 year end hurdle report*			
date	29-Jul-23	time	2.54	3.58	4.58	5.56	6.54	7.54	8.54	9.58	10.66	11.70		13.14	3 / 2			
reaction time	0.162	interval	7 steps	1.04	1.00	0.98	0.98	1.00	1.00	1.04	1.08	1.04	1.44			3.02	2.98	3.16
wind	5.3 m/s	velocity	5.40	8.79	9.14	9.33	9.33	9.14	9.14	8.79	8.46	8.79	9.74	8.37		9.08	9.20	8.68
Heat 1 - 2023 Meeting de Paris (Paris, FRA)															*Omega Timing (2023) - diamond league race analysis*			
date	09-Jun-23	time	2.43	3.49	4.54	5.58	6.61	7.65	8.69	9.74	10.85	11.98		13.66	8 / 7			
reaction time	0.162	interval	7 steps	1.06	1.05	1.04	1.03	1.04	1.04	1.05	1.11	1.13	1.68			3.15	3.11	3.29
wind	-2.0 m/s	velocity	5.65	8.62	8.70	8.79	8.87	8.79	8.79	8.70	8.23	8.09	8.35	8.05		8.70	8.82	8.33
Semi-Final 1 - 2019 IAAF World Championships (Doha, QAT)															*CAA Hurdle Development (2019)*			
date	02-Oct-19	time	2.58	3.62	4.66	5.68	6.70	7.74	8.80	9.88	10.94	12.04		13.48	2 / 3			
reaction time	0.152	interval	7 steps	1.04	1.04	1.02	1.02	1.04	1.06	1.08	1.06	1.10	1.44			3.10	3.12	3.24
wind	1.1 m/s	velocity	5.32	8.79	8.79	8.96	8.96	8.79	8.62	8.46	8.62	8.31	9.74	8.16		8.85	8.79	8.46
FINAL - 2017 Prefontaine Classic (Eugene, OR) (TV Analysis)															*Henson (2020) - Athlete First: 2017 year end hurdle report*			
date	27-May-17	time	2.48	3.50	4.54	5.56	6.60	7.66	8.74	9.82	10.90	12.00		13.55	3 / 8			
reaction time	0.158	interval	7 steps	1.02	1.04	1.02	1.04	1.06	1.08	1.08	1.08	1.10	1.55			3.08	3.18	3.26
wind	0.9 m/s	velocity	5.53	8.96	8.79	8.96	8.79	8.62	8.46	8.46	8.46	8.31	9.05	8.12		8.90	8.62	8.41
FINAL - 2016 Memorial van Damme (Brussels, BEL) (TV Analysis)															*Henson (2020) - Athlete First: 2016 year end hurdle report*			
date	09-Sep-16	time	2.50	3.57	4.57	5.57	6.57	7.60	8.64	9.67	10.75	11.86		13.37	4 / 4			
reaction time	0.160	interval	7 steps	1.07	1.00	1.00	1.00	1.03	1.04	1.03	1.08	1.11	1.51			3.07	3.07	3.22
wind	0.2 m/s	velocity	5.49	8.54	9.14	9.14	9.14	8.87	8.79	8.87	8.46	8.23	9.28	8.23		8.93	8.93	8.52
FINAL - 2016 Athletissima (Lausanne, SUI) (TV Analysis)															*Henson (2020) - Athlete First: 2016 year end hurdle report*			
date	25-Aug-16	time	2.48	3.52	4.54	5.56	6.56	7.56	8.58	9.62	10.68	11.76		13.25	6 / 3			
reaction time	0.139	interval	7 steps	1.04	1.02	1.02	1.00	1.00	1.02	1.04	1.06	1.08	1.49			3.08	3.02	3.18
wind	0.5 m/s	velocity	5.53	8.79	8.96	8.96	9.14	9.14	8.96	8.79	8.62	8.46	9.41	8.30		8.90	9.08	8.62
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA) (TV Analysis)															*Henson (2020) - Athlete First: 2016 year end hurdle report*			
date	16-Aug-16	time	2.50	3.52	4.54	5.56	6.56	7.62	8.66	9.72	10.76	11.80		13.24	6 / 3			
reaction time	0.131	interval	7 steps	1.02	1.02	1.02	1.00	1.06	1.04	1.06	1.04	1.04	1.44			3.06	3.10	3.14
wind	0.2 m/s	velocity	5.49	8.96	8.96	8.96	9.14	8.62	8.79	8.62	8.79	8.79	9.74	8.31		8.96	8.85	8.73
FINAL - 2016 London Anniversary Games (London, GBR) (TV Analysis)															*Henson (2021) - Athlete First: 2016 year end hurdle report*			
date	23-Jul-16	time	2.50	3.53	4.56	5.56	6.58	7.60	8.62	9.64	10.68	11.74		13.20	5 / 1			
reaction time	0.103	interval	7 steps	1.03	1.03	1.00	1.02	1.02	1.02	1.02	1.04	1.06	1.46			3.06	3.06	3.12
wind	-1.0 m/s	velocity	5.49	8.87	8.87	9.14	8.96	8.96	8.96	8.96	8.79	8.62	9.60	8.33		8.96	8.96	8.79
FINAL - 2016 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis)															*Henson (2021) - Athlete First: 2016 year end hurdle report*			
date	15-Jul-16	time	2.44	3.48	4.48	5.46	6.44	7.46	8.48	9.52	10.56	11.64		13.12	6 / 2			
reaction time	0.136	interval	7 steps	1.04	1.00	0.98	0.98	1.02	1.02	1.04	1.04	1.08	1.48	**PB**		3.02	3.02	3.16
wind	0.0 m/s	velocity	5.62	8.79	9.14	9.33	9.33	8.96	8.96	8.79	8.79	8.46	9.47	8.38		9.08	9.08	8.68
FINAL - 2016 European Championships (Amsterdam, NED)															*(2016.07.09) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date	09-Jul-16	time	2.53	3.56	4.58	5.59	6.60	7.62	8.65	9.71	10.78	11.86		13.25	7 / 1			
reaction time	0.141	interval	*7 steps*	1.03	1.02	1.01	1.01	1.02	1.03	1.06	1.07	1.08	1.39			3.06	3.06	3.21
wind	0.0 m/s	velocity	5.42	8.87	8.96	9.05	9.05	8.96	8.87	8.62	8.54	8.46	10.09	8.30		8.96	8.96	8.54
FINAL - 2016 Golden Gala Pietro Mennea (Roma, ITA) (TV Analysis)															*Henson (2020) - Athlete First: 2016 year end hurdle report*			
date	02-Jun-16	time	2.48	3.58	4.66	5.70	6.72	7.74	8.80					dnf	4 / --			
reaction time	0.149	interval	*7 steps*	1.10	1.08	1.04	1.02	1.02	1.06							3.22	3.10	
wind	0.6 m/s	velocity	5.53	8.31	8.46	8.79	8.96	8.96	8.62							8.52	8.85	
FINAL - 2016 Shanghai Golden Grand Prix (Shanghai, CHN)															*Henson (2021) - Athlete First: 2016 year end hurdle report*			
date	14-May-16	time	2.48	3.52	4.56	5.58	6.62	7.64	8.68	9.72	10.76	11.86		13.34	2 / 4			
reaction time	0.141	interval	7 steps	1.04	1.04	1.02	1.04	1.02	1.04	1.04	1.04	1.10	1.48			3.10	3.10	3.18
wind	1.2 m/s	velocity	5.53	8.79	8.79	8.96	8.79	8.96	8.79	8.79	8.79	8.31	9.47	8.25		8.85	8.85	8.62
FINAL - 2016 Doha Diamond League (Doha, QAT) (TV Analysis)															*Henson (2020) - Athlete First: 2016 year end hurdle report*			
date	06-May-16	time	2.56	3.60	4.64	5.64	6.64	7.68	8.72	9.76	10.82	11.90		13.33	2 / 5			
reaction time	0.153	interval	7 steps	1.04	1.04	1.00	1.00	1.04	1.04	1.04	1.06	1.08	1.43			3.08	3.08	3.18
wind	1.4 m/s	velocity	5.36	8.79	8.79	9.14	9.14	8.79	8.79	8.79	8.62	8.46	9.80	8.25		8.90	8.90	8.62

FINAL - 2015 IAAF World Championships (Beijing, CHN) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	28-Aug-15	time	2.48	3.50	4.52	5.56	6.56	7.58	8.60	9.64	10.68	11.72		13.17	5 / 5			
reaction time	0.137	interval	7 steps	1.02	1.02	1.04	1.00	1.02	1.02	1.04	1.04	1.04	1.45			3.08	3.04	3.12
wind	0.2 m/s	velocity	5.53	8.96	8.96	8.79	9.14	8.96	8.96	8.79	8.79	8.79	9.67	8.35		8.90	9.02	8.79

Heat 2 - 2014 European Championships (Zurich, SUI) *Incalza (2014) - https://www.youtube.com/watch?v=nliXgBWbl_k&list=UU7691fXeyNFIMROfkJ-WWUg*

date	13-Aug-14	time	2.58	3.61	4.64	5.68	6.70	7.73	8.77	9.81	10.86	11.92		13.35	8 / 1			
reaction time	0.148	interval		1.03	1.03	1.04	1.02	1.03	1.04	1.04	1.05	1.06	1.43			3.10	3.09	3.15
wind	0.4 m/s	velocity	5.32	8.87	8.87	8.79	8.96	8.87	8.79	8.79	8.70	8.62	9.80	8.24		8.85	8.87	8.70

FINAL - 2012 Herculis Meeting International D'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	20-Jul-12	time	2.50	3.55	4.60	5.64	6.67	7.71	8.77	9.84	10.91	12.01		13.54	1 / 8			
reaction time	0.159	interval	7 steps	1.05	1.05	1.04	1.03	1.04	1.06	1.07	1.07	1.10	1.53			3.14	3.13	3.24
wind	0.0 m/s	velocity	5.49	8.70	8.70	8.79	8.87	8.79	8.62	8.54	8.54	8.31	9.16	8.12		8.73	8.76	8.46

Heat 5 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.65	3.72	4.75	5.77	6.80	7.85	8.91	9.97	11.05	12.13		13.55	6 / 4			
reaction time	0.158	interval		1.07	1.03	1.02	1.03	1.05	1.06	1.06	1.08	1.08	1.42			3.12	3.14	3.22
wind	0.0 m/s	velocity	5.18	8.54	8.87	8.96	8.87	8.70	8.62	8.62	8.46	8.46	9.87	8.12		8.79	8.73	8.52

Bastien, Steven (USA) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2022 year end hurdle report*

date	24-Jul-22	time	2.76	3.92	5.05	6.15	7.28	8.40	9.62	10.76	11.96	13.16		14.75	2 / 7			
reaction time	0.132	interval	7 steps	1.16	1.13	1.10	1.13	1.12	1.22	1.14	1.20	1.20	1.59			3.39	3.47	3.54
wind	0.4 m/s	velocity	4.97	7.88	8.09	8.31	8.09	8.16	7.49	8.02	7.62	7.62	8.82	7.46		8.09	7.90	7.75

Decathlon - Heat 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	05-Aug-21	time	2.68	3.76	4.90	6.03	7.12	8.25	9.42	10.55	11.73	12.87		14.42	2 / 6			
reaction time	0.148	interval	7 steps	1.08	1.14	1.13	1.09	1.13	1.17	1.13	1.18	1.14	1.55			3.35	3.39	3.45
wind	-1.0 m/s	velocity	5.12	8.46	8.02	8.09	8.39	8.09	7.81	8.09	7.75	8.02	9.05	7.63		8.19	8.09	7.95

Bates, Di'Niko (USA) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	27-Jun-24	time	2.63	3.73	4.80	5.84	6.88	7.92	8.96	10.03	11.13	12.23		13.72	2 / 7			
reaction time		interval	7 steps	1.10	1.07	1.04	1.04	1.04	1.04	1.07	1.10	1.10	1.49			3.21	3.12	3.27
wind	-0.2 m/s	velocity	5.22	8.31	8.54	8.79	8.79	8.79	8.79	8.54	8.31	8.31	9.41	8.02		8.54	8.79	8.39

Heat 4 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.56	3.60	4.67	5.76	6.76	7.78	8.80	9.88	11.00	12.08		13.56	8 / 6			
reaction time		interval	7 steps	1.04	1.07	1.09	1.00	1.02	1.02	1.08	1.12	1.08	1.48			3.20	3.04	3.28
wind	1.2 m/s	velocity	5.36	8.79	8.54	8.39	9.14	8.96	8.96	8.46	8.16	8.46	9.47	8.11		8.57	9.02	8.36

Batte, Erick (CUB) (1974)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 1999 IAAF World Championships (Sevilla, ESP) *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	24-Aug-99	time	2.54	3.58	4.60	5.64	6.64	7.66	8.67	9.72	10.76	11.86		13.40	7 / 6			
reaction time	0.136	interval		1.04	1.02	1.04	1.00	1.02	1.01	1.05	1.04	1.10	1.54			3.10	3.03	3.19
wind	0.0 m/s	velocity	5.40	8.79	8.96	8.79	9.14	8.96	9.05	8.70	8.79	8.31	9.10	8.21		8.85	9.05	8.60

FINAL - 1996 Olympic Games (Atlanta, GA) *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

date	26-Jul-96	time	2.40	3.48	4.52	5.58	6.63	7.62	8.68	9.64	10.78	11.83		13.43	1 / 8			
reaction time	0.160	interval		1.08	1.04	1.06	1.05	0.99	1.06	0.96	1.14	1.05	1.60			3.18	3.10	3.15
wind	0.8 m/s	velocity	5.72	8.46	8.79	8.62	8.70	9.23	8.62	9.52	8.02	8.70	8.76	8.19		8.62	8.85	8.70

Bautista, Clinton Kingsley (PHI) (19

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2019 Asian Grand Prix 2 (Chongqing, CHN) *CAA Hurdle Development (2019)*

date	07-Jun-19	time	2.65	3.77	4.87	5.99	7.07	8.17	9.29	10.41	11.52	12.67		14.13	2 / 7			
reaction time	0.180	interval	7 steps	1.12	1.10	1.12	1.08	1.10	1.12	1.12	1.11	1.15	1.46	PB		3.34	3.30	3.38
wind	1.2 m/s	velocity	5.18	8.16	8.31	8.16	8.46	8.31	8.16	8.16	8.23	7.95	9.60	7.78		8.21	8.31	8.11

FINAL - 2019 Asian Grand Prix 1 (Chongqing, CHN) *CAA Hurdle Development (2019)*

date	04-Jun-19	time	2.60	3.70	4.80	5.88	6.99	8.10	9.25	10.41	11.57	12.72		14.22	2 / 6			
reaction time	0.169	interval	7 steps	1.10	1.10	1.08	1.11	1.11	1.15	1.16	1.16	1.15	1.50			3.28	3.37	3.47
wind	-0.3 m/s	velocity	5.28	8.31	8.31	8.46	8.23	8.23	7.95	7.88	7.88	7.95	9.35	7.74		8.36	8.14	7.90

Beard, Dylan (USA) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Short Hurdles - 2025 Grand Slam Track Miami (Miramar, FL) (TV Analysis) *Henson (2025) - Athlete First: 2025 year end hurdle report*

date	02-May-25	time	2.60	3.65	4.63	5.60	6.60	7.61	8.61	9.64	10.71	11.78		13.24	7 / 5			
reaction time	0.120	interval		1.05	0.98	0.97	1.00	1.01	1.00	1.03	1.07	1.07	1.46			3.00	3.01	3.17
wind	1.4 m/s	velocity	5.28	8.70	9.33	9.42	9.14	9.05	9.14	8.87	8.54	8.54	9.60	8.31		9.14	9.11	8.65

FINAL - 2024 Golden Gala • Pietro Mennea (Roma, ITA) *Omega Timing (2024) - diamond league race analysis*

date	30-Aug-24	time	2.41	3.48	4.49	5.50	6.50	7.51	8.54	9.58	10.64	11.73		13.35	7 / 8			
reaction time	0.170	interval		1.07	1.01	1.01	1.00	1.01	1.03	1.04	1.06	1.09	1.62			3.09	3.04	3.19

wind	0.4 m/s	velocity	5.69	8.54	9.05	9.05	9.14	9.05	8.87	8.79	8.62	8.39	8.65	8.24		8.87	9.02	8.60

FINAL - 2024 Meeting de Paris (Paris, FRA) *Omega Timing (2024) - diamond league race analysis*

date	07-Jul-24	time	2.39	3.44	4.45	5.46	6.46	7.45	8.46	9.48	10.53	11.60		13.21	3 / 5			
reaction time	0.156	interval		1.05	1.01	1.01	1.00	0.99	1.01	1.02	1.05	1.07	1.61			3.07	3.00	3.14
wind	-0.6 m/s	velocity	5.74	8.70	9.05	9.05	9.14	9.23	9.05	8.96	8.70	8.54	8.71	8.33		8.93	9.14	8.73

Heat 2 - 2024 Meeting de Paris (Paris, FRA) *Omega Timing (2024) - diamond league race analysis*

date	07-Jul-24	time	2.39	3.44	4.45	5.44	6.44	7.44	8.47	9.51	10.57	11.65		13.25	3 / 2			
reaction time	0.164	interval		1.05	1.01	0.99	1.00	1.00	1.03	1.04	1.06	1.08	1.60			3.05	3.03	3.18
wind	0.4 m/s	velocity	5.74	8.70	9.05	9.23	9.14	9.14	8.87	8.79	8.62	8.46	8.76	8.30		8.99	9.05	8.62

Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	27-Jun-24	time	2.51	3.54	4.54	5.56	6.54	7.57	8.61	9.65	10.74	11.85		13.38	5 / 5			
reaction time		interval		1.03	1.00	1.02	0.98	1.03	1.04	1.04	1.09	1.11	1.53			3.05	3.05	3.24
wind	0.3 m/s	velocity	5.47	8.87	9.14	8.96	9.33	8.87	8.79	8.79	8.39	8.23	9.16	8.22		8.99	8.99	8.46

Heat 3 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.48	3.50	4.53	5.53	6.53	7.54	8.57	9.60	10.63	11.76		13.19	4 / 2			
reaction time		interval		1.02	1.03	1.00	1.00	1.01	1.03	1.03	1.03	1.13	1.43			3.05	3.04	3.19
wind	1.8 m/s	velocity	5.53	8.96	8.87	9.14	9.14	9.05	8.87	8.87	8.87	8.09	9.80	8.34		8.99	9.02	8.60

Behrenbruch, Pascal (GER) (1985)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 2 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 20-Aug-09 time	2.75	3.87	4.97	6.07	7.17	8.28	9.39	10.50	11.63	12.77		14.24	2 / 4			
reaction time 0.156 interval		1.12	1.10	1.10	1.10	1.11	1.11	1.11	1.13	1.14	1.47			3.32	3.32	3.38
wind 0.3 m/s velocity	4.99	8.16	8.31	8.31	8.31	8.23	8.23	8.23	8.09	8.02	9.54	7.72		8.26	8.26	8.11

Belmar, Félix (ESP) (1978)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1998 Spanish National Championships (San Sebastián, ESP)													*Ruiz (1998) - campeonato des españa absoluto: análisis de la carreras con villas*			
date 02-Aug-98 time	2.70	3.82	4.96	6.06	7.20	8.36	9.51	10.70	11.86	13.08		14.73	8 / 5			
reaction time interval		1.12	1.14	1.10	1.14	1.16	1.15	1.19	1.16	1.22	1.65			3.36	3.45	3.57
wind 0.1 m/s velocity	5.08	8.16	8.02	8.31	8.02	7.88	7.95	7.68	7.88	7.49	8.50	7.47		8.16	7.95	7.68

Belocian, Wilhem (FRA) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Short Hurdles - 2025 Grand Slam Track Miami (Miramar, FL) (TV Analysis)													*Henson (2025) - Athlete First: 2025 year end hurdle report*			
date 02-May-25 time	2.57	3.60	4.64	5.62	6.62	7.67	8.71	9.77	10.84	11.95		13.47	1 / 8			
reaction time 0.170 interval 7 steps	1.03	1.04	0.98	1.00	1.05	1.04	1.06	1.07	1.11	1.52				3.05	3.09	3.24
wind 1.4 m/s velocity	5.34	8.87	8.79	9.33	9.14	8.70	8.79	8.62	8.54	8.23	9.22	8.17		8.99	8.87	8.46

FINAL - 2025 European Athletics Indoor Championships (Apeldoorn, NED) *European Athletics (2025) - european athletics indoor championships results book*

date	07-Mar-25	time	2.40	3.44	4.44	5.44	6.44							7.45	5 / 2			
reaction time	0.140	interval	7 steps	1.04	1.00	1.00	1.00						1.01			3.04		
		velocity	5.72	8.79	9.14	9.14	9.14						9.62	8.05		9.02		

Semi-Final 1 - 2025 European Athletics Indoor Championships (Apeldoorn, NED) *European Athletics (2025) - european athletics indoor championships results book*

date	07-Mar-25	time	2.39	3.43	4.44	5.43	6.41							7.44	4 / 1			
reaction time	0.126	interval	7 steps	1.04	1.01	0.99	0.98						1.03			3.04		
		velocity	5.74	8.79	9.05	9.23	9.33						9.44	8.06		9.02		

Semi-Final 3 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	2.38	3.45	4.49	5.51	6.54	7.56	8.63	9.70	10.78	11.87		13.52	9 / 8			
reaction time	0.148	interval		1.07	1.04	1.02	1.03	1.02	1.07	1.07	1.08	1.09	1.65			3.13	3.12	3.24
wind	0.6 m/s	velocity	5.76	8.54	8.79	8.96	8.87	8.96	8.54	8.54	8.46	8.39	8.50	8.14		8.76	8.79	8.46

Repechage 3 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	06-Aug-24	time	2.38	3.45	4.49	5.52	6.55	7.59	8.63	9.68	10.75	11.84		13.45	2 / 2			
reaction time	0.130	interval		1.07	1.04	1.03	1.03	1.04	1.04	1.05	1.07	1.09	1.61			3.14	3.11	3.21
wind	-1.1 m/s	velocity	5.76	8.54	8.79	8.87	8.87	8.79	8.79	8.70	8.54	8.39	8.71	8.18		8.73	8.82	8.54

Heat 4 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.41	3.46	4.49	5.51	6.53	7.55	8.60	9.68	10.74	11.86		13.48	8 / 5			
reaction time	0.145	interval		1.05	1.03	1.02	1.02	1.02	1.05	1.08	1.06	1.12	1.62			3.10	3.09	3.26
wind	0.3 m/s	velocity	5.69	8.70	8.87	8.96	8.96	8.96	8.70	8.46	8.62	8.16	8.65	8.16		8.85	8.87	8.41

FINAL - 2023 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2023) - diamond league race analysis*

date	02-Sep-23	time	2.38	3.43	4.44	5.44	6.45	7.45	8.47	9.51	10.56	11.62		13.17	3 / 4			
reaction time	0.130	interval		1.05	1.01	1.00	1.01	1.00	1.02	1.04	1.05	1.06	1.55			3.06	3.03	3.15
wind	0.0 m/s	velocity	5.76	8.70	9.05	9.14	9.05	9.14	8.96	8.79	8.70	8.62	9.05	8.35		8.96	9.05	8.70

FINAL - 2023 World Athletics Championships (Budapest, HUN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	21-Aug-23	time	2.58	3.60	4.62	5.62	6.64	7.70	8.72	9.75	10.80	11.87		13.32	2 / 8			
reaction time	0.158	interval		1.02	1.02	1.00	1.02	1.06	1.02	1.03	1.05	1.07	1.45			3.04	3.10	3.15

wind	0.0 m/s	velocity	5.32	8.96	8.96	9.14	8.96	8.62	8.96	8.87	8.70	8.54	9.67	8.26		9.02	8.85	8.70

Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.50	3.52	4.53	5.53	6.55	7.56	8.60	9.63	10.72	11.77		13.23	4 / 3			
reaction time	0.140	interval		1.02	1.01	1.00	1.02	1.01	1.04	1.03	1.09	1.05	1.46			3.03	3.07	3.17
wind	-0.1 m/s	velocity	5.49	8.96	9.05	9.14	8.96	9.05	8.79	8.87	8.39	8.70	9.60	8.31		9.05	8.93	8.65

Heat 2 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.55	3.58	4.63	5.63	6.64	7.65	8.69	9.75	10.81	11.87		13.31	9 / 1			
reaction time	0.156	interval		1.03	1.05	1.00	1.01	1.01	1.04	1.06	1.06	1.06	1.44			3.08	3.06	3.18
wind	0.5 m/s	velocity	5.38	8.87	8.70	9.14	9.05	9.05	8.79	8.62	8.62	8.62	9.74	8.26		8.90	8.96	8.62

FINAL - 2023 French National Championships (Albi, FRA) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	29-Jul-23	time	2.46	3.50	4.50	5.50	6.48	7.50	8.52	9.52	10.56	11.60		13.07	5 / 2			
reaction time	0.168	interval		1.04	1.00	1.00	0.98	1.02	1.02	1.00	1.04	1.04	1.47			3.04	3.02	3.08
wind	2.3 m/s	velocity	5.58	8.79	9.14	9.14	9.33	8.96	8.96	9.14	8.79	8.79	9.54	8.42		9.02	9.08	8.90

FINAL - 2023 Meeting de Paris (Paris, FRA) *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.35	3.40	4.42	5.43	6.45	7.47	8.50	9.53	10.57	11.62		13.20	8 / 5			
reaction time	0.142	interval		1.05	1.02	1.01	1.02	1.02	1.03	1.03	1.04	1.05	1.58			3.08	3.07	3.12
wind	-0.5 m/s	velocity	5.84	8.70	8.96	9.05	8.96	8.96	8.87	8.87	8.79	8.70	8.87	8.33		8.90	8.93	8.79

Heat 1 - 2023 Meeting de Paris (Paris, FRA) *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.36	3.43	4.46	5.49	6.52	7.56	8.60	9.64	10.70	11.78		13.37	6 / 3			
reaction time	0.129	interval		1.07	1.03	1.03	1.03	1.04	1.04	1.04	1.06	1.08	1.59			3.13	3.11	3.18
wind	-2.0 m/s	velocity	5.81	8.54	8.87	8.87	8.87	8.79	8.79	8.79	8.62	8.46	8.82	8.23		8.76	8.82	8.62

FINAL - 2022 Bislett Games (Oslo, NOR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jun-22	time	2.48	3.52	4.58	5.64								dnf	1 / --			
reaction time	0.111	interval	7 steps	1.04	1.06	1.06										3.16		
wind	-1.2 m/s	velocity	5.53	8.79	8.62	8.62										8.68		

FINAL - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.50	3.54	4.58	5.62	6.66							7.67	3 / 8			
reaction time	0.177	interval		1.04	1.04	1.04	1.04						1.01			3.12		
		velocity	5.49	8.79	8.79	8.79	8.79						9.62	7.82		8.79		

Semi-Final 3 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.53	3.56	4.56	5.56	6.56							7.53	4 / 1			
reaction time	0.129	interval		1.03	1.00	1.00	1.00						0.97			3.03		
		velocity	5.42	8.87	9.14	9.14	9.14						10.02	7.97		9.05		

Heat 6 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.50	3.55	4.57	5.57	6.60							7.55	1 / 1			
reaction time	0.109	interval		1.05	1.02	1.00	1.03						0.95			3.07		
		velocity	5.49	8.70	8.96	9.14	8.87						10.23	7.95		8.93		

FINAL - 2022 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	17-Feb-22	time	2.46	3.52	4.55	5.57	6.66							7.72	3 / 8			
reaction time	0.130	interval		1.06	1.03	1.02	1.09						1.06			3.11		
		velocity	5.58	8.62	8.87	8.96	8.39						9.17	7.77		8.82		

Heat 2 - 2022 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	17-Feb-22	time	2.43	3.45	4.50	5.54	6.54							7.57	5 / 2			
reaction time	0.139	interval		1.02	1.05	1.04	1.00						1.03			3.11		
		velocity	5.65	8.96	8.70	8.79	9.14						9.44	7.93		8.82		

Heat 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.48	3.68	4.70	5.76	6.79	7.81	8.86	9.97					3 / --			
reaction time	0.135	interval		1.20	1.02	1.06	1.03	1.02	1.05	1.11				DQ		3.28	3.10	
wind	0.0 m/s	velocity	5.53	7.62	8.96	8.62	8.87	8.96	8.70	8.23						8.36	8.85	

FINAL - 2021 Golden Gala Pietro Mennea (Florence, ITA) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	10-Jun-21	time	2.48	3.52	4.56	5.58	6.60	7.64	8.66	9.68	10.76	11.82		13.31	6 / 3			
reaction time	0.138	interval		1.04	1.04	1.02	1.02	1.04	1.02	1.02	1.08	1.06	1.49			3.10	3.08	3.16
wind	-0.1 m/s	velocity	5.53	8.79	8.79	8.96	8.96	8.79	8.96	8.96	8.46	8.62	9.41	8.26		8.85	8.90	8.68

FINAL - 2021 Fanny Blankers Koen Games (Hengelo, NED) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	06-Jun-21	time	2.47	3.54	4.54	5.57	6.60	7.62	8.64	9.67	10.74	11.84		13.34	6 / 3			
reaction time		interval		1.07	1.00	1.03	1.03	1.02	1.02	1.03	1.07	1.10	1.50			3.10	3.07	3.20
wind	1.7 m/s	velocity	5.55	8.54	9.14	8.87	8.87	8.96	8.96	8.87	8.54	8.31	9.35	8.25		8.85	8.93	8.57

FINAL - 2021 European Indoor Championships (Toruń, POL) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	07-Mar-21	time	2.40	3.46	4.44	5.44	6.42							7.42	5 / 1				
reaction time	0.129	interval		1.06	0.98	1.00	0.98						1.00	PB			3.04		
		velocity	5.72	8.62	9.33	9.14	9.33						9.72	8.09			9.02		

FINAL - 2021 Copernicus Cup (Toruń, POL) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	17-Feb-21	time	2.54	3.56	4.58	5.60	6.61							7.57	3 / 2				
reaction time	0.143	interval		1.02	1.02	1.02	1.01						0.96				3.06		
		velocity	5.40	8.96	8.96	8.96	9.05						10.13	7.93			8.96		

FINAL - 2021 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	09-Feb-21	time	2.52	3.54	4.56	5.55	6.56							7.52	4 / 2				
reaction time	0.160	interval		1.02	1.02	0.99	1.01						0.96				3.03		
		velocity	5.44	8.96	8.96	9.23	9.05						10.13	7.98			9.05		

Heat 1 - 2021 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	09-Feb-21	time	2.40	3.43	4.46	5.46	6.46							7.50	5 / 1				
reaction time	0.141	interval		1.03	1.03	1.00	1.00						1.04				3.06		
		velocity	5.72	8.87	8.87	9.14	9.14						9.35	8.00			8.96		

FINAL - 2021 Meeting Elite en Salle de Metz (Metz, FRA) *Vazel (2021) - https://twitter.com/pjvazel/status/1358428540241399810*

date	06-Feb-21	time	2.53	3.55	4.54	5.61								dnf	3 / --				
reaction time		interval		1.02	0.99	1.07											3.08		
		velocity	5.42	8.96	9.23	8.54											8.90		

Heat 1 - 2021 Meeting Elite en Salle de Metz (Metz, FRA) *Vazel (2021) - https://twitter.com/pjvazel/status/1358428540241399810*

date	06-Feb-21	time	2.54	3.57	4.56	5.56	6.56							7.45	/ 1				
reaction time	0.148	interval		1.03	0.99	1.00	1.00						0.89	PB			3.02		
		velocity	5.40	8.87	9.23	9.14	9.14						10.92	14.77			9.08		

FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	17-Sep-20	time	2.50	3.52	4.56	5.60	6.64	7.68	8.72	9.78	10.86	11.94		13.49	5 / 4				
reaction time	0.134	interval		1.02	1.04	1.04	1.04	1.04	1.04	1.06	1.08	1.08	1.55				3.10	3.12	3.22
wind	0.1 m/s	velocity	5.49	8.96	8.79	8.79	8.79	8.79	8.79	8.62	8.46	8.46	9.05	8.15			8.85	8.79	8.52

FINAL - 2020 French National Championships (Albi, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	13-Sep-20	time	2.50	3.51	4.49	5.50	6.48	7.53	8.57	9.59	10.63	11.67		13.20	4 / 1				
reaction time	0.156	interval		1.01	0.98	1.01	0.98	1.05	1.04	1.02	1.04	1.04	1.53				3.00	3.07	3.10
wind	0.0 m/s	velocity	5.49	9.05	9.33	9.05	9.33	8.70	8.79	8.96	8.79	8.79	9.16	8.33			9.14	8.93	8.85

FINAL - 2020 Meeting Pro Athlé Tour de Marseille (Marseille, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	03-Sep-20	time	2.52	3.57	4.57	5.55	6.60	7.61	8.62	9.66	10.70	11.75		13.27	6 / 2				
reaction time	0.211	interval		1.05	1.00	0.98	1.05	1.01	1.01	1.04	1.04	1.05	1.52				3.03	3.07	3.13
wind	-0.3 m/s	velocity	5.44	8.70	9.14	9.33	8.70	9.05	9.05	8.79	8.79	8.70	9.22	8.29			9.05	8.93	8.76

FINAL - 2020 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	19-Aug-20	time	2.47	3.50	4.54	5.57	6.57	7.60	8.64	9.68	10.74	11.84		13.34	6 / 4				
reaction time	0.134	interval		1.03	1.04	1.03	1.00	1.03	1.04	1.04	1.06	1.10	1.50				3.10	3.07	3.20
wind	0.3 m/s	velocity	5.55	8.87	8.79	8.87	9.14	8.87	8.79	8.79	8.62	8.31	9.35	8.25			8.85	8.93	8.57

FINAL - 2020 Herculis Meeting International d'Athletisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	14-Aug-20	time	2.54	3.57	4.60	5.60	6.60	7.61	8.64	9.67	10.71	11.77		13.18	6 / 3				
reaction time	0.134	interval		1.03	1.03	1.00	1.00	1.01	1.03	1.03	1.04	1.06	1.41	PB			3.06	3.04	3.13
wind	0.8 m/s	velocity	5.40	8.87	8.87	9.14	9.14	9.05	8.87	8.87	8.79	8.62	9.94	8.35			8.96	9.02	8.76

FINAL - 2020 Paavo Nurmi Games (Turku, FIN) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	11-Aug-20	time	2.57	3.60	4.60	5.64	6.64	7.64	8.67	9.74	10.81	11.88		13.38	3 / 2				
reaction time	0.147	interval		1.03	1.00	1.04	1.00	1.00	1.03	1.07	1.07	1.07	1.50				3.07	3.03	3.21
wind	1.1 m/s	velocity	5.34	8.87	9.14	8.79	9.14	9.14	8.87	8.54	8.54	8.54	9.35	8.22			8.93	9.05	8.54

Semi-Final 3 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.58	3.64	4.66	5.67	6.72	7.74	8.80	9.90	11.00	12.12		13.60	3 / 7				
reaction time	0.133	interval		1.06	1.02	1.01	1.05	1.02	1.06	1.10	1.10	1.12	1.48				3.09	3.13	3.32
wind	0.6 m/s	velocity	5.32	8.62	8.96	9.05	8.70	8.96	8.62	8.31	8.31	8.16	9.47	8.09			8.87	8.76	8.26

FINAL - 2019 Müller Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	21-Jul-19	time	2.43	3.46	4.48	5.50	6.50	7.53	8.56	9.58	10.61	11.66		13.28	6 / 2				
reaction time	0.125	interval		1.03	1.02	1.02	1.00	1.03	1.03	1.02	1.03	1.05	1.62				3.07	3.06	3.10
wind	0.4 m/s	velocity	5.65	8.87	8.96	8.96	9.14	8.87	8.87	8.96	8.87	8.70	8.65	8.28			8.93	8.96	8.85

FINAL - 2019 Prefontaine Classic (Stanford, CA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	30-Jun-19	time	2.56	3.60	4.63	5.63	6.63	7.65	8.68	9.70	10.76	11.83		13.29	2 / 2				
reaction time	0.151	interval		1.04	1.03	1.00	1.00	1.02	1.03	1.02	1.06	1.07	1.46				3.07	3.05	3.15
wind	0.3 m/s	velocity	5.36	8.79	8.87	9.14	9.14	8.96	8.87	8.96	8.62	8.54	9.60	8.28			8.93	8.99	8.70

FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Jun-19	time	2.54	3.58	4.60	5.60	6.64	7.66	8.70	9.74	10.80	11.90		13.43	7 / 4			
reaction time	0.137	interval		1.04	1.02	1.00	1.04	1.02	1.04	1.04	1.06	1.10	1.53			3.06	3.10	3.20
wind	0.3 m/s	velocity	5.40	8.79	8.96	9.14	8.79	8.96	8.79	8.79	8.62	8.31	9.16	8.19		8.96	8.85	8.57

FINAL - 2019 French National Indoor Championships (Miramas, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Feb-19	time	2.56	3.58	4.62	5.64	6.66							7.63	3 / 3			
reaction time	0.147	interval		1.02	1.04	1.02	1.02						0.97			3.08		
		velocity	5.36	8.96	8.79	8.96	8.96						10.02	7.86		8.90		

FINAL - 2016 Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	09-Sep-16	time	2.50	3.53	4.57	5.57	6.57	7.60	8.62	9.64	10.71	11.81		13.32	8 / 3			
reaction time	0.153	interval		1.03	1.04	1.00	1.00	1.03	1.02	1.02	1.07	1.10	1.51			3.07	3.05	3.19
wind	0.2 m/s	velocity	5.49	8.87	8.79	9.14	9.14	8.87	8.96	8.96	8.54	8.31	9.28	8.26		8.93	8.99	8.60

FINAL - 2016 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	25-Aug-16	time	2.48	3.50	4.50	5.52	6.52	7.54	8.56	9.60	10.66	11.74		13.25	7 / 4			
reaction time	0.126	interval		1.02	1.00	1.02	1.00	1.02	1.02	1.04	1.06	1.08	1.51	**PB**		3.04	3.04	3.18
wind	0.5 m/s	velocity	5.53	8.96	9.14	8.96	9.14	8.96	8.96	8.79	8.62	8.46	9.28	8.30		9.02	9.02	8.62

FINAL - 2016 Golden Gala Pietro Mennea (Roma, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	02-Jun-16	time	2.52	3.56	4.60	5.64	6.70	7.76	8.82	9.94	11.02	12.14		13.73	8 / 5			
reaction time	0.132	interval		1.04	1.04	1.04	1.06	1.06	1.06	1.12	1.08	1.12	1.59			3.12	3.18	3.32
wind	0.6 m/s	velocity	5.44	8.79	8.79	8.79	8.62	8.62	8.62	8.16	8.46	8.16	8.82	8.01		8.79	8.62	8.26

FINAL - 2016 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	15-Jul-16	time	2.48	3.52	4.54	5.56	6.56	7.60	8.66	9.72	10.78	11.88		13.42	2 / 4			
reaction time	0.129	interval		1.04	1.02	1.02	1.00	1.04	1.06	1.06	1.06	1.10	1.54			3.08	3.10	3.22
wind	0.0 m/s	velocity	5.53	8.79	8.96	8.96	9.14	8.79	8.62	8.62	8.62	8.31	9.10	8.20		8.90	8.85	8.52

Bennett, Orlando (JAM) (1999)

FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN) *Omega Timing (2025) - diamond league race analysis*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	03-May-25	time	2.40	3.51	4.56	5.59	6.63	7.66	8.69	9.75	10.81	11.87		13.49	1 / 8			
reaction time	0.142	interval		1.11	1.05	1.03	1.04	1.03	1.03	1.06	1.06	1.06	1.62			3.19	3.10	3.18
wind	0.6 m/s	velocity	5.72	8.23	8.70	8.87	8.79	8.87	8.87	8.62	8.62	8.62	8.65	8.15		8.60	8.85	8.62

FINAL - 2024 Golden Gala • Pietro Mennea (Roma, ITA) *Omega Timing (2024) - diamond league race analysis*

date	30-Aug-24	time	2.40	3.49	4.53	5.54	6.57	7.58	8.60	9.64	10.69	11.75		13.33	5 / 5			
reaction time	0.166	interval		1.09	1.04	1.01	1.03	1.01	1.02	1.04	1.05	1.06	1.58			3.14	3.06	3.15
wind	0.4 m/s	velocity	5.72	8.39	8.79	9.05	8.87	9.05	8.96	8.79	8.70	8.62	8.87	8.25		8.73	8.96	8.70

FINAL - 2024 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2024) - diamond league race analysis*

date	25-Aug-24	time	2.42	3.48	4.51	5.51	6.51	7.52	8.56	9.64	10.71	11.78		13.35	3 / 5			
reaction time	0.154	interval		1.06	1.03	1.00	1.00	1.01	1.04	1.08	1.07	1.07	1.57			3.09	3.05	3.22
wind	1.1 m/s	velocity	5.67	8.62	8.87	9.14	9.14	9.05	8.79	8.46	8.54	8.54	8.93	8.24		8.87	8.99	8.52

FINAL - 2024 Olympic Games (Paris, FRA) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	08-Aug-24	time	2.55	3.61	4.62	5.63	6.65	7.67	8.68	9.71	10.77	11.86		13.34	7 / 7			
reaction time	0.142	interval		1.06	1.01	1.01	1.02	1.02	1.01	1.03	1.06	1.09	1.48			3.08	3.05	3.18
wind	-0.1 m/s	velocity	5.38	8.62	9.05	9.05	8.96	8.96	9.05	8.87	8.62	8.39	9.47	8.25		8.90	8.99	8.62

Semi-Final 3 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	2.33	3.38	4.40	5.39	6.38	7.38	8.39	9.42	10.45	11.50		13.09	7 / 1			
reaction time	0.155	interval		1.05	1.02	0.99	0.99	1.00	1.01	1.03	1.03	1.05	1.59	**PB**		3.06	3.00	3.11
wind	0.6 m/s	velocity	5.89	8.70	8.96	9.23	9.23	9.14	9.05	8.87	8.87	8.70	8.82	8.40		8.96	9.14	8.82

Heat 2 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.35	3.46	4.51	5.51	6.53	7.55	8.58	9.61	10.67	11.73		13.35	7 / 2			
reaction time	0.160	interval		1.11	1.05	1.00	1.02	1.02	1.03	1.03	1.06	1.06	1.62			3.16	3.07	3.15
wind	1.2 m/s	velocity	5.84	8.23	8.70	9.14	8.96	8.96	8.87	8.87	8.62	8.62	8.65	8.24		8.68	8.93	8.70

FINAL - 2024 Seiko Golden Grand Prix (Tokyo, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	19-May-24	time	2.64	3.70	4.75	5.78	6.81	7.86	8.91	9.96	11.05	12.15		13.60	7 / 5			
reaction time	0.129	interval		1.06	1.05	1.03	1.03	1.05	1.05	1.05	1.09	1.10	1.45			3.14	3.13	3.24
wind	-0.6 m/s	velocity	5.20	8.62	8.70	8.87	8.87	8.70	8.70	8.70	8.39	8.31	9.67	8.09		8.73	8.76	8.46

FINAL - 2024 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2024) - diamond league race analysis*

date	20-Apr-24	time	2.49	3.57	4.62	5.65	6.69	7.72	8.75	9.80	10.86	11.95		13.58	2 / 8			
reaction time	0.182	interval		1.08	1.05	1.03	1.04	1.03	1.03	1.05	1.06	1.09	1.63			3.16	3.10	3.20
wind	-0.3 m/s	velocity	5.51	8.46	8.70	8.87	8.79	8.87	8.87	8.70	8.62	8.39	8.60	8.10		8.68	8.85	8.57

Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.54	3.62	4.65	5.67	6.70	7.70	8.73	9.78	10.83	11.90		13.34	9 / 4			
reaction time	0.144	interval		1.08	1.03	1.02	1.03	1.00	1.03	1.05	1.05	1.07	1.44			3.13	3.06	3.17
wind	-0.2 m/s	velocity	5.40	8.46	8.87	8.96	8.87	9.14	8.87	8.70	8.70	8.54	9.74	8.25		8.76	8.96	8.65

Heat 4 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.53	3.62	4.66	5.70	6.73	7.76	8.80	9.83	10.88	11.93		13.39	9 / 5			
reaction time	0.140	interval		1.09	1.04	1.04	1.03	1.03	1.04	1.03	1.05	1.05	1.46			3.17	3.10	3.13
wind	-0.6 m/s	velocity	5.42	8.39	8.79	8.79	8.87	8.87	8.79	8.87	8.70	8.70	9.60	8.22		8.65	8.85	8.76

FINAL - 2023 Jamaican National Championships (Kingston, JAM) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	09-Jul-23	time	2.50	3.56	4.58	5.60	6.58	7.58	8.60	9.60	10.63	11.70		13.19	6 / 3			
reaction time		interval		1.06	1.02	1.02	0.98	1.00	1.02	1.00	1.03	1.07	1.49			3.10	3.00	3.10
wind	0.7 m/s	velocity	5.49	8.62	8.96	8.96	9.33	9.14	8.96	9.14	8.87	8.54	9.41	8.34		8.85	9.14	8.85

FINAL - 2023 USATF New York City Grand Prix (Randalls Island, NY) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	24-Jun-23	time	2.58	3.64	4.67	5.70	6.72	7.74	8.76	9.79	10.84	11.91		13.34	2 / 7			
reaction time	0.150	interval		1.06	1.03	1.03	1.02	1.02	1.02	1.03	1.05	1.07	1.43			3.12	3.06	3.15
wind	1.6 m/s	velocity	5.32	8.62	8.87	8.87	8.96	8.96	8.96	8.87	8.70	8.54	9.80	8.25		8.79	8.96	8.70

FINAL - 2022 NACAC Championships (Freeport, BAH) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	20-Aug-22	time	2.47	3.53	4.56	5.55	6.55	7.55	8.57	9.62	10.64	11.69		13.18	6 / 3			
reaction time		interval		1.06	1.03	0.99	1.00	1.00	1.02	1.05	1.02	1.05	1.49	PB		3.08	3.02	3.12
wind	0.3 m/s	velocity	5.55	8.62	8.87	9.23	9.14	9.14	8.96	8.70	8.96	8.70	9.41	8.35		8.90	9.08	8.79

Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.56	3.60	4.70	5.76	6.80	7.85	8.90	9.96	11.06	12.17		13.67	2 / 6			
reaction time	0.139	interval		1.04	1.10	1.06	1.04	1.05	1.05	1.06	1.10	1.11	1.50			3.20	3.14	3.27
wind	-0.6 m/s	velocity	5.36	8.79	8.31	8.62	8.79	8.70	8.70	8.62	8.31	8.23	9.35	8.05		8.57	8.73	8.39

Semi-Final 1 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.62	3.72	4.76	5.80	6.84	7.90	8.92	10.00	11.08	12.18		13.60	3 / 6			
reaction time	0.162	interval		1.10	1.04	1.04	1.04	1.06	1.02	1.08	1.08	1.10	1.42			3.18	3.12	3.26
wind	1.1 m/s	velocity	5.24	8.31	8.79	8.79	8.79	8.62	8.96	8.46	8.46	8.31	9.87	8.09		8.62	8.79	8.41

FINAL - 2018 IAAF World Junior Championships (Tampere, FIN) (99cm) *Koyama (2018) - research on athlete performance and technique- 2018 data book*

date	12-Jul-18	time	2.62	3.66	4.68	5.68	6.69	7.69	8.69	9.71	10.74	11.79		13.33	4 / 2			
reaction time	0.171	interval		1.04	1.02	1.00	1.01	1.00	1.00	1.02	1.03	1.05	1.54			3.06	3.01	3.10
wind	0.3 m/s	velocity	5.24	8.79	8.96	9.14	9.05	9.14	9.14	8.96	8.87	8.70	9.10	8.25		8.96	9.11	8.85

Bennett, Sam (GBR) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	07-Jun-24	time	2.57	3.70	4.74	5.77	6.81	7.84	8.86	9.91	10.94	12.00		13.45	1 / 6			
reaction time		interval	7 steps	1.13	1.04	1.03	1.04	1.03	1.02	1.05	1.03	1.06	1.45	PB		3.20	3.09	3.14
wind	0.1 m/s	velocity	5.34	8.09	8.79	8.87	8.79	8.87	8.96	8.70	8.87	8.62	9.67	8.18		8.57	8.87	8.73

Bentsen, Jon Yde (DEN) (1985)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2011 Windsprint (Sundsvall, SWE) *Blomkvist (2011) - www.sub13.se*

date	31-Jul-11	time	2.72	3.85	4.95	6.04	7.14	8.25	9.37	10.49	11.64	12.81		14.42	/ 4			
reaction time		interval		1.13	1.10	1.09	1.10	1.11	1.12	1.12	1.15	1.17	1.61			3.32	3.33	3.44
wind	2.8 m/s	velocity	5.04	8.09	8.31	8.39	8.31	8.23	8.16	8.16	7.95	7.81	8.71	7.63		8.26	8.23	7.97

Berger, Dominic (USA) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2011 Folksam GP (Göteborg, SWE) *Blomkvist (2011) - www.sub13.se*

date	11-Jun-11	time	2.48	3.56	4.60	5.64	6.68	7.72	8.76	9.80	10.86	11.92		13.49	/ 2			
reaction time		interval		1.08	1.04	1.04	1.04	1.04	1.04	1.04	1.06	1.06	1.57			3.16	3.12	3.16
wind	0.6 m/s	velocity	5.53	8.46	8.79	8.79	8.79	8.79	8.79	8.79	8.62	8.62	8.93	8.15		8.68	8.79	8.68

Heat 3 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.70	3.82	4.90	5.99	7.08	8.16	9.26	10.38	11.48	12.61		14.35	8 / 7			
reaction time		interval		1.12	1.08	1.09	1.09	1.08	1.10	1.12	1.10	1.13	1.74			3.29	3.27	3.35
wind	-3.2 m/s	velocity	5.08	8.16	8.46	8.39	8.39	8.46	8.31	8.16	8.31	8.09	8.06	7.67		8.33	8.39	8.19

Beria, Matteo (ITA) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2013 Italian National Indoor Youth Championships (Ancona, ITA) (91cm) *FIDAL - Centro Studi & Ricerche (2013) - www.youtube.com/watch?v=Xy9UwfVMj6g*

date	23-Feb-13	time	2.66	3.78	4.87	5.95	7.00							7.99	7 / 2			
reaction time		interval		1.12	1.09	1.08	1.05						0.99			3.29		
		velocity	5.16	8.16	8.39	8.46	8.70						9.82	7.51		8.33		

Biondo, Giuseppe (ITA) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2013 Italian National Indoor Youth Championships (Ancona, ITA) (91cm) *FIDAL - Centro Studi & Ricerche (2013) - www.youtube.com/watch?v=Xy9UwfVMj6g*

date	23-Feb-13	time	2.66	3.78	4.85	5.90	6.95							7.94	6 / 1			
reaction time		interval		1.12	1.07	1.05	1.05						0.99	PB		3.24		
		velocity	5.16	8.16	8.54	8.70	8.70						9.82	7.56		8.46		

Bitzi, Ivan (SUI) (1975)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 4 - 2006 European Championships (Göteborg, SWE)													*Weber (2006) - wettkampfauswertung 110m hürden*			
date 11-Aug-06	time	2.71	3.77	4.82	5.87	6.91	7.96	9.02	10.12	11.21	12.30		13.68	4 / 4			
reaction time	interval		1.06	1.05	1.05	1.04	1.05	1.06	1.10	1.09	1.09	1.38			3.16	3.15	3.28
wind -1.1 m/s	velocity	5.06	8.62	8.70	8.70	8.79	8.70	8.62	8.31	8.39	8.39	10.16	8.04		8.68	8.70	8.36

Blake, Arthur (USA) (1966)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1988 Olympic Games (Seoul, KOR)													*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*			
date 26-Sep-88	time	2.48	3.57	4.61	5.65	6.67	7.68	8.85	10.01	11.21	12.40		13.96	5 / 8			
reaction time 0.160	interval		1.09	1.04	1.04	1.02	1.01	1.17	1.16	1.20	1.19	1.56			3.17	3.20	3.55
wind 1.5 m/s	velocity	5.53	8.39	8.79	8.79	8.96	9.05	7.81	7.88	7.62	7.68	8.99	7.88		8.65	8.57	7.72
Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)													*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*			
date 26-Sep-88	time	2.61	3.65	4.70	5.74	6.78	7.82	8.86	9.95	11.02	12.10		13.52	4 / 2			
reaction time 0.154	interval		1.04	1.05	1.04	1.04	1.04	1.04	1.09	1.07	1.08	1.42			3.13	3.12	3.24
wind -0.7 m/s	velocity	5.26	8.79	8.70	8.79	8.79	8.79	8.79	8.39	8.54	8.46	9.87	8.14		8.76	8.79	8.46

Blaschek, Thomas (GER) (1981)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2007 European Cup (Munich, GER)													*Graubner (2007) - http://www.fgs.uni-halle.de*			
date 24-Jun-07	time	2.63	3.67	4.71	5.73	6.75	7.78	8.83	9.89	10.97	12.07		13.51	/ 3			
reaction time 0.133	interval		1.04	1.04	1.02	1.02	1.03	1.05	1.06	1.08	1.10	1.44			3.10	3.10	3.24
wind 0.4 m/s	velocity	5.22	8.79	8.79	8.96	8.96	8.87	8.70	8.62	8.46	8.31	9.74	8.14		8.85	8.85	8.46

Blaschke, Joakim (SWE) (1977)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2011 Folksam GP (Göteborg, SWE)													*Blomkvist (2011) - www.sub13.se*			
date 11-Jun-11	time	2.60	3.72	4.84	5.96	7.12	8.28	9.42	10.58	11.76	12.94		14.72	/ 7			
reaction time	interval		1.12	1.12	1.12	1.16	1.16	1.14	1.16	1.18	1.18	1.78			3.36	3.46	3.52
wind 0.6 m/s	velocity	5.28	8.16	8.16	8.16	7.88	7.88	8.02	7.88	7.75	7.75	7.88	7.47		8.16	7.92	7.79
FINAL - 2011 Landskamp FIN-SWE-NOR (Tampere, FIN)													*Blomkvist (2011) - www.sub13.se*			
date 05-Feb-11	time	2.60	3.72	4.80	5.90	7.00							8.06	5 / 4			
reaction time	interval		1.12	1.08	1.10	1.10						1.06			3.30		
	velocity	5.28	8.16	8.46	8.31	8.31						9.17	7.44		8.31		
FINAL - 2010 Swedish National Championships (Falun, SWE)													*Blomkvist (2010) - www.sub13.se*			
date 22-Aug-10	time	2.70	3.84	4.97	6.09	7.21	8.35	9.48	10.64	11.82	13.00		14.57	/ 3			
reaction time	interval		1.14	1.13	1.12	1.12	1.14	1.13	1.16	1.18	1.18	1.57			3.39	3.39	3.52
wind -0.7 m/s	velocity	5.08	8.02	8.09	8.16	8.16	8.02	8.09	7.88	7.75	7.75	8.93	7.55		8.09	8.09	7.79
FINAL - 2010 Folksam GP (Sollentuna, SWE)													*Blomkvist (2010) - www.sub13.se*			
date 01-Jul-10	time	2.53	3.65	4.79									14.55	7 / 8			
reaction time	interval		1.12	1.14													
wind 0.4 m/s	velocity	5.42	8.16	8.02									7.56				
Heat 2 - 2010 Samsung Galan (Göteborg, SWE)													*Blomkvist (2010) - www.sub13.se*			
date 02-Feb-10	time	2.60	3.76	4.90	6.04	7.18							8.29	/ 6			
reaction time	interval		1.16	1.14	1.14	1.14						1.11			3.44		
	velocity	5.28	7.88	8.02	8.02	8.02						8.76	7.24		7.97		
FINAL - 2008 Windsprint (Sundsvall, SWE)													*(2008) - www.ssg.se/en/Windsprint/Split-times/*			
date 06-Jul-08	time		3.84			7.22			10.73				14.64	3 / 3			
reaction time	interval					3.38			3.51			3.91					
wind 0.5 m/s	velocity		5.95			8.11			7.81			8.26	7.51				
FINAL - 2007 Windsprint (Sundsvall, SWE)													*(2007) - www.ssg.se/en/Windsprint/Split-times/*			
date 24-Jul-07	time		3.87			7.23			10.68				14.79	/ 6			
reaction time	interval					3.36			3.45			4.11					
wind 1.3 m/s	velocity		5.91			8.16			7.95			7.86	7.44				

Bondoreo, Sho (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN) (99cm)													*Kota (2019) - 72nd high school champs: JAF scientific committee - biomechanics data*			
date 08-Aug-19	time	2.78	3.95	5.12	6.27	7.41	8.60	9.78	10.95	12.14	13.33		14.91	2 / 6			
reaction time	interval		1.17	1.17	1.15	1.14	1.19	1.18	1.17	1.19	1.19	1.58			3.49	3.51	3.55
wind -3.0 m/s	velocity	4.94	7.81	7.81	7.95	8.02	7.68	7.75	7.81	7.68	7.68	8.87	7.38		7.86	7.81	7.72

Borisov, Yevgeniy (RUS) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2010 IAAF World Indoor Championships (Doha, QAT)													*Kuitunen (2010) - biomencanical analysis of the 14th IAAF World Indoor championships*			
date 14-Mar-10	time	2.53	3.57	4.58	5.59	6.63							7.51	3 / 4			
reaction time 0.167	interval	*7 steps*	1.04	1.01	1.01	1.04						0.88			3.06		
	velocity	5.42	8.79	9.05	9.05	8.79						11.05	7.99		8.96		

Bouanani, Amine (ALG) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Repechage 2 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	06-Aug-24	time	2.51	3.61	4.65	5.67	6.69	7.72	8.75	9.81	10.87	11.95		13.54	6 / 3			
reaction time	0.187	interval	7 steps	1.10	1.04	1.02	1.02	1.03	1.03	1.06	1.06	1.08	1.59			3.16	3.08	3.20
wind	-0.5 m/s	velocity	5.47	8.31	8.79	8.96	8.96	8.87	8.87	8.62	8.62	8.46	8.82	8.12		8.68	8.90	8.57

Heat 2 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.49	3.58	4.63	5.67	6.71	7.74	8.78	9.84	10.91	11.99		13.58	8 / 5			
reaction time	0.163	interval	7 steps	1.09	1.05	1.04	1.04	1.03	1.04	1.06	1.07	1.08	1.59			3.18	3.11	3.21
wind	1.2 m/s	velocity	5.51	8.39	8.70	8.79	8.79	8.87	8.79	8.62	8.54	8.46	8.82	8.10		8.62	8.82	8.54

Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.60	3.66	4.70	5.70	6.70	7.76	8.80	9.83	10.87	11.96		13.37	3 / 3			
reaction time	0.130	interval	7 steps	1.06	1.04	1.00	1.00	1.06	1.04	1.03	1.04	1.09	1.41	NR PB		3.10	3.10	3.16
wind	-0.6 m/s	velocity	5.28	8.62	8.79	9.14	9.14	8.62	8.79	8.87	8.79	8.39	9.94	8.23		8.85	8.85	8.68

Heat 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.56	3.63	4.63	5.66	6.66	7.70	8.70	9.80	10.86	11.93		13.44	1 / 2			
reaction time	0.134	interval	7 steps	1.07	1.00	1.03	1.00	1.04	1.00	1.10	1.06	1.07	1.51			3.10	3.04	3.23
wind	0.4 m/s	velocity	5.36	8.54	9.14	8.87	9.14	8.79	9.14	8.31	8.62	8.54	9.28	8.18		8.85	9.02	8.49

Bouraada, Larbi (ALG) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 5 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*																
date	20-Aug-09	time	2.74	3.88	5.04	6.18	7.31	8.49	9.64	10.78	11.94	13.12		14.57	5 / 2			
reaction time	0.140	interval		1.14	1.16	1.14	1.13	1.18	1.15	1.14	1.16	1.18	1.45			3.44	3.46	3.48
wind	0.3 m/s	velocity	5.01	8.02	7.88	8.02	8.09	7.75	7.95	8.02	7.88	7.75	9.67	7.55		7.97	7.92	7.88

Boussemart, Pascal (FRA) (1959)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1986 French National Indoor Championships (Lievin, FRA) *Aubert (1986) - indoor - video - haies, etude des performances*																
date	26-Jan-86	time	2.63	3.69	4.83	6.00	7.14							8.11	/ 6			
reaction time		interval		1.06	1.14	1.17	1.14						0.97			3.37		
		velocity	5.22	8.62	8.02	7.81	8.02						10.02	7.40		8.14		

Semi-Final ? - 1986 French National Indoor Championships (Lievin, FRA) *Aubert (1986) - indoor - video - haies, etude des performances*

date	26-Jan-86	time	2.62	3.73	4.83	5.93	7.02							7.94	/ 6			
reaction time		interval		1.11	1.10	1.10	1.09						0.92			3.31		
		velocity	5.24	8.23	8.31	8.31	8.39						10.57	7.56		8.28		

Heat ? - 1986 French National Indoor Championships (Lievin, FRA) *Aubert (1986) - indoor - video - haies, etude des performances*

date	25-Jan-86	time	2.64	3.75	4.83	5.91	6.98							7.94	/ 6			
reaction time		interval		1.11	1.08	1.08	1.07						0.96			3.27		
		velocity	5.20	8.23	8.46	8.46	8.54						10.13	7.56		8.39		

Bownes, Shaun (RSA) (1970)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 2 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*																
date	24-Jun-24	time	2.60	3.63	4.66	5.73	6.78	7.83	8.90	9.95	11.03	12.13		13.63	3 / 7			
reaction time		interval	7 steps	1.03	1.03	1.07	1.05	1.05	1.07	1.05	1.08	1.10	1.50			3.13	3.17	3.23
wind	-0.3 m/s	velocity	5.28	8.87	8.87	8.54	8.70	8.70	8.54	8.70	8.46	8.31	9.35	8.07		8.76	8.65	8.49

Bownes, Shaun (RSA) (1970)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2002 IAAF World Cup (Madrid, ESP) *Sanchez (2002) - copa del mundo de Madrid '02: análisis de la carreras con villas*																
date	21-Sep-02	time	2.58	3.62	4.65	5.66	6.69	7.75	8.83	9.89	10.97	12.07		13.67	1 / 4			
reaction time	0.146	interval	*7 steps*	1.04	1.03	1.01	1.03	1.06	1.08	1.06	1.08	1.10	1.60			3.08	3.17	3.24
wind	-2.2 m/s	velocity	5.32	8.79	8.87	9.05	8.87	8.62	8.46	8.62	8.46	8.31	8.76	8.05		8.90	8.65	8.46

Brackins, Johnny (USA) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2024 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*																
date	07-Jun-24	time	2.53	3.60	4.64	5.71	6.77	7.82	8.91	10.01	11.06	12.18		13.63	7 / 9			
reaction time		interval	7 steps	1.07	1.04	1.07	1.06	1.05	1.09	1.10	1.05	1.12	1.45			3.18	3.20	3.27
wind	0.1 m/s	velocity	5.42	8.54	8.79	8.54	8.62	8.70	8.39	8.31	8.70	8.16	9.67	8.07		8.62	8.57	8.39

Bramlett, Ron (USA) (1979)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 3 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*																
date	23-Jun-07	time	2.62	3.67	4.75	5.84	6.89	7.97	9.05	10.13	11.21	12.31		13.81	2 / 3			
reaction time		interval		1.05	1.08	1.09	1.05	1.08	1.08	1.08	1.08	1.10	1.50			3.22	3.21	3.26
wind	-3.2 m/s	velocity	5.24	8.70	8.46	8.39	8.70	8.46	8.46	8.46	8.46	8.31	9.35	7.97		8.52	8.54	8.41

FINAL - 2005 USATF National Championships (Carson, CA) *USATF Women's Sprint Development (2005)*

date	24-Jun-05	time	2.59	3.62	4.71	5.73	6.74	7.78	8.83	9.87	10.92	12.01		13.58	9 / 9			
reaction time		interval		1.03	1.09	1.02	1.01	1.04	1.05	1.04	1.05	1.09	1.57			3.14	3.10	3.18
wind	0.2 m/s	velocity	5.30	8.87	8.39	8.96	9.05	8.79	8.70	8.79	8.70	8.39	8.93	8.10		8.73	8.85	8.62

FINAL - 2003 USATF National Championships (Palo Alto, CA) *USATF Women's Sprint Development (2003)*

date	21-Jun-03	time	2.39	3.47	4.51	5.57	6.61	7.66	8.69	9.73	10.83	11.95		13.66	2 / 5			

reaction time		interval		1.08	1.04	1.06	1.04	1.05	1.03	1.04	1.10	1.12	1.71			3.18	3.12	3.26
wind	-2.4 m/s	velocity	5.74	8.46	8.79	8.62	8.79	8.70	8.87	8.79	8.31	8.16	8.20	8.05		8.62	8.79	8.41

Brathwaite, Ryan (BAR) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2012 Memorial Van Damme (Brussels, BEL) (TV Analysis)													*Henson (2020) - Athlete First: 2012 Aries Merritt world record season*			
date 07-Sep-12 time	2.48	3.52	4.56	5.56	6.56	7.56	8.58	9.62	10.70	11.80		13.39	9 / 8			
reaction time 0.156 interval		1.04	1.04	1.00	1.00	1.00	1.02	1.04	1.08	1.10	1.59			3.08	3.02	3.22
wind 0.3 m/s velocity	5.53	8.79	8.79	9.14	9.14	9.14	8.96	8.79	8.46	8.31	8.82	8.22		8.90	9.08	8.52
FINAL - 2012 AVIVA Grand Prix (Birmingham, GBR) (TV Analysis)													*Henson (2020) - Athlete First: 2012 Aries Merritt world record season*			
date 26-Aug-12 time	2.52	3.56	4.60	5.62	6.60	7.70	8.74	9.76	10.80	11.86		13.42	7 / 5			
reaction time 0.160 interval		1.04	1.04	1.02	0.98	1.10	1.04	1.02	1.04	1.06	1.56			3.10	3.12	3.12
wind -0.9 m/s velocity	5.44	8.79	8.79	8.96	9.33	8.31	8.79	8.96	8.79	8.62	8.99	8.20		8.85	8.79	8.79
FINAL - 2012 Olympic Games (London, GBR) (TV Analysis)													*Henson (2020) - Athlete First: 2012 Aries Merritt world record season*			
date 08-Aug-12 time	2.48	3.56	4.60	5.62	6.62	7.66	8.70	9.78	10.82	11.90		13.40	8 / 5			
reaction time 0.163 interval		1.08	1.04	1.02	1.00	1.04	1.04	1.08	1.04	1.08	1.50			3.14	3.08	3.20
wind -0.3 m/s velocity	5.53	8.46	8.79	8.96	9.14	8.79	8.79	8.46	8.79	8.46	9.35	8.21		8.73	8.90	8.57
Semi-Final 2 - 2012 Olympic Games (London, GBR) (TV Analysis)													*Henson (2020) - Athlete First: 2012 Aries Merritt world record season*			
date 08-Aug-12 time	2.48	3.50	4.52	5.52	6.52	7.54	8.56	9.58	10.60	11.70		13.23	4 / 2			
reaction time 0.159 interval		1.02	1.02	1.00	1.00	1.02	1.02	1.02	1.02	1.10	1.53			3.04	3.04	3.14
wind 0.1 m/s velocity	5.53	8.96	8.96	9.14	9.14	8.96	8.96	8.96	8.96	8.31	9.16	8.31		9.02	9.02	8.73
FINAL - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 20-Aug-09 time	2.54	3.60	4.61	5.60	6.59	7.60	8.62	9.65	10.70	11.74		13.14	4 / 1			
reaction time 0.157 interval		1.06	1.01	0.99	0.99	1.01	1.02	1.03	1.05	1.04	1.40	NR		3.06	3.02	3.12
wind 0.1 m/s velocity	5.40	8.62	9.05	9.23	9.23	9.05	8.96	8.87	8.70	8.79	10.01	8.37		8.96	9.08	8.79
Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 20-Aug-09 time	2.57	3.59	4.62	5.63	6.63	7.63	8.65	9.69	10.73	11.79		13.18	4 / 1			
reaction time 0.169 interval		1.02	1.03	1.01	1.00	1.00	1.02	1.04	1.04	1.06	1.39	NR		3.06	3.02	3.14
wind 0.6 m/s velocity	5.34	8.96	8.87	9.05	9.14	9.14	8.96	8.79	8.79	8.62	10.09	8.35		8.96	9.08	8.73
Heat 4 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 19-Aug-09 time	2.57	3.62	4.63	5.64	6.65	7.67	8.71	9.80	10.85	11.91		13.35	2 / 1			
reaction time 0.149 interval		1.05	1.01	1.01	1.01	1.02	1.04	1.09	1.05	1.06	1.44			3.07	3.07	3.20
wind 0.5 m/s velocity	5.34	8.70	9.05	9.05	9.05	8.96	8.79	8.39	8.70	8.62	9.74	8.24		8.93	8.93	8.57

Brathwaite, Shane (BAR) (1990)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2022 NACAC Championships (Freeport, BAH) (TV Analysis)													*Henson (2022) - Athlete First: 2022 year end hurdle report*			
date 20-Aug-22 time	2.50	3.56	4.56	5.57	6.60	7.60	8.63	9.70	10.76	11.83		13.42	5 / 4			
reaction time interval		1.06	1.00	1.01	1.03	1.00	1.03	1.07	1.06	1.07	1.59			3.07	3.06	3.20
wind 0.3 m/s velocity	5.49	8.62	9.14	9.05	8.87	9.14	8.87	8.54	8.62	8.54	8.82	8.20		8.93	8.96	8.57
FINAL - 2022 World Athletics Championships (Eugene, OR) (TV Analysis)													*Henson (2022) - Athlete First: 2022 year end hurdle report*			
date 17-Jul-22 time	2.48	3.56	4.60	5.60	6.63	7.65						dnf	1 / --			
reaction time 0.108 interval	7 steps	1.08	1.04	1.00	1.03	1.02						DQ		3.12		
wind 1.2 m/s velocity	5.53	8.46	8.79	9.14	8.87	8.96								8.79		
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)													*Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*			
date 17-Jul-22 time	2.55	3.58	4.60	5.60	6.59	7.60	8.63	9.65	10.71	11.76		13.21	8 / 3			
reaction time 0.115 interval	7 steps	1.03	1.02	1.00	0.99	1.01	1.03	1.02	1.06	1.05	1.45			3.05	3.03	3.13
wind 2.5 m/s velocity	5.38	8.87	8.96	9.14	9.23	9.05	8.87	8.96	8.62	8.70	9.67	8.33		8.99	9.05	8.76
Heat 4 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis)													*Henson (2022) - Athlete First: 2022 year end hurdle report*			
date 16-Jul-22 time	2.56	3.66	4.70	5.73	6.73	7.76	8.80	9.83	10.90	11.96		13.47	3 / 4			
reaction time 0.134 interval	7 steps	1.10	1.04	1.03	1.00	1.03	1.04	1.03	1.07	1.06	1.51			3.17	3.07	3.16
wind 0.2 m/s velocity	5.36	8.31	8.79	8.87	9.14	8.87	8.79	8.87	8.54	8.62	9.28	8.17		8.65	8.93	8.68
FINAL - 2022 New York Grand Prix (New York, NY) (TV Analysis)													*Henson (2022) - Athlete First: 2022 year end hurdle report*			
date 12-Jun-22 time	2.52	3.57	4.60	5.62	6.63	7.63	8.68	9.72	10.78	11.84		13.40	8 / 5			
reaction time 0.133 interval		1.05	1.03	1.02	1.01	1.00	1.05	1.04	1.06	1.06	1.56			3.10	3.06	3.16
wind 1.6 m/s velocity	5.44	8.70	8.87	8.96	9.05	9.14	8.70	8.79	8.62	8.62	8.99	8.21		8.85	8.96	8.68
Heat 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date 03-Aug-21 time	2.66	3.73	4.71	5.73	6.73	7.78	8.90	10.02	11.09	12.22		13.64	4 / 6			
reaction time 0.151 interval	7 steps	1.07	0.98	1.02	1.00	1.05	1.12	1.12	1.07	1.13	1.42			3.07	3.17	
wind -0.1 m/s velocity	5.16	8.54	9.33	8.96	9.14	8.70	8.16	8.16	8.54	8.09	9.87	8.06		8.93	8.65	
FINAL - 2021 Golden Gala Pietro Mennea (Florence, ITA) (TV Analysis)													*Henson (2021) - Athlete First: 2021 year end hurdle report*			
date 10-Jun-21 time	2.50	3.56	4.60	5.64	6.66	7.68	8.74	9.80	10.86	11.94		13.46	1 / 5			
reaction time 0.122 interval		1.06	1.04	1.04	1.02	1.02	1.06	1.06	1.06	1.08	1.52			3.14	3.10	3.20

wind	-0.1 m/s	velocity	5.49	8.62	8.79	8.79	8.96	8.96	8.62	8.62	8.62	8.46	9.22	8.17		8.73	8.85	8.57

FINAL - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.62	3.68	4.78	5.85	6.91	7.96	8.99	10.04	11.09	12.15		13.61	1 / 6			
reaction time	0.149	interval		1.06	1.10	1.07	1.06	1.05	1.03	1.05	1.05	1.06	1.46			3.23	3.14	3.16
wind	0.6 m/s	velocity	5.24	8.62	8.31	8.54	8.62	8.70	8.87	8.70	8.70	8.62	9.60	8.08		8.49	8.73	8.68

Semi-Final 1 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.62	3.68	4.70	5.72	6.74	7.76	8.79	9.86	10.92	12.12		14.29	8 / ~~8~~ 7			
reaction time	0.169	interval		1.06	1.02	1.02	1.02	1.02	1.03	1.07	1.06	1.20	2.17			3.10	3.07	3.33
wind	1.1 m/s	velocity	5.24	8.62	8.96	8.96	8.96	8.96	8.87	8.54	8.62	7.62	6.46	7.70		8.85	8.93	8.23

Heat 2 - 2019 IAAF World Championships (Doha, QAT) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	30-Sep-19	time	2.62	3.65	4.72	5.73	6.76	7.81	8.84	9.88	10.96	12.04		13.51	3 / 4			
reaction time	0.156	interval		1.03	1.07	1.01	1.03	1.05	1.03	1.04	1.08	1.08	1.47			3.11	3.11	3.20
wind	0.5 m/s	velocity	5.24	8.87	8.54	9.05	8.87	8.70	8.87	8.79	8.46	8.46	9.54	8.14		8.82	8.82	8.57

FINAL - 2019 ISTAF (Berlin, GER) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	01-Sep-19	time	2.53	3.58	4.61	5.63	6.65	7.65	8.68	9.75	10.80	11.86		13.36	1 / 3			
reaction time	0.125	interval		1.05	1.03	1.02	1.02	1.00	1.03	1.07	1.05	1.06	1.50			3.10	3.05	3.18
wind	0.8 m/s	velocity	5.42	8.70	8.87	8.96	8.96	9.14	8.87	8.54	8.70	8.62	9.35	8.23		8.85	8.99	8.62

FINAL - 2019 Pan American Games (Lima, PER) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	10-Aug-19	time	2.63	3.68	4.72	5.74	6.74	7.77	8.79	9.81	10.84	11.89		13.31	7 / 1			
reaction time	0.153	interval		1.05	1.04	1.02	1.00	1.03	1.02	1.02	1.03	1.05	1.42			3.11	3.05	3.10
wind	1.8 m/s	velocity	5.22	8.70	8.79	8.96	9.14	8.87	8.96	8.96	8.87	8.70	9.87	8.26		8.82	8.99	8.85

FINAL - 2018 Müller Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	22-Jul-18	time	2.56	3.62	4.66	5.68	6.70	7.74	8.78	9.84	10.88	11.96		13.41	9 / 6			
reaction time	0.119	interval	7 steps	1.06	1.04	1.02	1.02	1.04	1.04	1.06	1.04	1.08	1.45			3.12	3.10	3.18
wind	0.2 m/s	velocity	5.36	8.62	8.79	8.96	8.96	8.79	8.79	8.62	8.79	8.46	9.67	8.20		8.79	8.85	8.62

FINAL - 2017 Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	01-Sep-17	time	2.54	3.60	4.64	5.66	6.70	7.74	8.78	9.84	10.92	12.00		13.49	3 / 8			
reaction time	0.141	interval	7 steps	1.06	1.04	1.02	1.04	1.04	1.04	1.06	1.08	1.08	1.49			3.12	3.12	3.22
wind	0.5 m/s	velocity	5.40	8.62	8.79	8.96	8.79	8.79	8.79	8.62	8.46	8.46	9.41	8.15		8.79	8.79	8.52

FINAL - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	07-Aug-17	time	2.43	3.47	4.52	5.58	6.61	7.62	8.64	9.67	10.72	11.77		13.32	7 / 6			
reaction time	0.169	interval	7 steps	1.04	1.05	1.06	1.03	1.01	1.02	1.03	1.05	1.05	1.55			3.15	3.06	3.13
wind	0.0 m/s	velocity	5.65	8.79	8.70	8.62	8.87	9.05	8.96	8.87	8.70	8.70	9.05	8.26		8.70	8.96	8.76

Semi-Final 2 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.40	3.44	4.46	5.49	6.52	7.53	8.56	9.61	10.65	11.72		13.26	5 / 1			
reaction time	0.179	interval	7 steps	1.04	1.02	1.03	1.03	1.01	1.03	1.05	1.04	1.07	1.54			3.09	3.07	3.16
wind	0.6 m/s	velocity	5.72	8.79	8.96	8.87	8.87	9.05	8.87	8.70	8.79	8.54	9.10	8.30		8.87	8.93	8.68

FINAL - 2017 Müller's Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	09-Jul-17	time	2.52	3.60	4.60	5.62	6.64	7.66	8.70	9.74	10.80	11.84		13.27	8 / 3			
reaction time	0.135	interval	7 steps	1.08	1.00	1.02	1.02	1.02	1.04	1.04	1.06	1.04	1.43			3.10	3.08	3.14
wind	0.0 m/s	velocity	5.44	8.46	9.14	8.96	8.96	8.96	8.79	8.79	8.62	8.79	9.80	8.29		8.85	8.90	8.73

FINAL - 2017 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	04-Jul-17	time	2.52	3.56	4.62	5.64	6.66	7.70	8.76	9.80	10.86	11.94		13.39	7 / 7			
reaction time	0.146	interval	7 steps	1.04	1.06	1.02	1.02	1.04	1.06	1.04	1.06	1.08	1.45			3.12	3.12	3.18
wind	0.3 m/s	velocity	5.44	8.79	8.62	8.96	8.96	8.79	8.62	8.79	8.62	8.46	9.67	8.22		8.79	8.79	8.62

FINAL - 2017 Bauhaus Athletics (Stockholm, SWE) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	18-Jun-17	time	2.48	3.56	4.56	5.58	6.60	7.64	8.66	9.68	10.72	11.78		13.25	1 / 3			
reaction time	0.134	interval	7 steps	1.08	1.00	1.02	1.02	1.04	1.02	1.02	1.04	1.06	1.47			3.10	3.08	3.12
wind	3.5 m/s	velocity	5.53	8.46	9.14	8.96	8.96	8.79	8.96	8.96	8.79	8.62	9.54	8.30		8.85	8.90	8.79

FINAL - 2016 Golden Gala Pietro Mennea (Roma, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	02-Jun-16	time	2.52	3.58	4.62	5.66	6.70	7.74	8.80	9.86	10.96	12.10		13.64	3 / 4			
reaction time	0.133	interval	7 steps	1.06	1.04	1.04	1.04	1.04	1.06	1.06	1.10	1.14	1.54			3.14	3.14	3.30
wind	0.6 m/s	velocity	5.44	8.62	8.79	8.79	8.79	8.79	8.62	8.62	8.31	8.02	9.10	8.06		8.73	8.73	8.31

Braverman, Josh (USA) (1998)		**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Semi-Final 1 - 2022 USATF National Championships (Eugene, OR)														*USATF (2022) - Results powered by Karmarush.com*			
date	26-Jun-22	time	2.49	3.52	4.63	5.59	6.66	7.70	8.73	9.80	10.86	11.89		13.43	8 / 6			
reaction time		interval		1.03	1.11	0.96	1.07	1.04	1.03	1.07	1.06	1.03	1.54			3.10	3.14	3.16
wind	0.4 m/s	velocity	5.51	8.87	8.23	9.52	8.54	8.79	8.87	8.54	8.62	8.87	9.10	8.19		8.85	8.73	8.68

Britt, Jamal (USA) (1998)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Short Hurdles - 2025 Grand Slam Track Miami (Miramar, FL) (TV Analysis)																		*Henson (2025) - Athlete First: 2025 year end hurdle report*
date	02-May-25	time	2.60	3.63	4.66	5.64	6.67	7.67	8.67	9.67	10.69	11.77		13.10	8 / 4			
reaction time	0.210	interval	7 steps	1.03	1.03	0.98	1.03	1.00	1.00	1.00	1.02	1.08	1.33			3.04	3.03	3.10
wind	1.4 m/s	velocity	5.28	8.87	8.87	9.33	8.87	9.14	9.14	9.14	8.96	8.46	10.54	8.40		9.02	9.05	8.85
Heat 2 - 2024 Meeting de Paris (Paris, FRA)																		*Omega Timing (2024) - diamond league race analysis*
date	07-Jul-24	time	2.42	3.50	4.53	5.56	6.57	7.60	8.64	9.72	10.88	12.30		15.73	5 / 8			
reaction time	0.153	interval	7 steps	1.08	1.03	1.03	1.01	1.03	1.04	1.08	1.16	1.42	3.43			3.14	3.08	3.66
wind	0.4 m/s	velocity	5.67	8.46	8.87	8.87	9.05	8.87	8.79	8.46	7.88	6.44	4.09	6.99		8.73	8.90	7.49
Heat 4 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis)																		*Henson (2024) - Athlete First: 2024 year end hurdle report*
date	24-Jun-24	time	2.53	3.56	4.62	5.63	6.61	7.60	8.60	9.62	10.64	11.70		13.07	4 / 1			
reaction time		interval	7 steps	1.03	1.06	1.01	0.98	0.99	1.00	1.02	1.02	1.06	1.37	**PB**		3.10	2.97	3.10
wind	1.2 m/s	velocity	5.42	8.87	8.62	9.05	9.33	9.23	9.14	8.96	8.96	8.62	10.23	8.42		8.85	9.23	8.85
FINAL - 2024 Prefontaine Classic (Eugene, OR)																		*Omega Timing (2024) - diamond league race analysis*
date	25-May-24	time	2.44	3.50	4.53	5.54	6.55	7.58	8.62	9.67	10.71	11.79		13.36	9 / 8			
reaction time	0.149	interval	7 steps	1.06	1.03	1.01	1.01	1.03	1.04	1.05	1.04	1.08	1.57			3.10	3.08	3.17
wind	-0.1 m/s	velocity	5.62	8.62	8.87	9.05	9.05	8.87	8.79	8.70	8.79	8.46	8.93	8.23		8.85	8.90	8.65
FINAL - 2024 Yangtze River Delta Athletics Diamond Gala (Suzhou, CHN) (TV Analysis)																		*Omega Timing (2024) - diamond league race analysis*
date	27-Apr-24	time	2.54	3.60	4.67	5.70	6.74	7.77	8.84	9.91	10.96	12.08		13.58	1 / 8			
reaction time	0.128	interval	7 steps	1.06	1.07	1.03	1.04	1.03	1.07	1.07	1.05	1.12	1.50			3.16	3.14	3.24
wind	0.8 m/s	velocity	5.40	8.62	8.54	8.87	8.79	8.87	8.54	8.54	8.70	8.16	9.35	8.10		8.68	8.73	8.46
FINAL - 2023 Prefontaine Classic (Eugene, OR)																		*Omega Timing (2023) - diamond league race analysis*
date	17-Sep-23	time	2.41	3.49	4.52	5.55	6.58	7.59	8.62	9.66	10.71	11.78		13.36	9 / 8			
reaction time	0.140	interval	7 steps	1.08	1.03	1.03	1.03	1.01	1.03	1.04	1.05	1.07	1.58			3.14	3.07	3.16
wind	0.9 m/s	velocity	5.69	8.46	8.87	8.87	8.87	9.05	8.87	8.79	8.70	8.54	8.87	8.23		8.73	8.93	8.68
FINAL - 2023 London Athletics Meet (London, GBR)																		*Omega Timing (2023) - diamond league race analysis*
date	23-Jul-23	time	2.39	3.46	4.50	5.50	6.51	7.52	8.54	9.57	10.62	11.68		13.25	6 / 3			
reaction time	0.145	interval	7 steps	1.07	1.04	1.00	1.01	1.01	1.02	1.03	1.05	1.06	1.57			3.11	3.04	3.14
wind	1.3 m/s	velocity	5.74	8.54	8.79	9.14	9.05	9.05	8.96	8.87	8.70	8.62	8.93	8.30		8.82	9.02	8.73
FINAL - 2023 USATF National Championshps (Eugene, OR) (TV Analysis)																		*Henson (2023) - Athlete First: 2023 year end hurdle report*
date	09-Jul-23	time	2.52	3.57	4.60	5.62	6.64	7.66	8.69	9.72	10.76	11.84		13.31	8 / 6			
reaction time		interval	7 steps	1.05	1.03	1.02	1.02	1.02	1.03	1.03	1.04	1.08	1.47			3.10	3.07	3.15
wind	-0.2 m/s	velocity	5.44	8.70	8.87	8.96	8.96	8.96	8.87	8.87	8.79	8.46	9.54	8.26		8.85	8.93	8.70
FINAL - 2023 USATF New York City Grand Prix (Randalls Island, NY) (TV Analysis)																		*Henson (2023) - Athlete First: 2023 year end hurdle report*
date	24-Jun-23	time	2.52	3.57	4.60	5.61	6.61	7.65	8.67	9.71	10.74	11.79		13.19	7 / 3			
reaction time	0.169	interval	7 steps	1.05	1.03	1.01	1.00	1.04	1.02	1.04	1.03	1.05	1.40			3.09	3.06	3.12
wind	1.6 m/s	velocity	5.44	8.70	8.87	9.05	9.14	8.79	8.96	8.79	8.87	8.70	10.01	8.34		8.87	8.96	8.79
FINAL - 2023 Meeting de Paris (Paris, FRA)																		*Omega Timing (2023) - diamond league race analysis*
date	09-Jun-23	time	2.37	3.43	4.46	5.46	6.47	7.47	8.48	9.50	10.52	11.57		13.14	5 / 3			
reaction time	0.141	interval	7 steps	1.06	1.03	1.00	1.01	1.00	1.01	1.02	1.02	1.05	1.57			3.09	3.02	3.09
wind	-0.5 m/s	velocity	5.79	8.62	8.87	9.14	9.05	9.14	9.05	8.96	8.96	8.70	8.93	8.37		8.87	9.08	8.87
Heat 2 - 2023 Meeting de Paris (Paris, FRA)																		*Omega Timing (2023) - diamond league race analysis*
date	09-Jun-23	time	2.37	3.42	4.45	5.46	6.47	7.49	8.53	9.56	10.61	11.66		13.21	4 / 2			
reaction time	0.136	interval	7 steps	1.05	1.03	1.01	1.01	1.02	1.04	1.03	1.05	1.05	1.55			3.09	3.07	3.13
wind	-0.6 m/s	velocity	5.79	8.70	8.87	9.05	9.05	8.96	8.79	8.87	8.70	8.70	9.05	8.33		8.87	8.93	8.76
FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA) (TV Analysis)																		*Henson (2023) - Athlete First: 2023 year end hurdle report*
date	02-Jun-23	time	2.48	3.56	4.54	5.56	6.60	7.62	8.65	9.72	10.77	11.83		13.26	7 / 4			
reaction time	0.134	interval	7 steps	1.08	0.98	1.02	1.04	1.02	1.03	1.07	1.05	1.06	1.43			3.08	3.09	3.18
wind	-0.2 m/s	velocity	5.53	8.46	9.33	8.96	8.79	8.96	8.87	8.54	8.70	8.62	9.80	8.30		8.90	8.87	8.62
FINAL - 2023 USATF Bermuda Grand Prix (Devonshire, BER) (TV Analysis)																		*Henson (2023) - Athlete First: 2023 year end hurdle report*
date	21-May-23	time	2.50	3.52	4.53	5.53	6.52	7.52	8.53	9.55	10.60	11.65		12.99	6 / 1			
reaction time	0.124	interval	7 steps	1.02	1.01	1.00	0.99	1.00	1.01	1.02	1.05	1.05	1.34			3.03	3.00	3.12
wind	4.0 m/s	velocity	5.49	8.96	9.05	9.14	9.23	9.14	9.05	8.96	8.70	8.70	10.46	8.47		9.05	9.14	8.79
FINAL - 2023 Adidas Atlanta City Games (Atlanta, GA) (street) (TV Analysis)																		*Henson (2023) - Athlete First: 2023 year end hurdle report*
date	05-May-23	time	2.52	3.57	4.60	5.60	6.60	7.60	8.62	9.65	10.68	11.73		13.14	4 / 3			
reaction time	0.188	interval	7 steps	1.05	1.03	1.00	1.00	1.00	1.02	1.03	1.03	1.05	1.41			3.08	3.02	3.11
wind	0.0 m/s	velocity	5.44	8.70	8.87	9.14	9.14	9.14	8.96	8.87	8.87	8.70	9.94	8.37		8.90	9.08	8.82
FINAL - 2022 NACAC Championships (Freeport, BAH) (TV Analysis)																		*Henson (2022) - Athlete First: 2022 year end hurdle report*
date	20-Aug-22	time	2.48	3.53	4.53	5.55	6.55	7.55	8.57	9.60	10.62	11.67		13.08	7 / 2			

reaction time		interval	7 steps	1.05	1.00	1.02	1.00	1.00	1.02	1.03	1.02	1.05	1.41	PB		3.07	3.02	3.10
wind	0.3 m/s	velocity	5.53	8.70	9.14	8.96	9.14	9.14	8.96	8.87	8.96	8.70	9.94	8.41		8.93	9.08	8.85

FINAL - 2022 USATF National Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	26-Jun-22	time	2.50	3.55	4.55	5.55	6.55	7.55	8.56	9.57	10.62	11.66		13.09	3 / 4			
reaction time		interval	7 steps	1.05	1.00	1.00	1.00	1.00	1.01	1.01	1.05	1.04	1.43	PB		3.05	3.01	3.10
wind	1.2 m/s	velocity	5.49	8.70	9.14	9.14	9.14	9.14	9.05	9.05	8.70	8.79	9.80	8.40		8.99	9.11	8.85

Semi-Final 2 - 2022 USATF National Championships (Eugene, OR) *USATF (2022) - Results powered by Karmarush.com*

date	26-Jun-22	time	2.51	3.53	4.57	5.60	6.61	7.64	8.65	9.72	10.67	11.77		13.25	7 / 3			
reaction time		interval	7 steps	1.02	1.04	1.03	1.01	1.03	1.01	1.07	0.95	1.10	1.48			3.09	3.05	3.12
wind	0.1 m/s	velocity	5.47	8.96	8.79	8.87	9.05	8.87	9.05	8.54	9.62	8.31	9.47	8.30		8.87	8.99	8.79

FINAL - 2022 New York Grand Prix (New York, NY) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	12-Jun-22	time	2.43	3.52	4.53	5.55	6.55	7.58	8.62	9.65	10.72	11.76		13.22	3 / 4			
reaction time	0.139	interval	7 steps	1.09	1.01	1.02	1.00	1.03	1.04	1.03	1.07	1.04	1.46	PB		3.12	3.07	3.14
wind	1.6 m/s	velocity	5.65	8.39	9.05	8.96	9.14	8.87	8.79	8.87	8.54	8.79	9.60	8.32		8.79	8.93	8.73

FINAL - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.47	3.53	4.57	5.60	6.64	7.67	8.72	9.77	10.85	11.95		13.47	7 / 7			
reaction time	0.158	interval	7 steps	1.06	1.04	1.03	1.04	1.03	1.05	1.05	1.08	1.10	1.52			3.13	3.12	3.23
wind	0.4 m/s	velocity	5.55	8.62	8.79	8.87	8.79	8.87	8.70	8.70	8.46	8.31	9.22	8.17		8.76	8.79	8.49

Semi-Final 1 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.47	3.53	4.55	5.55	6.57	7.58	8.62	9.67	10.73	11.81		13.27	3 / 3			
reaction time	0.147	interval	7 steps	1.06	1.02	1.00	1.02	1.01	1.04	1.05	1.06	1.08	1.46	PB		3.08	3.07	3.19
wind	1.8 m/s	velocity	5.55	8.62	8.96	9.14	8.96	9.05	8.79	8.70	8.62	8.46	9.60	8.29		8.90	8.93	8.60

FINAL - 2021 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	11-Jun-21	time	2.57	3.63	4.67	5.70	6.70	7.73	8.77	9.83	10.87	11.97		13.45	8 / 4			
reaction time	0.203	interval	7 steps	1.06	1.04	1.03	1.00	1.03	1.04	1.06	1.04	1.10	1.48	PB		3.13	3.07	3.20
wind	-0.6 m/s	velocity	5.34	8.62	8.79	8.87	9.14	8.87	8.79	8.62	8.79	8.31	9.47	8.18		8.76	8.93	8.57

Brixey, Sam (USA) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 2021 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.50	3.58	4.67	5.70	6.77	7.86	8.99	10.11	11.21	12.38		13.99	9 / 9			
reaction time	0.148	interval	7 steps	1.08	1.09	1.03	1.07	1.09	1.13	1.12	1.10	1.17	1.61			3.20	3.29	3.39
wind	1.8 m/s	velocity	5.49	8.46	8.39	8.87	8.54	8.39	8.09	8.16	8.31	7.81	8.71	7.86		8.57	8.33	8.09

FINAL - 2020 Don Kirby Elite Invitational (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.55	3.59	4.64	5.71	6.76							7.72	4 / 1			
reaction time		interval	7 steps	1.04	1.05	1.07	1.05						0.96			3.16		
		velocity	5.38	8.79	8.70	8.54	8.70						10.13	7.77		8.68		

Broadbell, Rasheed (JAM) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN) *Omega Timing (2025) - diamond league race analysis*

date	03-May-25	time	2.43	3.49	4.52	5.54	6.54	7.54	8.57	9.61	10.63	11.67		13.24	6 / 3			
reaction time	0.168	interval	7 steps	1.06	1.03	1.02	1.00	1.00	1.03	1.04	1.02	1.04	1.57			3.11	3.03	3.10
wind	0.6 m/s	velocity	5.65	8.62	8.87	8.96	9.14	9.14	8.87	8.79	8.96	8.79	8.93	8.31		8.82	9.05	8.85

FINAL - 2024 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2024) - diamond league race analysis*

date	25-Aug-24	time	2.40	3.46	4.44	5.46	6.46	7.45	8.45	9.49	10.52	11.54		13.05	5 / 2			
reaction time	0.152	interval	7 steps	1.06	0.98	1.02	1.00	0.99	1.00	1.04	1.03	1.02	1.51			3.06	2.99	3.09
wind	1.1 m/s	velocity	5.72	8.62	9.33	8.96	9.14	9.23	9.14	8.79	8.87	8.96	9.28	8.43		8.96	9.17	8.87

FINAL - 2024 Athletissima (Lausanne, SUI) *Omega Timing (2024) - diamond league race analysis*

date	22-Aug-24	time	2.36	3.43	4.45	5.45	6.46	7.47	8.49	9.51	10.53	11.57		13.10	3 / 1			
reaction time	0.138	interval	7 steps	1.07	1.02	1.00	1.01	1.01	1.02	1.02	1.02	1.04	1.53			3.09	3.04	3.08
wind	-0.1 m/s	velocity	5.81	8.54	8.96	9.14	9.05	9.05	8.96	8.96	8.96	8.79	9.16	8.40		8.87	9.02	8.90

FINAL - 2024 Olympic Games (Paris, FRA) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	08-Aug-24	time	2.55	3.60	4.63	5.65	6.64	7.64	8.65	9.65	10.68	11.72		13.09	5 / 3			
reaction time	0.144	interval	7 steps	1.05	1.03	1.02	0.99	1.00	1.01	1.00	1.03	1.04	1.37			3.10	3.00	3.07
wind	-0.1 m/s	velocity	5.38	8.70	8.87	8.96	9.23	9.14	9.05	9.14	8.87	8.79	10.23	8.40		8.85	9.14	8.93

Semi-Final 2 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	2.38	3.44	4.48	5.51	6.53	7.54	8.56	9.59	10.64	11.69		13.21	6 / 1			
reaction time	0.151	interval	7 steps	1.06	1.04	1.03	1.02	1.01	1.02	1.03	1.05	1.05	1.52			3.13	3.05	3.13
wind	-0.1 m/s	velocity	5.76	8.62	8.79	8.87	8.96	9.05	8.96	8.87	8.70	8.70	9.22	8.33		8.76	8.99	8.76

Heat 5 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.42	3.51	4.57	5.62	6.65	7.68	8.70	9.73	10.77	11.84		13.42	8 / 2			
reaction time	0.151	interval	7 steps	1.09	1.06	1.05	1.03	1.03	1.02	1.03	1.04	1.07	1.58			3.20	3.08	3.14

wind	0.7 m/s	velocity	5.67	8.39	8.62	8.70	8.87	8.87	8.96	8.87	8.79	8.54	8.87	8.20		8.57	8.90	8.73

FINAL - 2023 Jamaican National Championships (Kingston, JAM) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	09-Jul-23	time	2.50	3.55	4.55	5.53	6.53	7.53	8.50	9.50	10.48	11.48		12.94	3 / 1			
reaction time		interval	7 steps	1.05	1.00	0.98	1.00	1.00	0.97	1.00	0.98	1.00	1.46	PB		3.03	2.97	2.98
wind	0.7 m/s	velocity	5.49	8.70	9.14	9.33	9.14	9.14	9.42	9.14	9.33	9.14	9.60	8.50		9.05	9.23	9.20

FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) *Omega Timing (2023) - diamond league race analysis*

date	28-May-23	time	2.41	3.46	4.47	5.48	6.49	7.50	8.51	9.51	10.53	11.55		13.08	5 / 1			
reaction time	0.161	interval	7 steps	1.05	1.01	1.01	1.01	1.01	1.01	1.00	1.02	1.02	1.53			3.07	3.03	3.04
wind	-1.3 m/s	velocity	5.69	8.70	9.05	9.05	9.05	9.05	9.05	9.14	8.96	8.96	9.16	8.41		8.93	9.05	9.02

FINAL - 2022 Weltklasse (Zürich, SUI) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	08-Sep-22	time	2.44	3.47	4.48	5.47	6.45	7.48	8.50	9.52	10.61	11.64		13.06	7 / 2			
reaction time	0.149	interval	7 steps	1.03	1.01	0.99	0.98	1.03	1.02	1.02	1.09	1.03	1.42			3.03	3.03	3.14
wind	-1.0 m/s	velocity	5.62	8.87	9.05	9.23	9.33	8.87	8.96	8.96	8.39	8.87	9.87	8.42		9.05	9.05	8.73

FINAL - 2022 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	26-Aug-22	time	2.47	3.50	4.50	5.50	6.50	7.52	8.51	9.52	10.54	11.58		12.99	5 / 1			
reaction time	0.142	interval	7 steps	1.03	1.00	1.00	1.00	1.02	0.99	1.01	1.02	1.04	1.41	PB		3.03	3.01	3.07
wind	0.0 m/s	velocity	5.55	8.87	9.14	9.14	9.14	8.96	9.23	9.05	8.96	8.79	9.94	8.47		9.05	9.11	8.93

Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.50	3.53	4.60	5.66	6.66	7.66	8.70	9.73	10.83	11.87		13.27	4 / 3			
reaction time	0.129	interval	7 steps	1.03	1.07	1.06	1.00	1.00	1.04	1.03	1.10	1.04	1.40			3.16	3.04	3.17
wind	0.3 m/s	velocity	5.49	8.87	8.54	8.62	9.14	9.14	8.79	8.87	8.31	8.79	10.01	8.29		8.68	9.02	8.65

Heat 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.46	3.53	4.56	5.56	6.60	7.63	8.73	9.80	10.83	11.86		13.36	8 / 2			
reaction time	0.139	interval	7 steps	1.07	1.03	1.00	1.04	1.03	1.10	1.07	1.03	1.03	1.50			3.10	3.17	3.13
wind	-0.5 m/s	velocity	5.58	8.54	8.87	9.14	8.79	8.87	8.31	8.54	8.87	8.87	9.35	8.23		8.85	8.65	8.76

FINAL - 2021 Müller British Grand Prix (Gateshead, GBR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	13-Jul-21	time	2.60	3.72	4.76	5.82	6.88	7.98	9.04	10.10	11.22	12.32		13.84	2 / 5			
reaction time	0.165	interval	7 steps	1.12	1.04	1.06	1.06	1.10	1.06	1.06	1.12	1.10	1.52			3.22	3.22	3.28
wind	0.8 m/s	velocity	5.28	8.16	8.79	8.62	8.62	8.31	8.62	8.62	8.16	8.31	9.22	7.95		8.52	8.52	8.36

Brockman, Joshua (USA) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2022 USATF National Championships (Eugene, OR) *USATF (2022) - Results powered by Karmarush.com*

date	26-Jun-22	time	2.47	3.56	4.60	5.60	6.62	7.69	8.76	9.85	10.92	12.00		13.55	2 / 6			
reaction time		interval		1.09	1.04	1.00	1.02	1.07	1.07	1.09	1.07	1.08	1.55	PB		3.13	3.16	3.24
wind	0.1 m/s	velocity	5.55	8.39	8.79	9.14	8.96	8.54	8.54	8.39	8.54	8.46	9.05	8.12		8.76	8.68	8.46

Brooks, Devon (USA) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.62	3.66	4.68	5.70	6.72	7.74	8.77	9.81	10.87	12.01		13.55	1 / 7			
reaction time	0.264	interval	7 steps	1.04	1.02	1.02	1.02	1.02	1.03	1.04	1.06	1.14	1.54			3.08	3.07	3.24
wind	1.8 m/s	velocity	5.24	8.79	8.96	8.96	8.96	8.96	8.87	8.79	8.62	8.02	9.10	8.12		8.90	8.93	8.46

Brorsson, Alexander (SWE) (1990)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2013 European Indoor Championships (Göteborg, SWE) *Blomkvist (2013) - www.elitlandslag.se/SprintHäck/KortHäck.aspx*

date	01-Mar-13	time	2.60	3.70	4.77	5.84	6.93							7.85	2 / 6			
reaction time	0.156	interval		1.10	1.07	1.07	1.09						0.92			3.24		
		velocity	5.28	8.31	8.54	8.54	8.39						10.57	7.64		8.46		

FINAL - 2012 Windsprint (Sundsvall, SWE) *Blomkvist (2012) - www.sub13.se*

date	17-Jun-12	time	2.67	3.76	4.81	5.89	7.03	8.16	9.26					dnf	7 / --			
reaction time		interval		1.09	1.05	1.08	1.14	1.13	1.10							3.22	3.37	
wind	1.1 m/s	velocity	5.14	8.39	8.70	8.46	8.02	8.09	8.31							8.52	8.14	

Heat 2 - 2012 Windsprint (Sundsvall, SWE) *Blomkvist (2012) - www.sub13.se*

date	17-Jun-12	time	2.70	3.80	4.87	5.93	7.00	8.08	9.17	10.28	11.38	12.51		13.99	4 / 1			
reaction time		interval		1.10	1.07	1.06	1.07	1.08	1.09	1.11	1.10	1.13	1.48			3.23	3.24	3.34
wind	0.0 m/s	velocity	5.08	8.31	8.54	8.62	8.54	8.46	8.39	8.23	8.31	8.09	9.47	7.86		8.49	8.46	8.21

Brown, Bryce (USA) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2007 USATF National Junior Championships (Indianapolis, IN) (99cm) *USATF Men's Hurdle Development (2007)*

date	21-Jun-07	time	2.67	3.77	4.80	5.82	6.86	7.91	8.94	9.96	11.01	12.08		13.42	/ 3			
reaction time		interval		1.10	1.03	1.02	1.04	1.05	1.03	1.02	1.05	1.07	1.34			3.15	3.12	3.14
wind	2.7 m/s	velocity	5.14	8.31	8.87	8.96	8.79	8.70	8.87	8.96	8.70	8.54	10.46	8.20		8.70	8.79	8.73

Brown, Darius (USA) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.55	3.66	4.70	5.72	6.76	7.82	8.86	9.95	11.04	12.14		13.56	8 / 6		
reaction time		interval		1.11	1.04	1.02	1.04	1.06	1.04	1.09	1.09	1.10	1.42			3.17	3.14	3.28
wind	0.8 m/s	velocity	5.38	8.23	8.79	8.96	8.79	8.62	8.79	8.39	8.39	8.31	9.87	8.11		8.65	8.73	8.36

Brown, Joel (USA) (1980)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2012 AVIVA London Grand Prix (London, GBR) (TV Analysis) — *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	13-Jul-12	time	2.52	3.60	4.64	5.64	6.68	7.72	8.76	9.80	10.86	11.92		13.39	6 / 5		
reaction time	0.149	interval		1.08	1.04	1.00	1.04	1.04	1.04	1.04	1.06	1.06	1.47			3.12	3.12	3.16
wind	0.6 m/s	velocity	5.44	8.46	8.79	9.14	8.79	8.79	8.79	8.79	8.62	8.62	9.54	8.22		8.79	8.79	8.68

FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Sep-08	time	2.66	3.75	4.83	5.88	6.94	8.02	9.11	10.02	11.29	12.38		13.81	7 / 8		
reaction time	0.139	interval		1.09	1.08	1.05	1.06	1.08	1.09	0.91	1.27	1.09	1.43			3.22	3.23	3.27
wind	-1.3 m/s	velocity	5.16	8.39	8.46	8.70	8.62	8.46	8.39	10.07	7.19	8.39	9.80	7.97		8.52	8.49	8.39

Semi-Final 1 - 2007 USATF National Championships (Indianapolis, IN) — *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.65	3.72	4.77	5.82	6.84	7.91	8.94	9.98	11.03	12.10		13.52	1 / 5		
reaction time		interval		1.07	1.05	1.05	1.02	1.07	1.03	1.04	1.05	1.07	1.42			3.17	3.12	3.16
wind	-0.6 m/s	velocity	5.18	8.54	8.70	8.70	8.96	8.54	8.87	8.79	8.70	8.54	9.87	8.14		8.65	8.79	8.68

Heat 2 - 2007 USATF National Championships (Indianapolis, IN) — *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.75	3.80	4.85	5.92	6.96	8.02	9.08	10.14	11.21	12.33		13.70	3 / 4		
reaction time		interval		1.05	1.05	1.07	1.04	1.06	1.06	1.06	1.07	1.12	1.37			3.17	3.16	3.25
wind	-1.9 m/s	velocity	4.99	8.70	8.70	8.54	8.79	8.62	8.62	8.62	8.54	8.16	10.23	8.03		8.65	8.68	8.44

FINAL - 2005 USATF National Championships (Carson, CA) — *USATF Women's Sprint Development (2005)*

date	24-Jun-05	time	2.61	3.67	4.71	5.73	6.74	7.78	8.80	9.81	10.86	11.91		13.28	4 / 4		
reaction time		interval		1.06	1.04	1.02	1.01	1.04	1.02	1.01	1.05	1.05	1.37	PB		3.12	3.07	3.11
wind	0.2 m/s	velocity	5.26	8.62	8.79	8.96	9.05	8.79	8.96	9.05	8.70	8.70	10.23	8.28		8.79	8.93	8.82

Brown, Rasheem (CAY) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2023 NCAA Championships (Austin, TX) (TV Analysis) — *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	09-Jun-23	time	2.57	3.62	4.67	5.71	6.74	7.78	8.84	9.90	10.96	12.01		13.50	1 / 8		
reaction time		interval		1.05	1.05	1.04	1.03	1.04	1.06	1.06	1.06	1.05	1.49	PB		3.14	3.13	3.17
wind	1.8 m/s	velocity	5.34	8.70	8.70	8.79	8.87	8.79	8.62	8.62	8.62	8.70	9.41	8.15		8.73	8.76	8.65

Brown, Steve (USA) (1969)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1996 USA Olympic Trials (Atlanta, GA) — *McNichols (2000) - Hurdle technique study through video analysis*

date	23-Jun-96	time	2.40	3.46	4.46	5.44	6.44	7.52	8.58	9.63	10.66	11.72		13.28	8 / 4		
reaction time		interval		1.06	1.00	0.98	1.00	1.08	1.06	1.05	1.03	1.06	1.56			3.04	3.14	3.14
wind	0.9 m/s	velocity	5.72	8.62	9.14	9.33	9.14	8.46	8.62	8.70	8.87	8.62	8.99	8.28		9.02	8.73	8.73

Brown, Tai (USA) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) — *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.60	3.63	4.65	5.67	6.67	7.67	8.69	9.72	10.76	11.84		13.32	8 / 5		
reaction time	0.174	interval		1.03	1.02	1.02	1.00	1.00	1.02	1.03	1.04	1.08	1.48	PB		3.07	3.02	3.15
wind	0.4 m/s	velocity	5.28	8.87	8.96	8.96	9.14	9.14	8.96	8.87	8.79	8.46	9.47	8.26		8.93	9.08	8.70

Semi-Final 1 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) — *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.62	3.65	4.67	5.69	6.70	7.69	8.71	9.74	10.78	11.86		13.33	2 / 4		
reaction time	0.173	interval		1.03	1.02	1.02	1.01	0.99	1.02	1.03	1.04	1.08	1.47	PB		3.07	3.02	3.15
wind	1.8 m/s	velocity	5.24	8.87	8.96	8.96	9.05	9.23	8.96	8.87	8.79	8.46	9.54	8.25		8.93	9.08	8.70

FINAL - 2021 NCAA Championships (Eugene, OR) (TV Analysis) — *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	11-Jun-21	time	2.70	3.77	4.85	5.90	6.93	7.97	9.03	10.07	11.13	12.23		13.89	1 / 9		
reaction time	0.161	interval		1.07	1.08	1.05	1.03	1.04	1.06	1.04	1.06	1.10	1.66			3.20	3.13	3.20
wind	-0.6 m/s	velocity	5.08	8.54	8.46	8.70	8.87	8.79	8.62	8.79	8.62	8.31	8.45	7.92		8.57	8.76	8.57

Brunson, Andrew (USA) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2008 USA Olympic Trials (Eugene, OR) — *USATF Hurdle Development (2008)*

date	06-Jul-08	time	2.57	3.64	4.67	5.72	6.74	7.77	8.81	9.86	10.91	12.00		13.43	7 / 6		
reaction time	0.150	interval		1.07	1.03	1.05	1.02	1.03	1.04	1.05	1.05	1.09	1.43			3.15	3.09	3.19
wind	3.5 m/s	velocity	5.34	8.54	8.87	8.70	8.96	8.87	8.79	8.70	8.70	8.39	9.80	8.19		8.70	8.87	8.60

Bryggare, Arto (FIN) (1958)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1983 IAAF World Championships (Helsinki, FIN) — *Knoke (1984) - the hurdles*

date	12-Aug-83	time	2.53	3.67	4.63	5.62	6.67	7.67	8.81	9.82	10.87	11.95		13.46	7 / 2		
reaction time	0.159	interval	*7 steps*	1.14	0.96	0.99	1.05	1.00	1.14	1.01	1.05	1.08	1.51			3.09	3.19	3.14
wind	1.3 m/s	velocity	5.42	8.02	9.52	9.23	8.70	9.14	8.02	9.05	8.70	8.46	9.28	8.17		8.87	8.60	8.73

Bucknor, Richard (JAM) (1966)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 1988 Olympic Games (Seoul, KOR) — *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.62	3.73	4.82	5.93	7.00	8.09	9.17	10.29	11.41	12.53		13.98	2 / 8		

reaction time	0.166	interval		1.11	1.09	1.11	1.07	1.09	1.08	1.12	1.12	1.12	1.45			3.31	3.24	3.36
wind	0.0 m/s	velocity	5.24	8.23	8.39	8.23	8.54	8.39	8.46	8.16	8.16	8.16	9.67	7.87		8.28	8.46	8.16

Bühler, Matthias (GER) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2017 IAAF World Championships (London, GBR) — *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.48	3.57	4.64	5.71	6.77	7.82	8.87	9.93	11.00	12.11		13.79	2 / 8			
reaction time	0.158	interval		1.09	1.07	1.07	1.06	1.05	1.05	1.06	1.07	1.11	1.68			3.23	3.16	3.24
wind	0.6 m/s	velocity	5.53	8.39	8.54	8.54	8.62	8.70	8.70	8.62	8.54	8.23	8.35	7.98		8.49	8.68	8.46

FINAL - 2013 Windsprint (Sundsvall, SWE) — *(2013) - www.ssg.se/windsprint/Splittider/*

date	28-Jul-13	time	2.72	3.78	4.84	5.87	6.92	7.95	8.99	10.03	11.07	12.14		13.64	7 / 3			
reaction time		interval		1.06	1.06	1.03	1.05	1.03	1.04	1.04	1.04	1.07	1.50			3.15	3.12	3.15
wind	1.7 m/s	velocity	5.04	8.62	8.62	8.87	8.70	8.87	8.79	8.79	8.79	8.54	9.35	8.06		8.70	8.79	8.70

Heat 6 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.71	3.79	4.87	5.95	7.00	8.05	9.11	10.19	11.27	12.35		13.75	8 / 6			
reaction time	0.131	interval		1.08	1.08	1.08	1.05	1.05	1.06	1.08	1.08	1.08	1.40			3.24	3.16	3.24
wind	0.1 m/s	velocity	5.06	8.46	8.46	8.46	8.70	8.70	8.62	8.46	8.46	8.46	10.01	8.00		8.46	8.68	8.46

FINAL - 2009 ISTAF (Berlin, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Jun-09	time	2.68	3.77	4.87	5.93	6.98	8.05	9.13	10.21	11.31	12.43		13.87	1 / 9			
reaction time	0.134	interval		1.09	1.10	1.06	1.05	1.07	1.08	1.08	1.10	1.12	1.44			3.25	3.20	3.30
wind	0.7 m/s	velocity	5.12	8.39	8.31	8.62	8.70	8.54	8.46	8.46	8.31	8.16	9.74	7.93		8.44	8.57	8.31

Burt, John (USA) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2020 Leonard Hilton Memorial Invitational (Houston, TX) — *CAA Hurdle Development (2020)*

date	17-Jan-20	time	2.49	3.58	4.65	5.71	6.79							7.88	6 / 2			
reaction time		interval		1.09	1.07	1.06	1.08						1.09			3.22		
		velocity	5.51	8.39	8.54	8.62	8.46						8.92	7.61		8.52		

Cabang, John (PHI) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.45	3.53	4.56	5.60	6.63	7.69	8.76	9.84	10.92	12.01		13.66	3 / 6			
reaction time	0.154	interval		1.08	1.03	1.04	1.03	1.06	1.07	1.08	1.08	1.09	1.65			3.15	3.16	3.25
wind	0.1 m/s	velocity	5.60	8.46	8.87	8.79	8.87	8.62	8.54	8.46	8.46	8.39	8.50	8.05		8.70	8.68	8.44

FINAL - 2024 Seiko Golden Grand Prix (Tokyo, JPN) — *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	19-May-24	time	2.62	3.70	4.73	5.79	6.85	7.92	8.97	10.04	11.13	12.23		13.72	9 / 9			
reaction time	0.162	interval		1.08	1.03	1.06	1.06	1.07	1.05	1.07	1.09	1.10	1.49			3.17	3.18	3.26
wind	-0.6 m/s	velocity	5.24	8.46	8.87	8.62	8.62	8.54	8.70	8.54	8.39	8.31	9.41	8.02		8.65	8.62	8.41

Cabral, Johnathan (CAN) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) — *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	06-Jun-19	time	2.60	3.68	4.71	5.75	6.78	7.83	8.88	9.95	11.00	12.11		13.61	1 / 8			
reaction time	0.142	interval	7 steps	1.08	1.03	1.04	1.03	1.05	1.05	1.07	1.05	1.11	1.50			3.15	3.13	3.23
wind	0.4 m/s	velocity	5.28	8.46	8.87	8.79	8.87	8.70	8.70	8.54	8.70	8.23	9.35	8.08		8.70	8.76	8.49

FINAL - 2019 Seiko Golden Grand Prix (Osaka, JPN) — *Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*

date	19-May-19	time	2.72	3.83	4.88	5.92	6.95	7.99	9.04	10.10	11.16	12.26		13.74	8 / 7			
reaction time	0.245	interval	7 steps	1.11	1.05	1.04	1.03	1.04	1.05	1.06	1.06	1.10	1.48			3.20	3.12	3.22
wind	2.9 m/s	velocity	5.04	8.23	8.70	8.79	8.87	8.79	8.70	8.62	8.62	8.31	9.47	8.01		8.57	8.79	8.52

FINAL - 2018 Müller Grand Prix (Birmingham, GBR) (TV Analysis) — *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	18-Aug-18	time	2.52	3.60	4.64	5.68	6.72	7.76	8.78	9.78	10.88	11.90		13.46	4 / 7			
reaction time	0.117	interval	7 steps	1.08	1.04	1.04	1.04	1.04	1.02	1.00	1.10	1.02	1.56			3.16	3.10	3.12
wind	1.3 m/s	velocity	5.44	8.46	8.79	8.79	8.79	8.79	8.96	9.14	8.31	8.96	8.99	8.17		8.68	8.85	8.79

Semi-Final 3 - 2017 IAAF World Championships (London, GBR) — *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.51	3.59	4.63	5.67	6.70	7.76	8.86	10.03	11.33	12.77		14.98	8 / 7			
reaction time	0.174	interval	7 steps	1.08	1.04	1.04	1.03	1.06	1.10	1.17	1.30	1.44	2.21			3.16	3.19	3.91
wind	0.3 m/s	velocity	5.47	8.46	8.79	8.79	8.87	8.62	8.31	7.81	7.03	6.35	6.34	7.34		8.68	8.60	7.01

FINAL - 2017 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) — *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	08-Jun-17	time	2.52	3.58	4.64	5.66	6.70	7.74	8.78	9.86	10.94	12.08		13.60	2 / 7			
reaction time	0.130	interval	7 steps	1.06	1.06	1.02	1.04	1.04	1.04	1.08	1.08	1.14	1.52			3.14	3.12	3.30
wind	-0.3 m/s	velocity	5.44	8.62	8.62	8.96	8.79	8.79	8.79	8.46	8.46	8.02	9.22	8.09		8.73	8.79	8.31

FINAL - 2017 Drake Relays (Des Moines, IA) (TV Analysis) — *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	29-Apr-17	time	2.63	3.70	4.73	5.76	6.80	7.80	8.83	9.90	10.98	12.10		13.64	6 / 7			
reaction time		interval	7 steps	1.07	1.03	1.03	1.04	1.00	1.03	1.07	1.08	1.12	1.54			3.13	3.07	3.27
wind	1.8 m/s	velocity	5.22	8.54	8.87	8.87	8.79	9.14	8.87	8.54	8.46	8.16	9.10	8.06		8.76	8.93	8.39

FINAL - 2016 Olympic Games (Rio de Janeiro, BRA) (TV Analysis) — *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	16-Aug-16	time	2.58	3.64	4.68	5.72	6.74	7.76	8.80	9.84	10.88	11.96		13.40	2 / 6			
reaction time	0.146	interval	7 steps	1.06	1.04	1.04	1.02	1.02	1.04	1.04	1.04	1.08	1.44			3.14	3.08	3.16
wind	0.2 m/s	velocity	5.32	8.62	8.79	8.79	8.96	8.96	8.79	8.79	8.79	8.46	9.74	8.21		8.73	8.90	8.68

FINAL - 2016 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	28-May-16	time	2.56	3.68	4.70	5.74	6.78	7.82	8.86	9.90	10.98	12.06		13.57	8 / 7			
reaction time		interval	7 steps	1.12	1.02	1.04	1.04	1.04	1.04	1.04	1.08	1.08	1.51			3.18	3.12	3.20
wind	0.7 m/s	velocity	5.36	8.16	8.96	8.79	8.79	8.79	8.79	8.79	8.46	8.46	9.28	8.11		8.62	8.79	8.57

FINAL - 2016 Meeting International Mohammed VI D'Athletisme (Rabat, MAR) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	22-May-16	time	2.54	3.60	4.64	5.66	6.68	7.70	8.74	9.80	10.86	11.94		13.42	5 / 5			
reaction time	0.155	interval	7 steps	1.06	1.04	1.02	1.02	1.02	1.04	1.06	1.06	1.08	1.48			3.12	3.08	3.20
wind	1.4 m/s	velocity	5.40	8.62	8.79	8.96	8.96	8.96	8.79	8.62	8.62	8.46	9.47	8.20		8.79	8.90	8.57

Campbell, Jerome (JAM) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	07-Jun-24	time	2.50	3.58	4.67	5.71	6.77	7.81	8.84	9.91	10.98	12.05		13.49	9 / 7			
reaction time		interval		1.08	1.09	1.04	1.06	1.04	1.03	1.07	1.07	1.07	1.44			3.21	3.13	3.21
wind	0.1 m/s	velocity	5.49	8.46	8.39	8.79	8.62	8.79	8.87	8.54	8.54	8.54	9.74	8.15		8.54	8.76	8.54

Campbell, Lafranz (JAM) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 New Balance Indoor Grand Prix (Boston, MA) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	04-Feb-24	time	2.54	3.60	4.62	5.68	6.72							7.66	1 / 6			
reaction time	0.130	interval	7 steps	1.06	1.02	1.06	1.04						0.94			3.14		
		velocity	5.40	8.62	8.96	8.62	8.79						10.34	7.83		8.73		

FINAL - 2022 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	10-Jun-22	time	2.51	3.55	4.59	5.60	6.64	7.66	8.69	9.74	10.79	11.91		13.45	8 / 5			
reaction time		interval	7 steps	1.04	1.04	1.01	1.04	1.02	1.03	1.05	1.05	1.12	1.54			3.09	3.09	3.22
wind	0.0 m/s	velocity	5.47	8.79	8.79	9.05	8.79	8.96	8.87	8.70	8.70	8.16	9.10	8.18		8.87	8.87	8.52

Campbell, Tonie (USA) (1960)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1988 Olympic Games (Seoul, KOR) *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.60	3.66	4.69	5.69	6.69	7.71	8.73	9.78	10.83	11.95		13.38	6 / 3			
reaction time	0.161	interval	7 steps	1.06	1.03	1.00	1.00	1.02	1.02	1.05	1.05	1.12	1.43			3.09	3.04	3.22
wind	1.5 m/s	velocity	5.28	8.62	8.87	9.14	9.14	8.96	8.96	8.70	8.70	8.16	9.80	8.22		8.87	9.02	8.52

Semi-Final 1 - 1988 Olympic Games (Seoul, KOR) *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.60	3.65	4.68	5.68	6.70	7.73	8.77	9.81	10.89	11.97		13.47	6 / 2			
reaction time	0.163	interval	7 steps	1.05	1.03	1.00	1.02	1.03	1.04	1.04	1.08	1.08	1.50			3.08	3.09	3.20
wind	0.0 m/s	velocity	5.28	8.70	8.87	9.14	8.96	8.87	8.79	8.79	8.46	8.46	9.35	8.17		8.90	8.87	8.57

Cao Jin (CHN) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	27-Jun-21	time	2.73	3.89	4.99	6.12	7.24	8.37	9.52	10.68	11.86	13.06		14.60	5 / 1			
reaction time	0.185	interval	7 steps	1.16	1.10	1.13	1.12	1.13	1.15	1.16	1.18	1.20	1.54			3.39	3.40	3.54
wind	-0.2 m/s	velocity	5.03	7.88	8.31	8.09	8.16	8.09	7.95	7.88	7.75	7.62	9.10	7.53		8.09	8.06	7.75

Decathlon - Heat 1 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.78	3.90	5.04	6.14	7.29	8.41	9.53	10.71	11.86	13.05		14.61	4 / 1			
reaction time	0.209	interval	7 steps	1.12	1.14	1.10	1.15	1.12	1.12	1.18	1.15	1.19	1.56			3.36	3.39	3.52
wind	?? m/s	velocity	4.94	8.16	8.02	8.31	7.95	8.16	8.16	7.75	7.95	7.68	8.99	7.53		8.16	8.09	7.79

Decathlon - Heat 1 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	11-Jul-19	time	2.72	3.84	4.93	6.02	7.17	8.29	9.46	10.62	11.78	13.00		14.57	5 / 1			
reaction time	0.169	interval	7 steps	1.12	1.09	1.09	1.15	1.12	1.17	1.16	1.16	1.22	1.57			3.30	3.44	3.54
wind	-0.6 m/s	velocity	5.04	8.16	8.39	8.39	7.95	8.16	7.81	7.88	7.88	7.49	8.93	7.55		8.31	7.97	7.75

Capetillo, Dayron (CUB) (1987)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 6 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.63	3.67	4.74	5.77	6.79	7.83	8.87	9.93	11.05	12.15		13.61	4 / 4			
reaction time	0.168	interval	7 steps	1.04	1.07	1.03	1.02	1.04	1.04	1.06	1.12	1.10	1.46			3.14	3.10	3.28
wind	0.1 m/s	velocity	5.22	8.79	8.54	8.87	8.96	8.79	8.79	8.62	8.16	8.31	9.60	8.08		8.73	8.85	8.36

Capouch, Tomáš (CZE) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.86	4.06	5.27	6.49	7.75	8.98	10.21	11.46	12.67	13.91		15.62	2 / 5			
reaction time	0.193	interval		1.20	1.21	1.22	1.26	1.23	1.23	1.25	1.21	1.24	1.71			3.63	3.72	3.70
wind	-4.1 m/s	velocity	4.80	7.62	7.55	7.49	7.25	7.43	7.43	7.31	7.55	7.37	8.20	7.04		7.55	7.37	7.41

Carda, Jan (CZE) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2013 Czech Republic National Championships (Tábor, CZE) *Feher (2013) - Final report from the men's & women's Czech Republic national championships*

date	15-Jun-13	time	2.66	3.76	4.84	5.91	6.99	8.09	9.23	10.37	11.51	12.69		14.22	2 / 3			

reaction time	0.135	interval		1.10	1.08	1.07	1.08	1.10	1.14	1.14	1.14	1.18	1.53	PB		3.25	3.32	3.46
wind	0.4 m/s	velocity	5.16	8.31	8.46	8.54	8.46	8.31	8.02	8.02	8.02	7.75	9.16	7.74		8.44	8.26	7.92

Heat 2 - 2013 Czech Republic National Championships (Tábor, CZE) — *Feher (2013) - Final report from the men's & women's Czech Republic national championships*

date	15-Jun-13	time	2.70	3.83	4.96	6.05	7.17	8.30	9.48	10.68	11.85	13.08		14.64	5 / 3			
reaction time	0.141	interval		1.13	1.13	1.09	1.12	1.13	1.18	1.20	1.17	1.23	1.56			3.35	3.43	3.60
wind	-0.6 m/s	velocity	5.08	8.09	8.09	8.39	8.16	8.09	7.75	7.62	7.81	7.43	8.99	7.51		8.19	7.99	7.62

Heat 1 - 2012 Czech Republic National Indoor Championships (Praha, CZE) — *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

date	25-Feb-12	time	2.76	3.90	5.04	6.16	7.40							8.51	3 / 5			
reaction time	0.157	interval		1.14	1.14	1.12	1.24						1.11			3.40		
		velocity	4.97	8.02	8.02	8.16	7.37						8.76	7.05		8.06		

Caristan, Stéphane (FRA) (1964)		H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)														*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*			
date	26-Sep-88	time	2.60	3.72	4.76	5.80	6.85	7.89	8.96	10.05	11.13	12.25		13.71	3 / 5			
reaction time	0.150	interval		1.12	1.04	1.04	1.05	1.04	1.07	1.09	1.08	1.12	1.46			3.20	3.16	3.29
wind	0.0 m/s	velocity	5.28	8.16	8.79	8.79	8.70	8.79	8.54	8.39	8.46	8.16	9.60	8.02		8.57	8.68	8.33

FINAL - 1986 European Championships (Stuttgart, FRG) — *Hommel (1988) - nsa photosequence 4 - 110m hurdles - stephane caristan (FRA)*

date	30-Aug-86	time	2.59	3.62	4.63	5.62	6.63	7.66	8.66	9.72	10.76	11.86		13.20	3 / 1			
reaction time		interval		1.03	1.01	0.99	1.01	1.03	1.00	1.06	1.04	1.10	1.34	CR / NR		3.03	3.04	3.20
wind	2.0 m/s	velocity	5.30	8.87	9.05	9.23	9.05	8.87	9.14	8.62	8.79	8.31	10.46	8.33		9.05	9.02	8.57

Semi-Final 1 - 1986 European Championships (Stuttgart, FRG) — *Hommel (1988) - nsa photosequence 4 - 110m hurdles - stephane caristan (FRA)*

date	29-Aug-86	time	2.59	3.59	4.61	5.65	6.67	7.69	8.71	9.75	10.81	11.85		13.28	/ 1			
reaction time		interval		1.00	1.02	1.04	1.02	1.02	1.02	1.04	1.06	1.04	1.43	CR / NR		3.06	3.06	3.14
wind	0.9 m/s	velocity	5.30	9.14	8.96	8.79	8.96	8.96	8.96	8.79	8.62	8.79	9.80	8.28		8.96	8.96	8.73

FINAL - 1986 French National Indoor Championships (Lievin, FRA) — *Aubert (1986) - indoor - video - haies, etude des performances*

date	26-Jan-86	time	2.54	3.61	4.64	5.65	6.66							7.55	/ 1			
reaction time		interval		1.07	1.03	1.01	1.01						0.89	NR		3.11		
		velocity	5.40	8.54	8.87	9.05	9.05						10.92	7.95		8.82		

Semi-Final ? - 1986 French National Indoor Championships (Lievin, FRA) — *Aubert (1986) - indoor - video - haies, etude des performances*

date	26-Jan-86	time	2.63	3.68	4.72	5.73	6.76							7.65	/ 1			
reaction time		interval		1.05	1.04	1.01	1.03						0.89			3.10		
		velocity	5.22	8.70	8.79	9.05	8.87						10.92	7.84		8.85		

Heat ? - 1986 French National Indoor Championships (Lievin, FRA) — *Aubert (1986) - indoor - video - haies, etude des performances*

date	25-Jan-86	time	2.58	3.68	4.72	5.78	6.81							7.69	/ 1			
reaction time		interval		1.10	1.04	1.06	1.03						0.88			3.20		
		velocity	5.32	8.31	8.79	8.62	8.87						11.05	7.80		8.57		

Carter, Deuce (JAM) (1990)		H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2016 Jamiacan National Championships (Kingston, JAM) (TV Analysis)														*Henson (2020) - Athlete First: 2016 year end hurdle report*			
date	02-Jul-16	time	2.46	3.53	4.51	5.49	6.49	7.47	8.49	9.54	10.58	11.64		13.21	5 / 2			
reaction time		interval	7 steps	1.07	0.98	0.98	1.00	0.98	1.02	1.05	1.04	1.06	1.57			3.03	3.00	3.15
wind	0.4 m/s	velocity	5.58	8.54	9.33	9.33	9.14	9.33	8.96	8.70	8.79	8.62	8.93	8.33		9.05	9.14	8.70

FINAL - 2016 Racers Grand Prix (Kingston, JAM) (TV Analysis) — *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	11-Jun-16	time	2.46	3.50	4.50	5.50	6.48	7.48	8.50	9.56	10.58	11.66		13.20	2 / 2			
reaction time		interval	7 steps	1.04	1.00	1.00	0.98	1.00	1.02	1.06	1.02	1.08	1.54	PB		3.04	3.00	3.16
wind	0.2 m/s	velocity	5.58	8.79	9.14	9.14	9.33	9.14	8.96	8.62	8.96	8.46	9.10	8.33		9.02	9.14	8.68

Casañas, Alejandro (CUB) (1954)		H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1976 Olympic Games (Montreal, CAN)														*Ewen (1977) - montreal 1976*			
date	28-Jul-76	time	2.6	3.6	4.7	5.7	6.8	7.8	8.8	9.8	10.9	11.9		13.33	7 / 2			
reaction time		interval		1.00	1.10	1.00	1.10	1.00	1.00	1.00	1.10	1.00	1.43	PB		3.10	3.10	3.10
wind	0.0 m/s	velocity	5.28	9.14	8.31	9.14	8.31	9.14	9.14	9.14	8.31	9.14	9.80	8.25		8.85	8.85	8.85

Heat 2 - 1976 Olympic Games (Montreal, CAN) — *Lamare (1976) - les jeux de la XXI olympia, Montreal 1976*

date	26-Jul-76	time	2.3			5.5	6.6							13.73	1 / 2			
reaction time		interval				3.18	1.08									3.18		
wind	0.0 m/s	velocity	5.97			8.62	8.46							8.01		8.62		

Chan Chung Wang (HKG) (1991)		H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 4 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)														*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date	03-Aug-21	time	2.62	3.73	4.81	5.90	7.02	8.13	9.21	10.32	11.46	12.64		14.23	7 / 8			
reaction time	0.149	interval	7 steps	1.11	1.08	1.09	1.12	1.11	1.08	1.11	1.14	1.18	1.59			3.28	3.31	3.43
wind	-0.2 m/s	velocity	5.24	8.23	8.46	8.39	8.16	8.23	8.46	8.23	8.02	7.75	8.82	7.73		8.36	8.28	7.99

FINAL - 2019 Asian Grand Prix 2 (Chongqing, CHN) — *CAA Hurdle Development (2019)*

date	07-Jun-19	time	2.70	3.78	4.85	5.91	6.96	8.02	9.07	10.16	11.31	12.49		14.07	7 / 6			
reaction time	0.158	interval		1.08	1.07	1.06	1.05	1.06	1.05	1.09	1.15	1.18	1.58			3.21	3.16	3.42
wind	1.2 m/s	velocity	5.08	8.46	8.54	8.62	8.70	8.62	8.70	8.39	7.95	7.75	8.87	7.82		8.54	8.68	8.02

FINAL - 2019 Asian Grand Prix 1 (Chongqing, CHN) *CAA Hurdle Development (2019)*

date	04-Jun-19	time	2.65	3.73	4.78	5.85	6.89	7.94	9.04	10.11	11.20	12.29		13.75	7 / 3			
reaction time	0.149	interval		1.08	1.05	1.07	1.04	1.05	1.10	1.07	1.09	1.09	1.46			3.20	3.19	3.25
wind	-0.3 m/s	velocity	5.18	8.46	8.70	8.54	8.79	8.70	8.31	8.54	8.39	8.39	9.60	8.00		8.57	8.60	8.44

Charles, Jordan (USA) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2020 Mountain T's Invitational (Flagstaff AZ) (Altitude) *CAA Hurdle Development (2020)*

date	01-Feb-20	time	2.60	3.70	4.76	5.80	6.85							7.78	5 / 3			
reaction time		interval	7 steps	1.10	1.06	1.04	1.05						0.93	PB		3.20		
		velocity	5.28	8.31	8.62	8.79	8.70						10.45	7.71		8.57		

Chaucoy, Eric (FRA) (1963)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1986 French National Indoor Championships (Lievin, FRA) *Aubert (1986) - indoor - video - haies, etude des performances*

date	26-Jan-86	time	2.61	3.71	4.78	5.86	6.93							7.89	/ 3			
reaction time		interval		1.10	1.07	1.08	1.07						0.96			3.25		
		velocity	5.26	8.31	8.54	8.46	8.54						10.13	7.60		8.44		

Semi-Final ? - 1986 French National Indoor Championships (Lievin, FRA) *Aubert (1986) - indoor - video - haies, etude des performances*

date	26-Jan-86	time	2.61	3.72	4.78	5.84	6.93							7.87	/ 3			
reaction time		interval		1.11	1.06	1.06	1.09						0.94			3.23		
		velocity	5.26	8.23	8.62	8.62	8.39						10.34	7.62		8.49		

Chen Jie (CHN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.72	3.81	4.93	6.04	7.15	8.27	9.40	10.53	11.68	12.81		14.31	8 / 5			
reaction time	0.151	interval		1.09	1.12	1.11	1.11	1.12	1.13	1.13	1.15	1.13	1.50			3.32	3.36	3.41
wind	-1.0 m/s	velocity	5.04	8.39	8.16	8.23	8.23	8.16	8.09	8.09	7.95	8.09	9.35	7.69		8.26	8.16	8.04

FINAL - 2021 East China District Meeting (Zhaoqing, CHN) *CAA Hurdle Development (2021)*

date	24-Apr-21	time	2.68	3.76	4.89	5.97	7.10	8.19	9.38	10.56	11.76	12.96		14.57	8 / 6			
reaction time	0.171	interval		1.08	1.13	1.08	1.13	1.09	1.19	1.18	1.20	1.20	1.61			3.29	3.41	3.58
wind	-0.3 m/s	velocity	5.12	8.46	8.09	8.46	8.09	8.39	7.68	7.75	7.62	7.62	8.71	7.55		8.33	8.04	7.66

Heat 1 - 2021 East China District Meeting (Zhaoqing, CHN) *CAA Hurdle Development (2021)*

date	24-Apr-21	time	2.73	3.85	4.94	6.04	7.16	8.26	9.38	10.50	11.60	12.75		14.22	7 / 4			
reaction time	0.168	interval		1.12	1.09	1.10	1.12	1.10	1.12	1.12	1.10	1.15	1.47	PB		3.31	3.34	3.37
wind	-1.1 m/s	velocity	5.03	8.16	8.39	8.31	8.16	8.31	8.16	8.16	8.31	7.95	9.54	7.74		8.28	8.21	8.14

Chaverra, Joan Camilo (PUR) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2020 Meeting Pro Athlé Tour de Marseille (Marseille, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	03-Sep-20	time	2.62	3.67	4.78	5.79	6.86	7.92	9.00	10.17	11.29	12.42		14.08	8 / 7			
reaction time		interval	7 steps	1.05	1.11	1.01	1.07	1.06	1.08	1.17	1.12	1.13	1.66			3.17	3.21	3.42
wind	-0.3 m/s	velocity	5.24	8.70	8.23	9.05	8.54	8.62	8.46	7.81	8.16	8.09	8.45	7.81		8.65	8.54	8.02

Semi-Final 2 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.60	3.66	4.71	5.74	6.77	7.81	8.85	9.93	11.06	12.19		13.76	3 / 8			
reaction time	0.164	interval	7 steps	1.06	1.05	1.03	1.03	1.04	1.04	1.08	1.13	1.13	1.57			3.14	3.11	3.34
wind	0.9 m/s	velocity	5.28	8.62	8.70	8.87	8.87	8.79	8.79	8.46	8.09	8.09	8.93	7.99		8.73	8.82	8.21

Chen Junyi (CHN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 1 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	27-Jun-21	time	2.87	4.19	5.45	6.72	8.00	9.29	10.56	11.81	13.11	14.43		16.05	3 / 7			
reaction time	0.187	interval	7 steps	1.32	1.26	1.27	1.28	1.29	1.27	1.25	1.30	1.32	1.62			3.85	3.84	3.87
wind	0.5 m/s	velocity	4.78	6.92	7.25	7.20	7.14	7.09	7.20	7.31	7.03	6.92	8.65	6.85		7.12	7.14	7.09

Decathlon - Heat 1 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	11-Jul-19	time	2.95	4.30	5.64	6.94	8.27	9.61	10.96	12.28	13.61	14.95		16.62	2 / 6			
reaction time	0.190	interval	7 steps	1.35	1.34	1.30	1.33	1.34	1.35	1.32	1.33	1.34	1.67			3.99	4.02	3.99
wind	-0.6 m/s	velocity	4.65	6.77	6.82	7.03	6.87	6.82	6.77	6.92	6.87	6.82	8.40	6.62		6.87	6.82	6.87

Chen Kuei-Ru (TPE) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

B FINAL - 2024 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	29-Apr-24	time	2.67	3.77	4.84	5.89	6.98	8.05	9.17	10.28	11.41	12.56		14.15	1 / 6			
reaction time	0.171	interval	7 steps	1.10	1.07	1.05	1.09	1.07	1.12	1.11	1.13	1.15	1.59			3.22	3.28	3.39
wind	-0.7 m/s	velocity	5.14	8.31	8.54	8.70	8.39	8.54	8.16	8.23	8.09	7.95	8.82	7.77		8.52	8.36	8.09

FINAL - 2023 Seiko Golden Grand Prix (Yokohama, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	21-May-23	time	2.60	3.66	4.68	5.70	6.73	7.76	8.82	9.88	10.97	12.07		13.56	8 / 8			
reaction time	0.160	interval	7 steps	1.06	1.02	1.02	1.03	1.03	1.06	1.06	1.09	1.10	1.49			3.10	3.12	3.25

wind	0.8 m/s	velocity	5.28	8.62	8.96	8.96	8.87	8.87	8.62	8.62	8.39	8.31	9.41	8.11		8.85	8.79	8.44

FINAL - 2023 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	29-Apr-23	time	2.61	3.68	4.73	5.77	6.81	7.87	8.94	10.01	11.13	12.27		13.82	8 / 7			
reaction time	0.173	interval	7 steps	1.07	1.05	1.04	1.04	1.06	1.07	1.07	1.12	1.14	1.55			3.16	3.17	3.33
wind	0.3 m/s	velocity	5.26	8.54	8.70	8.79	8.79	8.62	8.54	8.54	8.16	8.02	9.05	7.96		8.68	8.65	8.23

FINAL - 2022 Seiko Golden Grand Prix (Tokyo, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	08-May-22	time	2.58	3.62	4.68	5.70	6.74	7.77	8.82	9.88	10.95	12.02		13.49	2 / 2			
reaction time	0.166	interval	7 steps	1.04	1.06	1.02	1.04	1.03	1.05	1.06	1.07	1.07	1.47			3.12	3.12	3.20
wind	0.1 m/s	velocity	5.32	8.79	8.62	8.96	8.79	8.87	8.70	8.62	8.54	8.54	9.54	8.15		8.79	8.79	8.57

FINAL - 2022 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	01-May-22	time	2.59	3.63	4.68	5.71	6.74	7.78	8.84	9.89	10.98	12.07		13.51	7 / 2			
reaction time	0.158	interval	7 steps	1.04	1.05	1.03	1.03	1.04	1.06	1.05	1.09	1.09	1.44			3.12	3.13	3.23
wind	0.8 m/s	velocity	5.30	8.79	8.70	8.87	8.87	8.79	8.62	8.70	8.39	8.39	9.74	8.14		8.79	8.76	8.49

Semi-Final 2 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.50	3.58	4.62	5.64	6.66							7.67	7 / 8			
reaction time	0.168	interval	7 steps	1.08	1.04	1.02	1.02						1.01	**NR PB**		3.14		
		velocity	5.49	8.46	8.79	8.96	8.96						9.62	7.82		8.73		

Semi-Final 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.56	3.64	4.68	5.71	6.71	7.76	8.83	9.90	10.96	12.08		13.57	2 / 6			
reaction time	0.146	interval	7 steps	1.08	1.04	1.03	1.00	1.05	1.07	1.07	1.06	1.12	1.49			3.15	3.12	3.25
wind	0.1 m/s	velocity	5.36	8.46	8.79	8.87	9.14	8.70	8.54	8.54	8.62	8.16	9.41	8.11		8.70	8.79	8.44

Heat 4 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.53	3.57	4.57	5.61	6.69	7.77	8.81	9.84	10.97	12.04		13.53	3 / 5			
reaction time	0.161	interval	7 steps	1.04	1.00	1.04	1.08	1.08	1.04	1.03	1.13	1.07	1.49			3.08	3.20	3.23
wind	-0.2 m/s	velocity	5.42	8.79	9.14	8.79	8.46	8.46	8.79	8.87	8.09	8.54	9.41	8.13		8.90	8.57	8.49

FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	09-May-21	time	2.58	3.61	4.65	5.69	6.73	7.77	8.84	9.92	11.02	12.13		13.62	2 / 5			
reaction time	0.161	interval	7 steps	1.03	1.04	1.04	1.04	1.04	1.07	1.08	1.10	1.11	1.49			3.11	3.15	3.29
wind	-0.8 m/s	velocity	5.32	8.87	8.79	8.79	8.79	8.79	8.54	8.46	8.31	8.23	9.41	8.08		8.82	8.70	8.33

Semi-Final 2 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.53	3.59	4.63	5.66	6.70	7.74	8.82	9.89	10.96	12.05		13.52	8 / 5			
reaction time	0.132	interval	7 steps	1.06	1.04	1.03	1.04	1.04	1.08	1.07	1.07	1.09	1.47			3.13	3.16	3.23
wind	0.9 m/s	velocity	5.42	8.62	8.79	8.87	8.79	8.79	8.46	8.54	8.54	8.39	9.54	8.14		8.76	8.68	8.49

FINAL - 2019 Japanese World Championships Trials (Fujiyoshida, JPN) *Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*

date	01-Sep-19	time	2.56	3.61	4.65	5.69	6.72	7.75	8.78	9.80	10.85	11.91		13.36	6 / 2			
reaction time		interval	7 steps	1.05	1.04	1.04	1.03	1.03	1.03	1.02	1.05	1.06	1.45			3.13	3.09	3.13
wind	1.4 m/s	velocity	5.36	8.70	8.79	8.79	8.87	8.87	8.87	8.96	8.70	8.62	9.67	8.23		8.76	8.87	8.76

FINAL - 2019 Asian Grand Prix 2 (Chongqing, CHN) *CAA Hurdle Development (2019)*

date	07-Jun-19	time	2.58	3.63	4.67	5.69	6.72	7.75	8.79	9.84	10.91	11.99		13.43	5 / 1			
reaction time	0.164	interval	7 steps	1.05	1.04	1.02	1.03	1.03	1.04	1.05	1.07	1.08	1.44			3.11	3.10	3.20
wind	1.2 m/s	velocity	5.32	8.70	8.79	8.96	8.87	8.87	8.79	8.70	8.54	8.46	9.74	8.19		8.82	8.85	8.57

FINAL - 2019 Asian Grand Prix 1 (Chongqing, CHN) *CAA Hurdle Development (2019)*

date	04-Jun-19	time	2.61	3.67	4.70	5.74	6.79	7.84	8.90	9.96	11.02	12.13		13.58	4 / 1			
reaction time	0.187	interval	7 steps	1.06	1.03	1.04	1.05	1.05	1.06	1.06	1.06	1.11	1.45			3.13	3.16	3.23
wind	-0.3 m/s	velocity	5.26	8.62	8.87	8.79	8.70	8.70	8.62	8.62	8.62	8.23	9.67	8.10		8.76	8.68	8.49

FINAL - 2019 Nanjing World Challenge (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	21-May-19	time	2.56	3.62	4.64	5.66	6.70	7.74	8.80	9.87	10.94	12.01		13.49	2 / 5			
reaction time	0.169	interval	7 steps	1.06	1.02	1.02	1.04	1.04	1.06	1.07	1.07	1.07	1.48			3.10	3.14	3.21
wind	0.1 m/s	velocity	5.36	8.62	8.96	8.96	8.79	8.79	8.62	8.54	8.54	8.54	9.47	8.15		8.85	8.73	8.54

FINAL - 2019 Asian Athletics Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	24-Apr-19	time	2.53	3.58	4.60	5.63	6.65	7.69	8.74	9.79	10.84	11.94		13.39	5 / 3			
reaction time	0.137	interval	7 steps	1.05	1.02	1.03	1.02	1.04	1.05	1.05	1.05	1.10	1.45	**=NR =PB**		3.10	3.11	3.20
wind	1.7 m/s	velocity	5.42	8.70	8.96	8.87	8.96	8.79	8.70	8.70	8.70	8.31	9.67	8.22		8.85	8.82	8.57

FINAL - 2018 Asian Games (Jakarta, INA) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	28-Aug-18	time	2.53	3.60	4.62	5.64	6.67	7.69	8.71	9.78	10.83	11.94		13.39	5 / 2			
reaction time	0.165	interval		1.07	1.02	1.02	1.03	1.02	1.02	1.07	1.05	1.11	1.45	**NR PB**		3.11	3.07	3.23
wind	0.0 m/s	velocity	5.42	8.54	8.96	8.96	8.87	8.96	8.96	8.54	8.70	8.23	9.67	8.22		8.82	8.93	8.49

FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	20-May-18	time	2.60	3.66	4.71	5.75	6.78	7.83	8.90	9.96	11.05	12.13		13.49	5 / 1			
reaction time	0.153	interval	7 steps	1.06	1.05	1.04	1.03	1.05	1.07	1.06	1.09	1.08	1.36	NR PB		3.15	3.15	3.23
wind	-0.4 m/s	velocity	5.28	8.62	8.70	8.79	8.87	8.70	8.54	8.62	8.39	8.46	10.31	8.15		8.70	8.70	8.49

Chen Mingjie (CHN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 Chinese National U20 Championships (Nanchang, CHN) (99.1cm) *Zhang (2019) - comparative analysis characteristics Chinese elite 110m hurdles in different age*

date	13-May-18	time	2.24	3.41	4.52	5.61	6.69	7.77	8.86	9.94	11.06	12.22		14.12	7 / 5			
reaction time		interval		1.17	1.11	1.09	1.08	1.08	1.09	1.08	1.12	1.16	1.90			3.37	3.25	3.36
wind	1.0 m/s	velocity	6.13	7.81	8.23	8.39	8.46	8.46	8.39	8.46	8.16	7.88	7.38	7.79		8.14	8.44	8.16

Chen Xinghua (CHN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	27-Jun-21	time	2.77	3.94	5.07	6.17	7.31	8.46	9.59	10.73	11.94	13.16		14.79	3 / 2			
reaction time		interval		1.17	1.13	1.10	1.14	1.15	1.13	1.14	1.21	1.22	1.63			3.40	3.42	3.57
wind	-0.2 m/s	velocity	4.95	7.81	8.09	8.31	8.02	7.95	8.09	8.02	7.55	7.49	8.60	7.44		8.06	8.02	7.68

Decathlon - Heat 2 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.85	4.09	5.29	6.49	7.71	8.91	10.14	11.33	12.58	13.83		15.51	9 / 3			
reaction time	0.196	interval		1.24	1.20	1.20	1.22	1.20	1.23	1.19	1.25	1.25	1.68			3.64	3.65	3.69
wind	?? m/s	velocity	4.81	7.37	7.62	7.62	7.49	7.62	7.43	7.68	7.31	7.31	8.35	7.09		7.53	7.51	7.43

Chen Yanhao (CHN) (1972)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2001 Chinese National Games (Guangzhou, CHN) *Huang (2002) - technical research on the men's 110m hurdles at the 9th national games*

date	19-Nov-01	time	2.61	3.67	4.69	5.72	6.73	7.76	8.80	9.85	10.89	11.95		13.42	/ 2			
reaction time		interval		1.06	1.02	1.03	1.01	1.03	1.04	1.05	1.04	1.06	1.47			3.11	3.08	3.15
wind	0.4 m/s	velocity	5.26	8.62	8.96	8.87	9.05	8.87	8.79	8.70	8.79	8.62	9.54	8.20		8.82	8.90	8.70

FINAL - 2001 Chinese National Grand Prix (Shanghai, CHN) *Fang (2001) - analysis on technical characteristics in Liu Xiang's 110m hurdles*

date	06-May-01	time	2.64	3.69	4.75	5.78	6.81	7.83	8.86	9.90	10.97	12.02		13.37	/ 2			
reaction time		interval		1.05	1.06	1.03	1.03	1.02	1.03	1.04	1.07	1.05	1.35	PB		3.14	3.08	3.16
wind	1.9 m/s	velocity	5.20	8.70	8.62	8.87	8.87	8.96	8.87	8.79	8.54	8.70	10.39	8.23		8.73	8.90	8.68

FINAL - 2001 Chinese National Grand Prix (Ningbo, CHN) *Fang (2001) - analysis on technical characteristics in Liu Xiang's 110m hurdles*

date	28-Apr-01	time	2.66	3.74	4.78	5.83	6.87	7.89	8.93	9.97	11.02	12.06		13.47	/ 2			
reaction time		interval		1.08	1.04	1.05	1.04	1.02	1.04	1.04	1.05	1.04	1.41	PB		3.17	3.10	3.13
wind	2.5 m/s	velocity	5.16	8.46	8.79	8.70	8.79	8.96	8.79	8.79	8.70	8.79	9.94	8.17		8.65	8.85	8.76

FINAL - 1998 ??? (Chengdu, CHN) *Yuan (1998) - Chen Yanhao analysis of 110m results*

date	12-May-98	time	2.56	3.60	4.64	5.67	6.70	7.72	8.84	9.87	10.92	11.99		13.50	/ 1			
reaction time		interval		1.04	1.04	1.03	1.03	1.02	1.12	1.03	1.05	1.07	1.51			3.11	3.17	3.15
wind	???	velocity	5.36	8.79	8.79	8.87	8.87	8.96	8.16	8.87	8.70	8.54	9.28	8.15		8.82	8.65	8.70

FINAL - 1997 Chinese National Games (Shanghai, CHN) *Zhang (1999) - analysis of 110m hurdles of Chen Yanhao*

date	19-Oct-97	time	2.52	3.57	4.63	5.66	6.67	7.70	8.82	9.84	10.99	11.96		13.41	/ 1			
reaction time		interval		1.05	1.06	1.03	1.01	1.03	1.12	1.02	1.15	0.97	1.45			3.14	3.16	3.14
wind	0.0 m/s	velocity	5.44	8.70	8.62	8.87	9.05	8.87	8.16	8.96	7.95	9.42	9.67	8.20		8.73	8.68	8.73

FINAL - 1994 Asian Games (Hiroshima, JPN) *Yuan (1998) - Chen Yanhao analysis of 110m results*

date	15-Oct-94	time	2.58	3.62	4.66	5.68	6.63	7.70	8.74	9.78	10.84	11.92		13.39	/ 2			
reaction time		interval		1.04	1.04	1.02	0.95	1.07	1.04	1.04	1.06	1.08	1.47	PB		3.10	3.06	3.18
wind	1.6 m/s	velocity	5.32	8.79	8.79	8.96	9.62	8.54	8.79	8.79	8.62	8.46	9.54	8.22		8.85	8.96	8.62

FINAL - 1993 Chinese National Games (Beijing, CHN) *Yuan (1998) - Chen Yanhao analysis of 110m results*

date	13-Sep-93	time	2.59	3.69	4.77	5.83	6.89	7.93	8.98	10.03	11.11	12.22		13.59	/ 1			
reaction time		interval		1.10	1.08	1.06	1.06	1.04	1.05	1.05	1.08	1.11	1.37	PB		3.24	3.15	3.24
wind	-0.5 m/s	velocity	5.30	8.31	8.46	8.62	8.62	8.79	8.70	8.70	8.46	8.23	10.23	8.09		8.46	8.70	8.46

Chen Yuanjiang (CHN) (2006)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Race 5 - 2025 Chinese National Grand Prix (Nanjing, CHN) *Hubei Athletics Sport Science (2025)*

date	23-Feb-25	time	2.64	3.70	4.74	5.74	6.76							7.62	/ 4			
reaction time	0.152	interval	7 steps	1.06	1.04	1.00	1.02						0.86	PB		3.10		
		velocity	5.20	8.62	8.79	9.14	8.96						11.30	7.87		8.85		

FINAL - 2024 Chinese National Championships (Quzhou, CHN) *Shandong Athletics Sport Science (2024)*

date	16-Sep-24	time	2.62	3.69	4.72	5.76	6.79	7.82	8.84	9.88	10.95	12.04		13.49	4 / 3			
reaction time	0.160	interval	7 steps	1.07	1.03	1.04	1.03	1.03	1.02	1.04	1.07	1.09	1.45			3.14	3.08	3.20
wind	0.2 m/s	velocity	5.24	8.54	8.87	8.79	8.87	8.87	8.96	8.79	8.54	8.39	9.67	8.15		8.73	8.90	8.57

FINAL - 2024 Chinese National Grand Prix Final (Rizhao, CHN) *Shandong Athletics Sport Science (2024)*

date	30-Jun-24	time	2.63	3.69	4.74	5.78	6.84	7.87	8.91	9.98	11.04	12.12		13.53	4 / 4			
reaction time	0.155	interval	7 steps	1.06	1.05	1.04	1.06	1.03	1.04	1.07	1.06	1.08	1.41	PB		3.15	3.13	3.21
wind	0.9 m/s	velocity	5.22	8.62	8.70	8.79	8.62	8.87	8.79	8.54	8.62	8.46	9.94	8.13		8.70	8.76	8.54

Heat 3 - 2024 Chinese Indoor Grand Prix I (Chengdu, CHN) *Shandong Athletics Sport Science (2024)*

date	27-Feb-24	time	2.67	3.75	4.79	5.84	6.89							7.79	3 / 2		
reaction time		interval		1.08	1.04	1.05	1.05						0.90	PB		3.17	
		velocity	5.14	8.46	8.79	8.70	8.70						10.80	7.70		8.65	

Cherubin, Yves (HAI) (1999)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis)															*Henson (2023) - Athlete First: 2023 year end hurdle report*			
date	21-Aug-23	time	2.63	3.70	4.73	5.80	6.83	7.86	8.93	9.98	11.05	12.14		13.66	9 / 7			
reaction time	0.178	interval		1.07	1.03	1.07	1.03	1.03	1.07	1.05	1.07	1.09	1.52			3.17	3.13	3.21
wind	-0.2 m/s	velocity	5.22	8.54	8.87	8.54	8.87	8.87	8.54	8.70	8.54	8.39	9.22	8.05		8.65	8.76	8.54

Heat 4 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.52	3.60	4.64	5.67	6.70	7.72	8.80	9.83	10.93	12.05		13.56	6 / 6			
reaction time	0.180	interval		1.08	1.04	1.03	1.03	1.02	1.08	1.03	1.10	1.12	1.51	PB		3.15	3.13	3.25
wind	-0.6 m/s	velocity	5.44	8.46	8.79	8.87	8.87	8.96	8.46	8.87	8.31	8.16	9.28	8.11		8.70	8.76	8.44

Chervanyev, Yuriy (URS) (1958)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1981 USSR vs. USA (Leningrad, URS)															*Chanon (1987) - analyse comparee des caracteristiques des courses de 100m haies et 110m haies*			
date	10-Jul-81	time	2.50	3.61	4.65	5.68	6.72	7.78	8.87	10.00	11.17	12.42		13.74	/ 3			
reaction time		interval		1.11	1.04	1.03	1.04	1.06	1.09	1.13	1.17	1.25	1.32			3.18	3.19	3.55
wind	2.8 m/s	velocity	5.49	8.23	8.79	8.87	8.79	8.62	8.39	8.09	7.81	7.31	10.62	8.01		8.62	8.60	7.72

FINAL - 1981 USSR vs. GDR (Tbilisi, URS) *Chanon (1987) - analyse comparee des caracteristiques des courses de 100m haies et 110m haies*

date	26-Jun-81	time	2.49	3.62	4.71	5.73	6.75	7.82	8.96	10.12	11.30	12.56		13.93	/ 3			
reaction time		interval		1.13	1.09	1.02	1.02	1.07	1.14	1.16	1.18	1.26	1.37			3.24	3.23	3.60
wind	???	velocity	5.51	8.09	8.39	8.96	8.96	8.54	8.02	7.88	7.75	7.25	10.23	7.90		8.46	8.49	7.62

Chevallier, Franck (FRA) (1964)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final ? - 1986 French National Indoor Championships (Lievin, FRA)															*Aubert (1986) - indoor - video - haies, etude des performances*			
date	26-Jan-86	time	2.72	3.82	4.95	6.05	7.14							8.08	/ 2			
reaction time		interval		1.10	1.13	1.10	1.09						0.94			3.33		
		velocity	5.04	8.31	8.09	8.31	8.39						10.34	7.43		8.23		

Heat ? - 1986 French National Indoor Championships (Lievin, FRA) *Aubert (1986) - indoor - video - haies, etude des performances*

date	25-Jan-86	time	2.67	3.77	4.88	5.98	7.08							8.05	/ 2			
reaction time		interval		1.10	1.11	1.10	1.10						0.97			3.31		
		velocity	5.14	8.31	8.23	8.31	8.31						10.02	7.45		8.28		

Chiguer, Adam (SWE) (1991)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2010 Swedish National Championships (Falun, SWE)															*Blomkvist (2010) - www.sub13.se*			
date	22-Aug-10	time	2.83	4.04	5.27	6.53	7.77	9.05	10.31	11.60	12.89	14.20		15.94	/ 8			
reaction time		interval		1.21	1.23	1.26	1.24	1.28	1.26	1.29	1.29	1.31	1.74			3.70	3.78	3.89
wind	-0.7 m/s	velocity	4.85	7.55	7.43	7.25	7.37	7.14	7.25	7.09	7.09	6.98	8.06	6.90		7.41	7.25	7.05

Chu Pengfei (CHN) (1993)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2018 Chinese National Championships (Taiyuan, CHN)															*Henson (2018) - coaching observations*			
date	15-Sep-18	time	2.78	3.92	5.00	6.09	7.17	8.27	9.36	10.46	11.61	12.76		14.27	7 / 5			
reaction time		interval		1.14	1.08	1.09	1.08	1.10	1.09	1.10	1.15	1.15	1.51			3.31	3.27	3.40
wind	-0.2 m/s	velocity	4.94	8.02	8.46	8.39	8.46	8.31	8.39	8.31	7.95	7.95	9.28	7.71		8.28	8.39	8.06

FINAL - 2018 National Grand Prix Final (Guiyang, CHN) (Altitude) *Zhang (2019) - comparative analysis characteristics Chinese elite men's 110m hurdles in different age groups*

date	17-Jun-18	time	2.75	3.86	4.96	6.03	7.10	8.18	9.26	10.35	11.45	12.55		14.03	5 / 5			
reaction time		interval		1.11	1.10	1.07	1.07	1.08	1.08	1.09	1.10	1.10	1.48			3.28	3.23	3.29
wind	-0.3 m/s	velocity	4.99	8.23	8.31	8.54	8.54	8.46	8.46	8.39	8.31	8.31	9.47	7.84		8.36	8.49	8.33

FINAL - 2017 Chinese National Games (Tianjin, CHN) *Henson (2017) - coaching observations*

date	03-Sep-17	time	2.71	3.83	4.89	5.97	7.02	8.09	9.21	10.32	11.43	12.54		14.01	5 / 7			
reaction time		interval		1.12	1.06	1.08	1.05	1.07	1.12	1.11	1.11	1.11	1.47			3.26	3.24	3.33
wind	0.3 m/s	velocity	5.06	8.16	8.62	8.46	8.70	8.54	8.16	8.23	8.23	8.23	9.54	7.85		8.41	8.46	8.23

Clarico, Vincent (FRA) (1966)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1997 European Cup (Munich, GER)															*Jung (2003) - http://www.fgs.uni-halle.de*			
date	22-Jun-97	time	2.66	3.72	4.78	5.82	6.88	7.92	9.00	10.06	11.16	12.28		13.67	/ 4			
reaction time		interval		1.06	1.06	1.04	1.06	1.04	1.08	1.06	1.10	1.12	1.39			3.16	3.18	3.28
wind	0.2 m/s	velocity	5.16	8.62	8.62	8.79	8.62	8.79	8.46	8.62	8.31	8.16	10.09	8.05		8.68	8.62	8.36

Semi-Final ? - 1986 French National Indoor Championships (Lievin, FRA) *Aubert (1986) - indoor - video - haies, etude des performances*

date	26-Jan-86	time	2.64	3.76	4.86	5.99	7.09							8.03	/ 3			
reaction time		interval		1.12	1.10	1.13	1.10						0.94			3.35		
		velocity	5.20	8.16	8.31	8.09	8.31						10.34	7.47		8.19		

Heat ? - 1986 French National Indoor Championships (Lievin, FRA) *Aubert (1986) - indoor - video - haies, etude des performances*

date	25-Jan-86	time	2.62	3.76	4.88	6.01	7.12							8.08	/ 3			

reaction time		interval		1.14	1.12	1.13	1.11					0.96			3.39		
		velocity	5.24	8.02	8.16	8.09	8.23					10.13	7.43		8.09		

Clarke, Lawrence (GBR) (1990)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2012 Memorial Van Damme (Brussels, BEL) (TV Analysis)													*Henson (2020) - Athlete First: 2012 Aries Merritt world record season*			
date 07-Sep-12 time	2.50	3.58	4.62	5.68	6.74	7.80	8.84	9.92	11.00	12.14		13.71	7 / 9			
reaction time 0.148 interval		1.08	1.04	1.06	1.06	1.06	1.04	1.08	1.08	1.14	1.57			3.18	3.16	3.30
wind 0.3 m/s velocity	5.49	8.46	8.79	8.62	8.62	8.62	8.79	8.46	8.46	8.02	8.93	8.02		8.62	8.68	8.31
FINAL - 2012 AVIVA Grand Prix (Birmingham, GBR) (TV Analysis)													*Henson (2020) - Athlete First: 2012 Aries Merritt world record season*			
date 26-Aug-12 time	2.45	3.50	4.57	5.60	6.62	7.66	8.72	9.78	10.84	11.94		13.52	6 / 6			
reaction time 0.146 interval		1.05	1.07	1.03	1.02	1.04	1.06	1.06	1.06	1.10	1.58			3.15	3.12	3.22
wind -0.9 m/s velocity	5.60	8.70	8.54	8.87	8.96	8.79	8.62	8.62	8.62	8.31	8.87	8.14		8.70	8.79	8.52
FINAL - 2012 Olympic Games (London, GBR) (TV Analysis)													*Henson (2020) - Athlete First: 2012 Aries Merritt world record season*			
date 08-Aug-12 time	2.50	3.54	4.56	5.58	6.62	7.66	8.74	9.78	10.82	11.90		13.39	2 / 4			
reaction time 0.169 interval		1.04	1.02	1.02	1.04	1.04	1.08	1.04	1.04	1.08	1.49			3.08	3.16	3.16
wind -0.3 m/s velocity	5.49	8.79	8.96	8.96	8.79	8.79	8.46	8.79	8.79	8.46	9.41	8.22		8.90	8.68	8.68
Semi-Final 1 - 2012 Olympic Games (London, GBR) (TV Analysis)													*Henson (2020) - Athlete First: 2012 Aries Merritt world record season*			
date 08-Aug-12 time	2.48	3.52	4.54	5.54	6.58	7.58	8.62	9.66	10.72	11.80		13.31	4 / 3			
reaction time 0.159 interval		1.04	1.02	1.00	1.04	1.00	1.04	1.04	1.06	1.08	1.51	PB		3.06	3.08	3.18
wind -0.5 m/s velocity	5.53	8.79	8.96	9.14	8.79	9.14	8.79	8.79	8.62	8.46	9.28	8.26		8.96	8.90	8.62
FINAL - 2010 Folksam GP (Sollentuna, SWE)													*Blomkvist (2010) - www.sub13.se*			
date 01-Jul-10 time	2.51	3.59	4.67	5.71	6.76	7.90	8.85	9.89	10.99	12.09		13.71	6 / 3			
reaction time interval		1.08	1.08	1.04	1.05	1.14	0.95	1.04	1.10	1.10	1.62			3.20	3.14	3.24
wind 0.4 m/s velocity	5.47	8.46	8.46	8.79	8.70	8.02	9.62	8.79	8.31	8.31	8.65	8.02		8.57	8.73	8.46

Cleve, Moritz (GER) (1987)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 3 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 20-Aug-09 time	2.77	3.87	5.05	6.17	7.28	8.37	9.49	10.67	11.81	12.99		14.54	5 / 6			
reaction time 0.162 interval		1.10	1.18	1.12	1.11	1.09	1.12	1.18	1.14	1.18	1.55			3.40	3.32	3.50
wind -0.1 m/s velocity	4.95	8.31	7.75	8.16	8.23	8.39	8.16	7.75	8.02	7.75	9.05	7.57		8.06	8.26	7.83

Coertzen, Willem (RSA) (1982)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 3 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 20-Aug-09 time	2.75	3.86	4.97	6.08	7.17	8.27	9.39	10.49	11.63	12.79		14.26	6 / 2			
reaction time 0.152 interval		1.11	1.11	1.11	1.09	1.10	1.12	1.10	1.14	1.16	1.47	PB		3.33	3.31	3.40
wind -0.1 m/s velocity	4.99	8.23	8.23	8.23	8.39	8.31	8.16	8.31	8.02	7.88	9.54	7.71		8.23	8.28	8.06

Coghlan, Peter (IRL) (1975)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 1 - 1999 IAAF World Championships (Sevilla, ESP)													*Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*			
date 24-Aug-99 time	2.59	3.62	4.67	5.67	6.70	7.72	8.72	9.78	10.86	11.97		13.35	1 / 5			
reaction time 0.161 interval		1.03	1.05	1.00	1.03	1.02	1.00	1.06	1.08	1.11	1.38			3.08	3.05	3.25
wind 0.0 m/s velocity	5.30	8.87	8.70	9.14	8.87	8.96	9.14	8.62	8.46	8.23	10.16	8.24		8.90	8.99	8.44

Constantino, Gabriel (BRA) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date 04-Aug-21 time	2.58	3.66	4.71	5.78	6.86	7.95	9.02	10.13	11.26	12.37		13.89	3 / 8			
reaction time 0.159 interval 7 steps	1.08	1.05	1.07	1.08	1.09	1.07	1.11	1.13	1.11	1.52				3.20	3.24	3.35
wind 0.3 m/s velocity	5.32	8.46	8.70	8.54	8.46	8.39	8.54	8.23	8.09	8.23	9.22	7.92		8.57	8.46	8.19
Heat 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date 03-Aug-21 time	2.58	3.70	4.74	5.78	6.77	7.81	8.86	9.90	10.98	12.10		13.55	5 / 5			
reaction time 0.154 interval 7 steps	1.12	1.04	1.04	0.99	1.04	1.05	1.04	1.08	1.12	1.45				3.20	3.08	3.24
wind 0.0 m/s velocity	5.32	8.16	8.79	8.79	9.23	8.79	8.70	8.79	8.46	8.16	9.67	8.12		8.57	8.90	8.46
FINAL - 2021 Meeting Elite en Salle de L'Eure (Val-de-Reuil, FRA) (TV Analysis)													*Henson (2021) - men's 60m hurdles world record season - Grant Holloway*			
date 14-Feb-21 time	2.50	3.56	4.60	5.62	6.66							7.65	4 / 2			
reaction time 0.166 interval 7 steps	1.06	1.04	1.02	1.04							0.99			3.12		
velocity	5.49	8.62	8.79	8.96	8.79						9.82	7.84		8.79		
Heat 1 - 2021 Meeting Elite en Salle de L'Eure (Val-de-Reuil, FRA) (TV Analysis)													*Henson (2021) - men's 60m hurdles world record season - Grant Holloway*			
date 14-Feb-21 time	2.54	3.58	4.62	5.66	6.68							7.68	5 / 2			
reaction time 0.185 interval 7 steps	1.04	1.04	1.04	1.02							1.00			3.12		
velocity	5.40	8.79	8.79	8.79	8.96						9.72	7.81		8.79		
FINAL - 2020 Doha Diamond League (Doha, QAT) (TV Analysis)													*Henson (2020) - Athlete First: 2020 year end hurdle report*			
date 25-Sep-20 time	2.44	3.48	4.52	5.54	6.56	7.60	8.64	9.68	10.74	11.94		13.60	7 / 4			
reaction time 0.122 interval 7 steps	1.04	1.04	1.02	1.02	1.04	1.04	1.04	1.06	1.20	1.66				3.10	3.10	3.30
wind 0.3 m/s velocity	5.62	8.79	8.79	8.96	8.96	8.79	8.79	8.79	8.62	7.62	8.45	8.09		8.85	8.85	8.31

FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	17-Sep-20	time	2.54	3.58	4.62	5.66	6.70	7.76	8.82	9.92	11.04	12.16		13.67	2 / 8			
reaction time	0.161	interval	7 steps	1.04	1.04	1.04	1.04	1.06	1.06	1.10	1.12	1.12	1.51			3.12	3.16	3.34
wind	0.1 m/s	velocity	5.40	8.79	8.79	8.79	8.79	8.62	8.62	8.31	8.16	8.16	9.28	8.05		8.79	8.68	8.21

FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Jun-19	time	2.54	3.58	4.60	5.64	6.68	7.70	8.72	9.76	10.82	11.90		13.41	2 / 3			
reaction time	0.177	interval	7 steps	1.04	1.02	1.04	1.04	1.02	1.02	1.04	1.06	1.08	1.51			3.10	3.08	3.18
wind	0.3 m/s	velocity	5.40	8.79	8.96	8.79	8.79	8.96	8.96	8.79	8.62	8.46	9.28	8.20		8.85	8.90	8.62

FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	06-Jun-19	time	2.55	3.60	4.62	5.63	6.66	7.70	8.75	9.80	10.88	11.98		13.50	4 / 4			
reaction time	0.160	interval	7 steps	1.05	1.02	1.01	1.03	1.04	1.05	1.05	1.08	1.10	1.52			3.08	3.12	3.23
wind	0.4 m/s	velocity	5.38	8.70	8.96	9.05	8.87	8.79	8.70	8.70	8.46	8.31	9.22	8.15		8.90	8.79	8.49

FINAL - 2019 Müller Indoor Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Feb-19	time	2.54	3.54	4.58	5.62	6.66							7.62	5 / 4			
reaction time	0.136	interval	7 steps	1.00	1.04	1.04	1.04						0.96			3.08		
		velocity	5.40	9.14	8.79	8.79	8.79						10.13	7.87		8.90		

FINAL - 2018 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	18-Aug-18	time	2.48	3.52	4.56	5.58	6.60	7.62	8.66	9.70	10.78	11.88		13.41	8 / 6			
reaction time	0.126	interval	7 steps	1.04	1.04	1.02	1.02	1.02	1.04	1.04	1.08	1.10	1.53			3.10	3.08	3.22
wind	1.3 m/s	velocity	5.53	8.79	8.79	8.96	8.96	8.96	8.79	8.79	8.46	8.31	9.16	8.20		8.85	8.90	8.52

FINAL - 2018 Meeting International de Montreuil (Montreuil, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	19-Jun-18	time	2.64	3.66	4.68	5.68	6.68	7.68	8.70	9.74	10.78	11.86		13.23	1 / 2			
reaction time	0.165	interval	7 steps	1.02	1.02	1.00	1.00	1.00	1.02	1.04	1.04	1.08	1.37	AR PB		3.04	3.02	3.16
wind	0.5 m/s	velocity	5.20	8.96	8.96	9.14	9.14	9.14	8.96	8.79	8.79	8.46	10.23	8.31		9.02	9.08	8.68

FINAL - 2018 IAAF World Indoor Championships (Birmingham, GBR) *Walker (2019). Biomechanical Report for the IAAF World Indoor Championships 2018: 60 Metres Hurdles Men*

date	04-Mar-18	time	2.58	3.65	4.71	5.74	6.79							7.71	2 / 6			
reaction time	0.176	interval	7 steps	1.07	1.06	1.03	1.05						0.92			3.16		
		velocity	5.32	8.54	8.62	8.87	8.70						10.57	7.78		8.68		

Contreras,Yidiel (ESP) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.40	3.46	4.52	5.57	6.65	7.67	8.73	9.80	10.88	12.00		13.65	8 / 7			
reaction time	0.157	interval	7 steps	1.06	1.06	1.05	1.08	1.02	1.06	1.07	1.08	1.12	1.65			3.17	3.16	3.27
wind	0.6 m/s	velocity	5.72	8.62	8.62	8.70	8.46	8.96	8.62	8.54	8.46	8.16	8.50	8.06		8.65	8.68	8.39

FINAL - 2016 Spanish National Championships (Gijón, ESP) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	24-Jul-16	time	2.44	3.56	4.57	5.58	6.60	7.62	8.66	9.71	10.80	11.90		13.45	5 / 2			
reaction time		interval	7 steps	1.12	1.01	1.01	1.02	1.02	1.04	1.05	1.09	1.10	1.55			3.14	3.08	3.24
wind	1.0 m/s	velocity	5.62	8.16	9.05	9.05	8.96	8.96	8.79	8.70	8.39	8.31	9.05	8.18		8.73	8.90	8.46

FINAL - 2016 Meeting International Mohammed VI D'Athletisme (Rabat, MAR) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	22-May-16	time	2.54	3.66	4.76	5.80								dnf	8 / --			
reaction time	0.147	interval	7 steps	1.12	1.10	1.04										3.26		
wind	1.4 m/s	velocity	5.40	8.16	8.31	8.79										8.41		

Cooper, Jermaine (USA) (1980)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.60	3.67	4.74	5.79	6.84	7.89	8.98	10.06	11.16	12.26		13.75	2 / 6			
reaction time		interval		1.07	1.07	1.05	1.05	1.05	1.09	1.08	1.10	1.10	1.49			3.19	3.19	3.28
wind	-0.6 m/s	velocity	5.28	8.54	8.54	8.70	8.70	8.70	8.39	8.46	8.31	8.31	9.41	8.00		8.60	8.60	8.36

Heat 1 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.58	3.67	4.74	5.82	6.87	7.92	8.99	10.04	11.18	12.27		13.75	2 / 5			
reaction time		interval		1.09	1.07	1.08	1.05	1.05	1.07	1.05	1.14	1.09	1.48			3.24	3.17	3.28
wind	0.1 m/s	velocity	5.32	8.39	8.54	8.46	8.70	8.70	8.54	8.70	8.02	8.39	9.47	8.00		8.46	8.65	8.36

Cowling, Larry (USA) (1960)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1981 USSR vs. USA (Leningrad, URS) *Chanon (1987) - analyse comparee des caracteristiques des courses de 100m haies et 110m haies*

date	10-Jul-81	time	2.48	3.59	4.62	5.65	6.68	7.75	8.82	9.94	11.06	12.21		13.53	/ 2			
reaction time		interval		1.11	1.03	1.03	1.03	1.07	1.07	1.12	1.12	1.15	1.32			3.17	3.17	3.39
wind	2.8 m/s	velocity	5.53	8.23	8.87	8.87	8.87	8.54	8.54	8.16	8.16	7.95	10.62	8.13		8.65	8.65	8.09

Craddock, Kevin (USA) (1987)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2012 Golden Grand Prix (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	19-May-12	time	2.44	3.52	4.54	5.56	6.58	7.62	8.68	9.76	10.84	11.94		13.51	9 / 6			
reaction time	0.167	interval	7 steps	1.08	1.02	1.02	1.02	1.04	1.06	1.08	1.08	1.10	1.57			3.12	3.12	3.26
wind	0.4 m/s	velocity	5.62	8.46	8.96	8.96	8.96	8.79	8.62	8.46	8.46	8.31	8.93	8.14		8.79	8.79	8.41

FINAL - 2003 USATF National Junior Championships (Indianapolis, IN) (99cm) *USATF Women's Sprint Development (2003)*

date	22-Jun-03	time	2.60	3.72	4.86	5.94	7.07	8.19	9.31	10.44	11.56	12.73		14.36	6 / 5			
reaction time		interval		1.12	1.14	1.08	1.13	1.12	1.12	1.13	1.12	1.17	1.63			3.34	3.37	3.42
wind	-0.4 m/s	velocity	5.28	8.16	8.02	8.46	8.09	8.16	8.16	8.09	8.16	7.81	8.60	7.66		8.21	8.14	8.02

Crear, Mark (USA) (1968)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2003 USATF National Championships (Palo Alto, CA) *USATF Women's Sprint Development (2003)*

date	21-Jun-03	time	2.44	3.54	4.59	5.66	6.69	7.70	8.73	9.78	10.83	11.93		13.68	8 / 6			
reaction time		interval		1.10	1.05	1.07	1.03	1.01	1.03	1.05	1.05	1.10	1.75			3.22	3.07	3.20
wind	-2.4 m/s	velocity	5.62	8.31	8.70	8.54	8.87	9.05	8.87	8.70	8.70	8.31	8.01	8.04		8.52	8.93	8.57

FINAL - 1997 IAAF World Championships (Athens, GRE) *Hommel (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*

date	07-Aug-97	time	2.60	3.64	4.65	5.66	6.66	7.76	8.78	9.86	10.92	12.06		13.55	8 / 7			
reaction time	0.134	interval		1.04	1.01	1.01	1.00	1.10	1.02	1.08	1.06	1.14	1.49			3.06	3.12	3.28
wind	0.0 m/s	velocity	5.28	8.79	9.05	9.05	9.14	8.31	8.96	8.46	8.62	8.02	9.41	8.12		8.96	8.79	8.36

FINAL - 1996 Olympic Games (Atlanta, GA) *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

date	26-Jul-96	time	2.35	3.38	4.37	5.39	6.39	7.41	8.46	9.47	10.51	11.56		13.09	8 / 2			
reaction time	0.124	interval		1.03	0.99	1.02	1.02	1.02	1.05	1.01	1.04	1.05	1.53			3.04	3.07	3.10
wind	0.8 m/s	velocity	5.84	8.87	9.23	8.96	9.14	8.96	8.70	9.05	8.79	8.70	9.16	8.40		9.02	8.93	8.85

FINAL - 1996 USA Olympic Trials (Atlanta, GA) *McNichols (2000) - Hurdle technique study through video analysis*

date	23-Jun-96	time	2.38	3.40	4.73	5.40	6.42	7.39	8.42	9.38	10.46	11.52		13.05	4 / 2			
reaction time		interval		1.02	1.33	0.67	1.02	0.97	1.03	0.96	1.08	1.06	1.53			3.02	3.02	3.10
wind	0.9 m/s	velocity	5.76	8.96	6.87	13.64	8.96	9.42	8.87	9.52	8.46	8.62	9.16	8.43		9.08	9.08	8.85

Crews, Jerome (GER) (1977)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2001 ISTAF (Berlin, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	31-Aug-09	time	2.66	3.74	4.80	5.85	6.91	7.98	9.04	10.14	11.24	12.35		13.70	7 / 6			
reaction time	0.180	interval		1.08	1.06	1.05	1.06	1.07	1.06	1.10	1.10	1.11	1.35			3.19	3.19	3.31
wind	1.0 m/s	velocity	5.16	8.46	8.62	8.70	8.62	8.54	8.62	8.31	8.31	8.23	10.39	8.03		8.60	8.60	8.28

Crittenden, Freddie (USA) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Short Hurdles - 2025 Grand Slam Track Miami (Miramar, FL) (TV Analysis) *Henson (2025) - Athlete First: 2025 year end hurdle report*

date	02-May-25	time	2.57	3.60	4.60	5.60	6.60	7.60	8.61	9.64	10.67	11.71		13.09	6 / 3			
reaction time	0.170	interval		1.03	1.00	1.00	1.00	1.00	1.01	1.03	1.03	1.04	1.38			3.03	3.01	3.10
wind	1.4 m/s	velocity	5.34	8.87	9.14	9.14	9.14	9.14	9.05	8.87	8.87	8.79	10.16	8.40		9.05	9.11	8.85

FINAL - 2025 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2025) - diamond league race analysis*

date	26-Apr-25	time	2.43	3.50	4.52	5.53	6.55	7.56	8.58	9.61	10.63	11.70		13.28	7 / 4			
reaction time	0.150	interval		1.07	1.02	1.01	1.02	1.01	1.02	1.03	1.02	1.07	1.58			3.10	3.05	3.12
wind	0.3 m/s	velocity	5.65	8.54	8.96	9.05	8.96	9.05	8.96	8.87	8.96	8.54	8.87	8.28		8.85	8.99	8.79

FINAL - 2024 Memorial van damme (Brussels, BEL) *Omega Timing (2024) - diamond league race analysis*

date	13-Sep-24	time	2.41	3.49	4.51	5.54	6.57	7.56	8.59	9.61	10.65	11.71		13.24	3 / 3			
reaction time	0.141	interval		1.08	1.02	1.03	1.03	0.99	1.03	1.02	1.04	1.06	1.53			3.13	3.05	3.12
wind	0.4 m/s	velocity	5.69	8.46	8.96	8.87	8.87	9.23	8.87	8.96	8.79	8.62	9.16	8.31		8.76	8.99	8.79

FINAL - 2024 Weltklasse (Zürich, SUI) *Omega Timing (2024) - diamond league race analysis*

date	05-Sep-24	time	2.39	3.44	4.44	5.44	6.45	7.47	8.49	9.50	10.54	11.59		13.15	7 / 3			
reaction time	0.127	interval		1.05	1.00	1.00	1.01	1.02	1.02	1.01	1.04	1.05	1.56			3.05	3.05	3.10
wind	-0.3 m/s	velocity	5.74	8.70	9.14	9.14	9.05	8.96	8.96	9.05	8.79	8.70	8.99	8.37		8.99	8.99	8.85

FINAL - 2024 Olympic Games (Paris, FRA) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	08-Aug-24	time	2.58	3.64	4.67	5.69	6.72	7.74	8.76	9.80	10.84	11.91		13.32	8 / 6			
reaction time	0.161	interval		1.06	1.03	1.02	1.03	1.02	1.02	1.04	1.04	1.07	1.41			3.11	3.07	3.15
wind	-0.1 m/s	velocity	5.32	8.62	8.87	8.96	8.87	8.96	8.96	8.79	8.79	8.54	9.94	8.26		8.82	8.93	8.70

Semi-Final 2 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	2.37	3.43	4.47	5.49	6.50	7.52	8.56	9.58	10.63	11.66		13.23	2 / 2			
reaction time	0.139	interval		1.06	1.04	1.02	1.01	1.02	1.04	1.02	1.05	1.03	1.57			3.12	3.07	3.10
wind	-0.1 m/s	velocity	5.79	8.62	8.79	8.96	9.05	8.96	8.79	8.96	8.70	8.87	8.93	8.31		8.79	8.93	8.85

Repechage 1 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	06-Aug-24	time	2.43	3.53	4.60	5.63	6.66	7.69	8.72	9.76	10.80	11.85		13.42	2 / 1			
reaction time	0.154	interval		1.10	1.07	1.03	1.03	1.03	1.03	1.04	1.04	1.05	1.57			3.20	3.09	3.13
wind	0.2 m/s	velocity	5.65	8.31	8.54	8.87	8.87	8.87	8.87	8.79	8.79	8.70	8.93	8.20		8.57	8.87	8.76

Heat 2 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.69	3.98	5.31	6.84	8.39	9.92	11.41	12.93	14.42	15.94		18.27	3 / 8			
reaction time	0.157	interval		1.29	1.33	1.53	1.55	1.53	1.49	1.52	1.49	1.52	2.33			4.15	4.57	4.53
wind	1.2 m/s	velocity	5.10	7.09	6.87	5.97	5.90	5.97	6.13	6.01	6.13	6.01	6.02	6.02		6.61	6.00	6.05

FINAL - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	28-Jun-24	time	2.54	3.56	4.54	5.54	6.54	7.52	8.52	9.51	10.52	11.56		12.93	7 / 2		
reaction time		interval		1.02	0.98	1.00	1.00	0.98	1.00	0.99	1.01	1.04	1.37	**PB**		3.00	2.98	3.04
wind	2.0 m/s	velocity	5.40	8.96	9.33	9.14	9.14	9.33	9.14	9.23	9.05	8.79	10.23	8.51		9.14	9.20	9.02

Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	27-Jun-24	time	2.53	3.56	4.56	5.57	6.56	7.55	8.56	9.56	10.58	11.62		13.05	7 / 1		
reaction time		interval		1.03	1.00	1.01	0.99	0.99	1.01	1.00	1.02	1.04	1.43			3.04	2.99	3.06
wind	-0.2 m/s	velocity	5.42	8.87	9.14	9.05	9.23	9.23	9.05	9.14	8.96	8.79	9.80	8.43		9.02	9.17	8.96

Heat 2 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.56	3.58	4.58	5.58	6.60	7.60	8.63	9.64	10.67	11.72		13.16	2 / 1		
reaction time		interval		1.02	1.00	1.00	1.02	1.00	1.03	1.01	1.03	1.05	1.44			3.02	3.05	3.09
wind	-0.3 m/s	velocity	5.36	8.96	9.14	9.14	8.96	9.14	8.87	9.05	8.87	8.70	9.74	8.36		9.08	8.99	8.87

FINAL - 2024 Prefontaine Classic (Eugene, OR) *Omega Timing (2024) - diamond league race analysis*

date	25-May-24	time	2.42	3.47	4.48	5.47	6.47	7.48	8.50	9.53	10.57	11.62		13.16	8 / 3		
reaction time	0.140	interval		1.05	1.01	0.99	1.00	1.01	1.02	1.03	1.04	1.05	1.54			3.05	3.03	3.12
wind	-0.1 m/s	velocity	5.67	8.70	9.05	9.23	9.14	9.05	8.96	8.87	8.79	8.70	9.10	8.36		8.99	9.05	8.79

FINAL - 2024 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2024) - diamond league race analysis*

date	20-Apr-24	time	2.44	3.49	4.51	5.54	6.54	7.56	8.58	9.61	10.67	11.73		13.30	7 / 4		
reaction time	0.166	interval		1.05	1.02	1.03	1.00	1.02	1.02	1.03	1.06	1.06	1.57			3.10	3.04	3.15
wind	-0.3 m/s	velocity	5.62	8.70	8.96	8.87	9.14	8.96	8.96	8.87	8.62	8.62	8.93	8.27		8.85	9.02	8.70

FINAL - 2024 USATF National Indoor Championships (Albuquerque, NM) (Altitude) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	16-Feb-24	time	2.60	3.64	4.65	5.67	6.71							7.58	7 / 7		
reaction time	0.158	interval		1.04	1.01	1.02	1.04						0.87			3.07		
		velocity	5.28	8.79	9.05	8.96	8.79						11.17	7.92		8.93		

Heat 1 - 2024 USATF National Indoor Championships (Albuquerque, NM) (Altitude) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	16-Feb-24	time	2.57	3.61	4.64	5.65	6.69							7.59	3 / 4		
reaction time	0.149	interval		1.04	1.03	1.01	1.04						0.90			3.08		
		velocity	5.34	8.79	8.87	9.05	8.79						10.80	7.91		8.90		

FINAL - 2023 Prefontaine Classic (Eugene, OR) *Omega Timing (2023) - diamond league race analysis*

date	17-Sep-23	time	2.39	3.45	4.46	5.46	6.47	7.47	8.47	9.49	10.54	11.60		13.15	4 / 6		
reaction time	0.146	interval		1.06	1.01	1.00	1.01	1.00	1.00	1.02	1.05	1.06	1.55			3.07	3.01	3.13
wind	0.9 m/s	velocity	5.74	8.62	9.05	9.14	9.05	9.14	9.14	8.96	8.70	8.62	9.05	8.37		8.93	9.11	8.76

FINAL - 2023 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2023) - diamond league race analysis*

date	02-Sep-23	time	2.42	3.48	4.49	5.49	6.50	7.51	8.53	9.56	10.61	11.66		13.26	7 / 6		
reaction time	0.148	interval		1.06	1.01	1.00	1.01	1.01	1.02	1.03	1.05	1.05	1.60			3.07	3.04	3.13
wind	0.0 m/s	velocity	5.67	8.62	9.05	9.14	9.05	9.05	8.96	8.87	8.70	8.70	8.76	8.30		8.93	9.02	8.76

FINAL - 2023 World Athletics Championships (Budapest, HUN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	21-Aug-23	time	2.54	3.57	4.59	5.59	6.61	7.62	8.64	9.68	10.71	11.76		13.16	4 / 4		
reaction time	0.140	interval		1.03	1.02	1.00	1.02	1.01	1.02	1.04	1.03	1.05	1.40			3.05	3.05	3.12
wind	0.0 m/s	velocity	5.40	8.87	8.96	9.14	8.96	9.05	8.96	8.79	8.87	8.70	10.01	8.36		8.99	8.99	8.79

Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.54	3.58	4.58	5.58	6.61	7.60	8.63	9.68	10.68	11.73		13.17	6 / 1		
reaction time	0.156	interval		1.04	1.00	1.00	1.03	0.99	1.03	1.05	1.00	1.05	1.44			3.04	3.05	3.10
wind	-0.1 m/s	velocity	5.40	8.79	9.14	9.14	8.87	9.23	8.87	8.70	9.14	8.70	9.74	8.35		9.02	8.99	8.85

Heat 3 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.56	3.60	4.63	5.65	6.66	7.72	8.75	9.80	10.86	11.95		13.40	3 / 2		
reaction time	0.148	interval		1.04	1.03	1.02	1.01	1.06	1.03	1.05	1.06	1.09	1.45			3.09	3.10	3.20
wind	0.0 m/s	velocity	5.36	8.79	8.87	8.96	9.05	8.62	8.87	8.70	8.62	8.39	9.67	8.21		8.87	8.85	8.57

FINAL - 2023 London Athletics Meet (London, GBR) *Omega Timing (2023) - diamond league race analysis*

date	23-Jul-23	time	2.39	3.44	4.47	5.50	6.53	7.61	8.78	10.04	11.35	12.67		14.83	2 / 7		
reaction time	0.132	interval		1.05	1.03	1.03	1.03	1.08	1.17	1.26	1.31	1.32	2.16			3.11	3.28	3.89
wind	1.3 m/s	velocity	5.74	8.70	8.87	8.87	8.87	8.46	7.81	7.25	6.98	6.92	6.49	7.42		8.82	8.36	7.05

FINAL - 2023 USATF National Championshps (Eugene, OR) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	09-Jul-23	time	2.53	3.57	4.60	5.60	6.60	7.61	8.63	9.66	10.73	11.77		13.23	7 / 3		
reaction time		interval		1.04	1.03	1.00	1.00	1.01	1.02	1.03	1.07	1.04	1.46			3.07	3.03	3.14
wind	-0.2 m/s	velocity	5.42	8.79	8.87	9.14	9.14	9.05	8.96	8.87	8.54	8.79	9.60	8.31		8.93	9.05	8.73

FINAL - 2023 Meeting de Paris (Paris, FRA) *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.37	3.43	4.46	5.48	6.49	7.52	8.55	9.58	10.62	11.68		13.26	2 / 6		

reaction time	0.136	interval		1.06	1.03	1.02	1.01	1.03	1.03	1.03	1.04	1.06	1.58			3.11	3.07	3.13
wind	-0.5 m/s	velocity	5.79	8.62	8.87	8.96	9.05	8.87	8.87	8.87	8.79	8.62	8.87	8.30		8.82	8.93	8.76

Heat 2 - 2023 Meeting de Paris (Paris, FRA) *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.36	3.43	4.46	5.47	6.48	7.50	8.54	9.59	10.66	11.73		13.34	7 / 4			
reaction time	0.136	interval		1.07	1.03	1.01	1.01	1.02	1.04	1.05	1.07	1.07	1.61			3.11	3.07	3.19
wind	-0.6 m/s	velocity	5.81	8.54	8.87	9.05	9.05	8.96	8.79	8.70	8.54	8.54	8.71	8.25		8.82	8.93	8.60

FINAL - 2023 FBK Games (Hengelo, NED) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	04-Jun-23	time	2.60	3.65	4.70	5.72	6.74	7.76	8.78	9.80	10.86	11.95		13.33	4 / 4			
reaction time	0.145	interval		1.05	1.05	1.02	1.02	1.02	1.02	1.02	1.06	1.09	1.38			3.12	3.06	3.17
wind	0.4 m/s	velocity	5.28	8.70	8.70	8.96	8.96	8.96	8.96	8.96	8.62	8.39	10.16	8.25		8.79	8.96	8.65

FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	02-Jun-23	time	2.54	3.57	4.58	5.60	6.62	7.66	8.68	9.74	10.80	11.90		13.38	4 / 6			
reaction time	0.132	interval		1.03	1.01	1.02	1.02	1.04	1.02	1.06	1.06	1.10	1.48			3.06	3.08	3.22
wind	-0.2 m/s	velocity	5.40	8.87	9.05	8.96	8.96	8.79	8.96	8.62	8.62	8.31	9.47	8.22		8.96	8.90	8.52

FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) *Omega Timing (2023) - diamond league race analysis*

date	28-May-23	time	2.39	3.44	4.49	5.52	6.55	7.57	8.62	9.67	10.73	11.80		13.43	7 / 5			
reaction time	0.166	interval		1.05	1.05	1.03	1.03	1.02	1.05	1.05	1.06	1.07	1.63			3.13	3.10	3.18
wind	-1.3 m/s	velocity	5.74	8.70	8.70	8.87	8.87	8.96	8.70	8.70	8.62	8.54	8.60	8.19		8.76	8.85	8.62

FINAL - 2023 Adidas Atlanta City Games (Atlanta, GA) (street) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	05-May-23	time	2.62	3.68	4.72	5.75	6.75	7.78	8.80	9.85	10.93	12.01		13.43	5 / 5			
reaction time	0.159	interval		1.06	1.04	1.03	1.00	1.03	1.02	1.05	1.08	1.08	1.42			3.13	3.05	3.21
wind	0.0 m/s	velocity	5.24	8.62	8.79	8.87	9.14	8.87	8.96	8.70	8.46	8.46	9.87	8.19		8.76	8.99	8.54

FINAL - 2022 ISTAF (Berlin, GER) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	04-Sep-22	time	2.48	3.50	4.50	5.50	6.50	7.52	8.52	9.54	10.58	11.62		13.07	5 / 2			
reaction time	0.142	interval		1.02	1.00	1.00	1.00	1.02	1.00	1.02	1.04	1.04	1.45			3.02	3.02	3.10
wind	0.6 m/s	velocity	5.53	8.96	9.14	9.14	9.14	8.96	9.14	8.96	8.79	8.79	9.67	8.42		9.08	9.08	8.85

FINAL - 2022 NACAC Championships (Freeport, BAH) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	20-Aug-22	time	2.43	3.45	4.44	5.43	6.40	7.40	8.40	9.43	10.47	11.52		13.00	4 / 1			
reaction time		interval		1.02	0.99	0.99	0.97	1.00	1.00	1.03	1.04	1.05	1.48	PB		3.00	2.97	3.12
wind	0.3 m/s	velocity	5.65	8.96	9.23	9.23	9.42	9.14	9.14	8.87	8.79	8.70	9.47	8.46		9.14	9.23	8.79

FINAL - 2022 USATF National Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	26-Jun-22	time	2.53	3.53	4.55	5.57	6.57	7.57	8.57	9.61	10.64	11.68		13.14	2 / 5			
reaction time		interval		1.00	1.02	1.02	1.00	1.00	1.00	1.04	1.03	1.04	1.46	PB		3.04	3.00	3.11
wind	1.2 m/s	velocity	5.42	9.14	8.96	8.96	9.14	9.14	9.14	8.79	8.87	8.79	9.60	8.37		9.02	9.14	8.82

Semi-Final 2 - 2022 USATF National Championships (Eugene, OR) *USATF (2022) - Results powered by Karmarush.com*

date	26-Jun-22	time	2.50	3.57	4.60	5.64	6.70	7.69	8.70	9.77	10.78	11.86		13.35	4 / 4			
reaction time		interval		1.07	1.03	1.04	1.06	0.99	1.01	1.07	1.01	1.08	1.49			3.14	3.06	3.16
wind	0.1 m/s	velocity	5.49	8.54	8.87	8.79	8.62	9.23	9.05	8.54	9.05	8.46	9.41	8.24		8.73	8.96	8.68

FINAL - 2022 New Balance Indoor Grand Prix (Staten Island, NY) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	06-Feb-22	time	2.57	3.62	4.67	5.69	6.71							7.71	2 / 5			
reaction time	0.169	interval		1.05	1.05	1.02	1.02						1.00			3.12		
		velocity	5.34	8.70	8.70	8.96	8.96						9.72	7.78		8.79		

Semi-Final 2 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.56	3.60	4.63	5.70	6.74	7.77	8.80	9.90	10.99	12.07		13.63	2 / ~~7~~ 6			
reaction time	0.175	interval		1.04	1.03	1.07	1.04	1.03	1.03	1.10	1.09	1.08	1.56			3.14	3.10	3.27
wind	1.2 m/s	velocity	5.36	8.79	8.87	8.54	8.79	8.87	8.87	8.31	8.39	8.46	8.99	8.07		8.73	8.85	8.39

FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	17-Sep-20	time	2.48	3.52	4.56	5.58	6.62	7.64	8.68	9.72	10.76	11.82		13.31	6 / 3			
reaction time	0.139	interval		1.04	1.04	1.02	1.04	1.02	1.04	1.04	1.04	1.06	1.49			3.10	3.10	3.14
wind	0.1 m/s	velocity	5.53	8.79	8.79	8.96	8.79	8.96	8.79	8.79	8.79	8.62	9.41	8.26		8.85	8.85	8.73

FINAL - 2020 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	19-Aug-20	time	2.47	3.50	4.52	5.54	6.57		8.64	9.68	10.74	11.78		13.30	8 / 3			
reaction time	0.146	interval		1.03	1.02	1.02	1.03		2.07	1.04	1.06	1.04	1.52			3.07	3.10	3.14
wind	0.3 m/s	velocity	5.55	8.87	8.96	8.96	8.87		8.83	8.79	8.62	8.79	9.22	8.27		8.93	8.85	8.73

FINAL - 2019 The Match - Europe v USA (Minsk, BLR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	10-Sep-19	time	2.60	3.63	4.66	5.71	6.73	7.77	8.77	9.77	10.88	11.90		13.43	4 / 3			
reaction time	0.161	interval		1.03	1.03	1.05	1.02	1.04	1.00	1.00	1.11	1.02	1.53			3.11	3.06	3.13
wind	0.1 m/s	velocity	5.28	8.87	8.87	8.70	8.96	8.79	9.14	9.14	8.23	8.96	9.16	8.19		8.82	8.96	8.76

FINAL - 2019 AG Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	06-Sep-19	time	2.52	3.56	4.60	5.62	6.62	7.64	8.68	9.70	10.74	11.80		13.35	6 / 4			
reaction time	0.144	interval		1.04	1.04	1.02	1.00	1.02	1.04	1.02	1.04	1.06	1.55			3.10	3.06	3.12
wind	0.0 m/s	velocity	5.44	8.79	8.79	8.96	9.14	8.96	8.79	8.96	8.79	8.62	9.05	8.24		8.85	8.96	8.79

FINAL - 2019 ISTAF (Berlin, GER) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	01-Sep-19	time	2.53	3.53	4.63	5.65	6.67	7.68	8.73	9.80	10.84	11.88		13.38	6 / 4			
reaction time	0.137	interval		1.00	1.10	1.02	1.02	1.01	1.05	1.07	1.04	1.04	1.50			3.12	3.08	3.15
wind	0.8 m/s	velocity	5.42	9.14	8.31	8.96	8.96	9.05	8.70	8.54	8.79	8.79	9.35	8.22		8.79	8.90	8.70

FINAL - 2019 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	24-Aug-19	time	2.52	3.54	4.56	5.56	6.56	7.58	8.58	9.62	10.66	11.70		13.17	1 / 3			
reaction time	0.150	interval		1.02	1.02	1.00	1.00	1.02	1.00	1.04	1.04	1.04	1.47	**PB**		3.04	3.02	3.12
wind	0.8 m/s	velocity	5.44	8.96	8.96	9.14	9.14	8.96	9.14	8.79	8.79	8.79	9.54	8.35		9.02	9.08	8.79

FINAL - 2019 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	18-Aug-19	time	2.54	3.58	4.62	5.65	6.63	7.65	8.67	9.69	10.72	11.78		13.31	4 / 2			
reaction time	0.116	interval		1.04	1.04	1.03	0.98	1.02	1.02	1.02	1.03	1.06	1.53			3.11	3.02	3.11
wind	-0.2 m/s	velocity	5.40	8.79	8.79	8.87	9.33	8.96	8.96	8.96	8.87	8.62	9.16	8.26		8.82	9.08	8.82

FINAL - 2019 Pan American Games (Lima, PER) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	10-Aug-19	time	2.63	3.67	4.68	5.70	6.70	7.72	8.76	9.79	10.84	11.89		13.32	6 / 2			
reaction time	0.140	interval		1.04	1.01	1.02	1.00	1.02	1.04	1.03	1.05	1.05	1.43			3.07	3.06	3.13
wind	1.8 m/s	velocity	5.22	8.79	9.05	8.96	9.14	8.96	8.79	8.87	8.70	8.70	9.80	8.26		8.93	8.96	8.76

FINAL - 2019 USATF National Championships (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	28-Jul-19	time	2.60	3.67	4.70	5.70	6.73	7.73	8.74	9.77	10.84	11.88		13.39	6 / 4			
reaction time		interval		1.07	1.03	1.00	1.03	1.00	1.01	1.03	1.07	1.04	1.51			3.10	3.04	3.14
wind	-0.8 m/s	velocity	5.28	8.54	8.87	9.14	8.87	9.14	9.05	8.87	8.54	8.79	9.28	8.22		8.85	9.02	8.73

FINAL - 2019 Prefontaine Classic (Stanford, CA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	30-Jun-19	time	2.60	3.63	4.66	5.66	6.70	7.73	8.78	9.82	10.85	11.92		13.38	8 / 7			
reaction time	0.220	interval		1.03	1.03	1.00	1.04	1.03	1.05	1.04	1.03	1.07	1.46			3.06	3.12	3.14
wind	0.3 m/s	velocity	5.28	8.87	8.87	9.14	8.79	8.87	8.70	8.79	8.87	8.54	9.60	8.22		8.96	8.79	8.73

FINAL - 2019 Nanjing World Challenge (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	21-May-19	time	2.55	3.59	4.64	5.69	6.71	7.74	8.78	9.83	10.88	11.96		13.37	9 / 3			
reaction time	0.137	interval		1.04	1.05	1.05	1.02	1.03	1.04	1.05	1.05	1.08	1.41			3.14	3.09	3.18
wind	0.1 m/s	velocity	5.38	8.79	8.70	8.70	8.96	8.87	8.79	8.70	8.70	8.46	9.94	8.23		8.73	8.87	8.62

FINAL - 2019 Shanghai Diamond League (Shanghai, CHN) *CAA Hurdle Development (2019)*

date	18-May-19	time	2.58	3.64	4.68	5.70	6.72	7.76	8.78	9.82	10.86	11.94		13.36	8 / 5			
reaction time	0.151	interval		1.06	1.04	1.02	1.02	1.04	1.02	1.04	1.04	1.08	1.42			3.12	3.08	3.16
wind	0.7 m/s	velocity	5.32	8.62	8.79	8.96	8.96	8.79	8.96	8.79	8.79	8.46	9.87	8.23		8.79	8.90	8.68

FINAL - 2019 Kinami Memorial (Osaka, JPN) *Matsubayashi (2019) - research on athlete performance and technique- 2019 data book*

date	06-May-19	time	2.58	3.62	4.65	5.67	6.70	7.72	8.75	9.81	10.86	11.95		13.38	4 / 1			
reaction time		interval		1.04	1.03	1.02	1.03	1.02	1.03	1.06	1.05	1.09	1.43			3.09	3.08	3.20
wind	0.3 m/s	velocity	5.32	8.79	8.87	8.96	8.87	8.96	8.87	8.62	8.70	8.39	9.80	8.22		8.87	8.90	8.57

FINAL - 2019 PSD Bank Meeting (Düsseldorf, GER) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	20-Feb-19	time	2.42	3.44	4.48	5.52	6.54							7.60	5 / 3			
reaction time	0.156	interval		1.02	1.04	1.04	1.02						1.06			3.10		
		velocity	5.67	8.96	8.79	8.79	8.96						9.17	7.89		8.85		

FINAL - 2019 Müller Indoor Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Feb-19	time	2.50	3.52	4.55	5.55	6.56							7.53	8 / 2			
reaction time	0.146	interval		1.02	1.03	1.00	1.01						0.97			3.05		
		velocity	5.49	8.96	8.87	9.14	9.05						10.02	7.97		8.99		

FINAL - 2018 AG Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	31-Aug-18	time	2.52	3.56	4.60	5.62	6.66	7.68	8.72	9.76	10.82	11.90		13.39	8 / 5			
reaction time	0.151	interval		1.04	1.04	1.02	1.04	1.02	1.04	1.04	1.06	1.08	1.49			3.10	3.10	3.18
wind	-0.1 m/s	velocity	5.44	8.79	8.79	8.96	8.79	8.96	8.79	8.79	8.62	8.46	9.41	8.22		8.85	8.85	8.62

FINAL - 2018 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	18-Aug-18	time	2.46	3.50	4.54	5.56	6.58	7.60	8.60	9.62	10.66	11.74		13.27	2 / 4			
reaction time	0.128	interval		1.04	1.04	1.02	1.02	1.02	1.00	1.02	1.04	1.08	1.53	**PB**		3.10	3.04	3.14
wind	1.3 m/s	velocity	5.58	8.79	8.79	8.96	8.96	8.96	9.14	8.96	8.79	8.46	9.16	8.29		8.85	9.02	8.73

FINAL - 2018 Müller Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	22-Jul-18	time	2.50	3.54	4.58	5.62	6.66	7.70	8.72	9.82	10.84	11.92		13.33	2 / 3			
reaction time	0.137	interval		1.04	1.04	1.04	1.04	1.04	1.02	1.10	1.02	1.08	1.41			3.12	3.10	3.20

wind	0.2 m/s	velocity	5.49	8.79	8.79	8.79	8.79	8.79	8.96	8.31	8.96	8.46	9.94	8.25		8.79	8.85	8.57

Cunningham, Trey (USA) (1998)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Short Hurdles - 2025 Grand Slam Track Miami (Miramar, FL) (TV Analysis)																*Henson (2025) - Athlete First: 2025 year end hurdle report*		
date	02-May-25	time	2.54	3.57	4.57	5.56	6.54	7.54	8.54	9.56	10.58	11.64		13.00	3 / 1			
reaction time	0.190	interval	7 steps	1.03	1.00	0.99	0.98	1.00	1.00	1.02	1.02	1.06	1.36	=PB		3.02	2.98	3.10
wind	1.4 m/s	velocity	5.40	8.87	9.14	9.23	9.33	9.14	9.14	8.96	8.96	8.62	10.31	8.46		9.08	9.20	8.85
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)																*Omega Timing (2024) - diamond league race analysis*		
date	12-Jul-24	time	2.38	3.41	4.40	5.39	6.39	7.40	8.43	9.47	10.51	11.56		13.13	4 / 4			
reaction time	0.134	interval	7 steps	1.03	0.99	0.99	1.00	1.01	1.03	1.04	1.04	1.05	1.57			3.01	3.04	3.13
wind	-0.7 m/s	velocity	5.76	8.87	9.23	9.23	9.14	9.05	8.87	8.79	8.79	8.70	8.93	8.38		9.11	9.02	8.76
FINAL - 2024 Meeting de Paris (Paris, FRA)																*Omega Timing (2024) - diamond league race analysis*		
date	07-Jul-24	time	2.35	3.38	4.39	5.38	6.39	7.41	8.43	9.46	10.52	11.59		13.15	5 / 2			
reaction time	0.148	interval	7 steps	1.03	1.01	0.99	1.01	1.02	1.02	1.03	1.06	1.07	1.56			3.03	3.05	3.16
wind	-0.6 m/s	velocity	5.84	8.87	9.05	9.23	9.05	8.96	8.96	8.87	8.62	8.54	8.99	8.37		9.05	8.99	8.68
Heat 1 - 2024 Meeting de Paris (Paris, FRA)																*Omega Timing (2024) - diamond league race analysis*		
date	07-Jul-24	time	2.42	3.48	4.51	5.52	6.52	7.53	8.56	9.59	10.63	11.69		13.20	4 / 2			
reaction time	0.165	interval	7 steps	1.06	1.03	1.01	1.00	1.01	1.03	1.03	1.04	1.06	1.51			3.10	3.04	3.13
wind	0.1 m/s	velocity	5.67	8.62	8.87	9.05	9.14	9.05	8.87	8.87	8.79	8.62	9.28	8.33		8.85	9.02	8.76
FINAL - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis)																*Henson (2024) - Athlete First: 2024 year end hurdle report*		
date	28-Jun-24	time	2.54	3.54	4.56	5.54	6.58	7.61	8.68	9.69	10.76	11.85		13.39	2 / 9			
reaction time		interval	7 steps	1.00	1.02	0.98	1.04	1.03	1.07	1.01	1.07	1.09	1.54			3.00	3.14	3.17
wind	2.0 m/s	velocity	5.40	9.14	8.96	9.33	8.79	8.87	8.54	9.05	8.54	8.39	9.10	8.22		9.14	8.73	8.65
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis)																*Henson (2024) - Athlete First: 2024 year end hurdle report*		
date	27-Jun-24	time	2.53	3.56	4.58	5.57	6.59	7.59	8.63	9.68	10.73	11.83		13.26	4 / 3			
reaction time		interval	7 steps	1.03	1.02	0.99	1.02	1.00	1.04	1.05	1.05	1.10	1.43			3.04	3.06	3.20
wind	-0.2 m/s	velocity	5.42	8.87	8.96	9.23	8.96	9.14	8.79	8.70	8.70	8.31	9.80	8.30		9.02	8.96	8.57
Heat 3 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis)																*Henson (2024) - Athlete First: 2024 year end hurdle report*		
date	24-Jun-24	time	2.50	3.56	4.54	5.54	6.54	7.55	8.57	9.59	10.62	11.73		13.12	3 / 1			
reaction time		interval	7 steps	1.06	0.98	1.00	1.00	1.01	1.02	1.02	1.03	1.11	1.39			3.04	3.03	3.16
wind	1.8 m/s	velocity	5.49	8.62	9.33	9.14	9.14	9.05	8.96	8.96	8.87	8.23	10.09	8.38		9.02	9.05	8.68
FINAL - 2024 Prefontaine Classic (Eugene, OR)																*Omega Timing (2024) - diamond league race analysis*		
date	25-May-24	time	2.40	3.44	4.45	5.45	6.46	7.48	8.51	9.57	10.63	11.72		13.29	2 / 5			
reaction time	0.134	interval	7 steps	1.04	1.01	1.00	1.01	1.02	1.03	1.06	1.06	1.09	1.57			3.05	3.06	3.21
wind	-0.1 m/s	velocity	5.72	8.79	9.05	9.14	9.05	8.96	8.87	8.62	8.62	8.39	8.93	8.28		8.99	8.96	8.54
FINAL - 2024 World Athletics Indoor Championships (Glasgow, GBR) (TV Analysis)																*Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*		
date	02-Mar-24	time	2.57	3.60	4.62	5.62	6.61							7.53	3 / 6			
reaction time	0.168	interval	7 steps	1.03	1.02	1.00	0.99						0.92			3.05		
		velocity	5.34	8.87	8.96	9.14	9.23						10.57	7.97		8.99		
FINAL - 2024 USATF National Indoor Championships (Albuquerque, NM) (Altitude) (TV Analysis)																*Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*		
date	16-Feb-24	time	2.54	3.57	4.56	5.54	6.54							7.39	5 / 1			
reaction time	0.152	interval	7 steps	1.03	0.99	0.98	1.00						0.85			3.00		
		velocity	5.40	8.87	9.23	9.33	9.14						11.44	8.12		9.14		
FINAL - 2024 New Balance Indoor Grand Prix (Boston, MA) (TV Analysis)																*Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*		
date	04-Feb-24	time	2.52	3.54	4.54	5.54	6.58							7.49	5 / 2			
reaction time	0.152	interval	7 steps	1.02	1.00	1.00	1.04						0.91			3.02		
		velocity	5.44	8.96	9.14	9.14	8.79						10.68	8.01		9.08		
FINAL - 2023 Kamila Skolimowska Memorial (Silesia, POL)																*Omega Timing (2023) - diamond league race analysis*		
date	16-Jul-23	time	2.41	3.46	4.48	5.49	6.50	7.52	8.54	9.58	10.63	11.70		13.36	3 / 4			
reaction time	0.147	interval	7 steps	1.05	1.02	1.01	1.01	1.02	1.02	1.04	1.05	1.07	1.66			3.08	3.05	3.16
wind	0.3 m/s	velocity	5.69	8.70	8.96	9.05	9.05	8.96	8.96	8.79	8.70	8.54	8.45	8.23		8.90	8.99	8.68
Heat 1 - 2023 Kamila Skolimowska Memorial (Silesia, POL)																*Omega Timing (2023) - diamond league race analysis*		
date	16-Jul-23	time	2.41	3.46	4.47	5.48	6.49	7.51	8.54	9.59	10.66	11.73		13.31	5 / 3			
reaction time	0.153	interval	7 steps	1.05	1.01	1.01	1.01	1.02	1.03	1.05	1.07	1.07	1.58			3.07	3.06	3.19
wind	0.3 m/s	velocity	5.69	8.70	9.05	9.05	9.05	8.96	8.87	8.70	8.54	8.54	8.87	8.26		8.93	8.96	8.60
FINAL - 2023 USATF National Championshps (Eugene, OR) (TV Analysis)																*Henson (2023) - Athlete First: 2023 year end hurdle report*		
date	09-Jul-23	time	2.51	3.56	4.57	5.58	6.60	7.62	8.66	9.70	10.76	11.82		13.29	4 / 5			
reaction time		interval	7 steps	1.05	1.01	1.01	1.02	1.02	1.04	1.04	1.06	1.06	1.47			3.07	3.08	3.16
wind	-0.2 m/s	velocity	5.47	8.70	9.05	9.05	8.96	8.96	8.79	8.79	8.62	8.62	9.54	8.28		8.93	8.90	8.68

FINAL - 2023 USATF New York City Grand Prix (Randalls Island, NY) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	24-Jun-23	time	2.53	3.59	4.61	5.64	6.67	7.71	8.77	9.85	10.94	12.05		13.57	4 / 9			
reaction time	0.157	interval	7 steps	1.06	1.02	1.03	1.03	1.04	1.06	1.08	1.09	1.11	1.52			3.11	3.13	3.28
wind	1.6 m/s	velocity	5.42	8.62	8.96	8.87	8.87	8.79	8.62	8.46	8.39	8.23	9.22	8.11		8.82	8.76	8.36

FINAL - 2023 Adidas Atlanta City Games (Atlanta, GA) (street) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	05-May-23	time	2.58	3.62	4.64	5.66	6.66	7.68	8.73	9.80	10.87	11.98		13.41	2 / 4			
reaction time	0.174	interval	7 steps	1.04	1.02	1.02	1.00	1.02	1.05	1.07	1.07	1.11	1.43			3.08	3.07	3.25
wind	0.0 m/s	velocity	5.32	8.79	8.96	8.96	9.14	8.96	8.70	8.54	8.54	8.23	9.80	8.20		8.90	8.93	8.44

FINAL - 2022 Weltklasse (Zürich, SUI) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	08-Sep-22	time	2.50	3.50	4.50	5.50	6.54	7.54	8.64	9.66	10.74	11.81		13.30	4 / 5			
reaction time	0.153	interval	7 steps	1.00	1.00	1.00	1.04	1.00	1.10	1.02	1.08	1.07	1.49			3.00	3.14	3.17
wind	-1.0 m/s	velocity	5.49	9.14	9.14	9.14	8.79	9.14	8.31	8.96	8.46	8.54	9.41	8.27		9.14	8.73	8.65

FINAL - 2022 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	26-Aug-22	time	2.47	3.44	4.44	5.42	6.38	7.38	8.40	9.46	10.52	11.62		13.10	3 / 2			
reaction time	0.140	interval	7 steps	0.97	1.00	0.98	0.96	1.00	1.02	1.06	1.06	1.10	1.48			2.95	2.98	3.22
wind	0.0 m/s	velocity	5.55	9.42	9.14	9.33	9.52	9.14	8.96	8.62	8.62	8.31	9.47	8.40		9.29	9.20	8.52

FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	10-Aug-22	time	2.43	3.43	4.40	5.40	6.40	7.43	8.46	9.46	10.53	11.60		13.03	4 / 2			
reaction time	0.141	interval	7 steps	1.00	0.97	1.00	1.00	1.03	1.03	1.00	1.07	1.07	1.43			2.97	3.06	3.14
wind	0.6 m/s	velocity	5.65	9.14	9.42	9.14	9.14	8.87	8.87	9.14	8.54	8.54	9.80	8.44		9.23	8.96	8.73

FINAL - 2022 World Athletics Championships (Eugene, OR) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	17-Jul-22	time	2.52	3.53	4.53	5.54	6.53	7.58	8.60	9.63	10.65	11.72		13.08	6 / 2			
reaction time	0.109	interval	7 steps	1.01	1.00	1.01	0.99	1.05	1.02	1.03	1.02	1.07	1.36			3.02	3.06	3.12
wind	1.2 m/s	velocity	5.44	9.05	9.14	9.05	9.23	8.70	8.96	8.87	8.96	8.54	10.31	8.41		9.08	8.96	8.79

Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.48	3.50	4.50	5.50	6.50	7.53	8.53	9.56	10.60	11.66		13.07	3 / 1			
reaction time	0.120	interval	7 steps	1.02	1.00	1.00	1.00	1.03	1.00	1.03	1.04	1.06	1.41			3.02	3.03	3.13
wind	0.3 m/s	velocity	5.53	8.96	9.14	9.14	9.14	8.87	9.14	8.87	8.79	8.62	9.94	8.42		9.08	9.05	8.76

Heat 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.50	3.53	4.56	5.56	6.58	7.60	8.63	9.66	10.76	11.80		13.28	4 / 1			
reaction time	0.115	interval	7 steps	1.03	1.03	1.00	1.02	1.02	1.03	1.03	1.10	1.04	1.48			3.06	3.07	3.17
wind	-0.5 m/s	velocity	5.49	8.87	8.87	9.14	8.96	8.96	8.87	8.87	8.31	8.79	9.47	8.28		8.96	8.93	8.65

FINAL - 2022 USATF National Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	26-Jun-22	time	2.47	3.47	4.52	5.51	6.52	7.54	8.57	9.57	10.61	11.68		13.08	5 / 2			
reaction time		interval	7 steps	1.00	1.05	0.99	1.01	1.02	1.03	1.00	1.04	1.07	1.40			3.04	3.06	3.11
wind	1.2 m/s	velocity	5.55	9.14	8.70	9.23	9.05	8.96	8.87	9.14	8.79	8.54	10.01	8.41		9.02	8.96	8.82

Semi-Final 2 - 2022 USATF National Championships (Eugene, OR) *USATF (2022) - Results powered by Karmarush.com*

date	26-Jun-22	time	2.43	3.46	4.56	5.45	6.46	7.52	8.53	9.55	10.57	11.63		13.09	6 / 1			
reaction time		interval	7 steps	1.03	1.10	0.89	1.01	1.06	1.01	1.02	1.02	1.06	1.46			3.02	3.08	3.10
wind	0.1 m/s	velocity	5.65	8.87	8.31	10.27	9.05	8.62	9.05	8.96	8.96	8.62	9.60	8.40		9.08	8.90	8.85

FINAL - 2022 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	10-Jun-22	time	2.44	3.45	4.44	5.42	6.40	7.44	8.44	9.46	10.51	11.56		13.00	5 / 1			
reaction time		interval	7 steps	1.01	0.99	0.98	0.98	1.04	1.00	1.02	1.05	1.05	1.44	**PB**		2.98	3.02	3.12
wind	0.0 m/s	velocity	5.62	9.05	9.23	9.33	9.33	8.79	9.14	8.96	8.70	8.70	9.74	8.46		9.20	9.08	8.79

FINAL - 2022 NCAA East Region Preliminary (Bloomington, IN) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	27-May-22	time	2.50	3.53	4.53	5.53	6.53	7.53	8.54	9.56	10.61	11.66		13.07	5 / 1			
reaction time		interval	7 steps	1.03	1.00	1.00	1.00	1.00	1.01	1.02	1.05	1.05	1.41	**PB**		3.03	3.01	3.12
wind	-1.5 m/s	velocity	5.49	8.87	9.14	9.14	9.14	9.14	9.05	8.96	8.70	8.70	9.94	8.42		9.05	9.11	8.79

FINAL - 2022 New Balance Indoor Grand Prix (Staten Island, NY) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	06-Feb-22	time	2.48	3.50	4.51	5.51	6.55							7.47	4 / 2			
reaction time	0.189	interval	7 steps	1.02	1.01	1.00	1.04						0.92			3.03		
		velocity	5.53	8.96	9.05	9.14	8.79						10.57	8.03		9.05		

FINAL - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.43	3.47	4.47	5.47	6.47	7.49	8.52	9.56	10.62	11.70		13.21	3 / 4			
reaction time	0.165	interval	7 steps	1.04	1.00	1.00	1.00	1.02	1.03	1.04	1.06	1.08	1.51	**=PB**		3.04	3.05	3.18
wind	0.4 m/s	velocity	5.65	8.79	9.14	9.14	9.14	8.96	8.87	8.79	8.62	8.46	9.28	8.33		9.02	8.99	8.62

Semi-Final 1 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.46	3.48	4.49	5.47	6.48	7.52	8.56	9.59	10.66	11.72		13.21	6 / 2			
reaction time	0.169	interval	7 steps	1.02	1.01	0.98	1.01	1.04	1.04	1.03	1.07	1.06	1.49	**PB**		3.01	3.09	3.16

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

wind	1.8 m/s	velocity	5.58	8.96	9.05	9.33	9.05	8.79	8.79	8.87	8.54	8.62	9.41	8.33		9.11	8.87	8.68

Heat 2 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	25-Jun-21	time	2.43	3.46	4.50	5.50	6.50	7.50	8.56	9.60	10.66	11.73		13.23	3 / 2			
reaction time	0.162	interval	7 steps	1.03	1.04	1.00	1.00	1.00	1.06	1.04	1.06	1.07	1.50	PB		3.07	3.06	3.17
wind	1.5 m/s	velocity	5.65	8.87	8.79	9.14	9.14	9.14	8.62	8.79	8.62	8.54	9.35	8.31		8.93	8.96	8.65

FINAL - 2019 USATF National Championships (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	28-Jul-19	time	2.51	3.57	4.60	5.63	6.67	7.70	8.76	9.85	10.94	12.11		13.72	2 / 8			
reaction time		interval	7 steps	1.06	1.03	1.03	1.04	1.03	1.06	1.09	1.09	1.17	1.61			3.12	3.13	3.35
wind	-0.8 m/s	velocity	5.47	8.62	8.87	8.87	8.79	8.87	8.62	8.39	8.39	7.81	8.71	8.02		8.79	8.76	8.19

FINAL - 2019 NCAA National Indoor Championships (Birmingham, AL) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	9-Mar-19	time	2.56	3.61	4.64	5.71	6.73							7.64	5 / 3			
reaction time	0.179	interval	7 steps	1.05	1.03	1.07	1.02						0.91			3.15		
		velocity	5.36	8.70	8.87	8.54	8.96						10.68	7.85		8.70		

FINAL - 2018 USATF Championships (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	24-Jun-18	time	2.50	3.57	4.63	5.67	6.72	7.77	8.84	9.94	11.04	12.14		13.71	1 / 5			
reaction time		interval		1.07	1.06	1.04	1.05	1.05	1.07	1.10	1.10	1.10	1.57			3.17	3.17	3.30
wind	-1.8 m/s	velocity	5.49	8.54	8.62	8.79	8.70	8.70	8.54	8.31	8.31	8.31	8.93	8.02		8.65	8.65	8.31

FINAL - 2018 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	08-Jun-18	time	2.58	3.65	4.68	5.72	6.76	7.80	8.85	9.90	11.00	12.08		13.64	8 / 4			
reaction time		interval		1.07	1.03	1.04	1.04	1.04	1.05	1.05	1.10	1.08	1.56			3.14	3.13	3.23
wind	-1.1 m/s	velocity	5.32	8.54	8.87	8.79	8.79	8.79	8.70	8.70	8.31	8.46	8.99	8.06		8.73	8.76	8.49

Cuypers, Alain (BEL) (1967)		**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)														*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*			
date	26-Sep-88	time	2.69	3.80	4.86	5.95	7.01	8.09	9.16	10.29	11.38	12.50		13.92	8 / 7			
reaction time	0.169	interval		1.11	1.06	1.09	1.06	1.08	1.07	1.13	1.09	1.12	1.42			3.26	3.21	3.34
wind	0.0 m/s	velocity	5.10	8.23	8.62	8.39	8.62	8.46	8.54	8.09	8.39	8.16	9.87	7.90		8.41	8.54	8.21

Czykier, Damian (POL) (1992)		**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Repechage 2 - 2024 Olympic Games (Paris, FRA)														*Paris 2024 Olympic Games - Results Book (2024)*			
date	06-Aug-24	time	2.43	3.52	4.57	5.59	6.63	7.67	8.75	9.84	10.95	12.06		13.71	4 / 5			
reaction time	0.152	interval	7 steps	1.09	1.05	1.02	1.04	1.04	1.08	1.09	1.11	1.11	1.65			3.16	3.16	3.31
wind	-0.5 m/s	velocity	5.65	8.39	8.70	8.96	8.79	8.79	8.46	8.39	8.23	8.23	8.50	8.02		8.68	8.68	8.28

Heat 4 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.47	3.56	4.62	5.63	6.68	7.73	8.80	9.90	11.05	12.20		13.99	4 / 8			
reaction time	0.153	interval	7 steps	1.09	1.06	1.01	1.05	1.05	1.07	1.10	1.15	1.15	1.79			3.16	3.17	3.40
wind	0.3 m/s	velocity	5.55	8.39	8.62	9.05	8.70	8.70	8.54	8.31	7.95	7.95	7.83	7.86		8.68	8.65	8.06

Heat 2 - 2024 Meeting de Paris (Paris, FRA) *Omega Timing (2024) - diamond league race analysis*

date	07-Jul-24	time	2.43	3.53	4.56	5.59	6.62	7.67	8.72	9.80	10.89	12.00		13.67	1 / 7			
reaction time	0.152	interval	7 steps	1.10	1.03	1.03	1.03	1.05	1.05	1.08	1.09	1.11	1.67			3.16	3.13	3.28
wind	0.4 m/s	velocity	5.65	8.31	8.87	8.87	8.87	8.70	8.70	8.46	8.39	8.23	8.40	8.05		8.68	8.76	8.36

FINAL - 2024 European Athletics Championships (Roma, ITA) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	08-Jun-24	time	2.56	3.60	4.60	5.60	6.67	7.70						dnf	9 / --			
reaction time	0.151	interval	7 steps	1.04	1.00	1.00	1.07	1.03								3.04		
wind	0.6 m/s	velocity	5.36	8.79	9.14	9.14	8.54	8.87								9.02		

Heat 2 - 2024 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	10-Feb-24	time	2.60	3.64	4.68	5.70	6.72							7.65	2 / 4			
reaction time	0.168	interval	7 steps	1.04	1.04	1.02	1.02						0.93			3.10		
		velocity	5.28	8.79	8.79	8.96	8.96						10.45	7.84		8.85		

FINAL - 2023 Weltklasse (Zürich, SUI) *Omega Timing (2023) - diamond league race analysis*

date	31-Aug-23	time	2.42	3.52	4.56	5.59	6.62	7.66	8.73	9.81	10.90	12.01		13.64	7 / 6			
reaction time	0.144	interval	7 steps	1.10	1.04	1.03	1.03	1.04	1.07	1.08	1.09	1.11	1.63			3.17	3.14	3.28
wind	-0.1 m/s	velocity	5.67	8.31	8.79	8.87	8.87	8.79	8.54	8.46	8.39	8.23	8.60	8.06		8.65	8.73	8.36

Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.58	3.62	4.65	5.66	6.68	7.68	8.80	9.92	11.13	12.26		13.97	3 / 7			
reaction time	0.162	interval	7 steps	1.04	1.03	1.01	1.02	1.00	1.12	1.12	1.21	1.13	1.71			3.08	3.14	3.46
wind	-0.2 m/s	velocity	5.32	8.79	8.87	9.05	8.96	9.14	8.16	8.16	7.55	8.09	8.20	7.87		8.90	8.73	7.92

Heat 3 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.56	3.60	4.62	5.63	6.65	7.70	8.73	9.82	10.92	12.00		13.49	7 / 3			
reaction time	0.152	interval	7 steps	1.04	1.02	1.01	1.02	1.05	1.03	1.09	1.10	1.08	1.49			3.07	3.10	3.27
wind	0.0 m/s	velocity	5.36	8.79	8.96	9.05	8.96	8.70	8.87	8.39	8.31	8.46	9.41	8.15		8.93	8.85	8.39

Heat 1 - 2023 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2023) - diamond league race analysis*

date	16-Jul-23	time	2.48	3.57	4.62	5.65	6.70	7.75	8.80	9.85	10.93	12.03		13.65	7 / 9			
reaction time	0.154	interval	7 steps	1.09	1.05	1.03	1.05	1.05	1.05	1.05	1.08	1.10	1.62			3.17	3.15	3.23
wind	0.3 m/s	velocity	5.53	8.39	8.70	8.87	8.70	8.70	8.70	8.70	8.46	8.31	8.65	8.06		8.65	8.70	8.49

FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) *Omega Timing (2023) - diamond league race analysis*

date	28-May-23	time	2.48	3.56	4.62	5.67	6.73	7.79	8.86	9.94	11.02	12.14		13.83	9 / 9			
reaction time	0.193	interval	7 steps	1.08	1.06	1.05	1.06	1.06	1.07	1.08	1.08	1.12	1.69			3.19	3.19	3.28
wind	-1.3 m/s	velocity	5.53	8.46	8.62	8.70	8.62	8.62	8.54	8.46	8.46	8.16	8.30	7.95		8.60	8.60	8.36

FINAL - 2022 Weltklasse (Zürich, SUI) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	08-Sep-22	time	2.60	3.67	4.70	5.74	6.77	7.81	8.84	9.88	11.01	12.11		13.65	1 / 7			
reaction time	0.142	interval	7 steps	1.07	1.03	1.04	1.03	1.04	1.03	1.04	1.13	1.10	1.54			3.14	3.10	3.27
wind	-1.0 m/s	velocity	5.28	8.54	8.87	8.79	8.87	8.79	8.87	8.79	8.09	8.31	9.10	8.06		8.73	8.85	8.39

FINAL - 2022 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	26-Aug-22	time	2.64	3.70	4.74	5.74	6.77	7.81	8.87	9.94	11.01	12.11		13.58	8 / 6			
reaction time	0.166	interval	7 steps	1.06	1.04	1.00	1.03	1.04	1.06	1.07	1.07	1.10	1.47			3.10	3.13	3.24
wind	0.0 m/s	velocity	5.20	8.62	8.79	9.14	8.87	8.79	8.62	8.54	8.54	8.31	9.54	8.10		8.85	8.76	8.46

FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	10-Aug-22	time	2.53	3.56	4.56	5.60	6.63	7.66	8.73	9.76	10.83	11.93		13.46	7 / 7			
reaction time	0.156	interval	7 steps	1.03	1.00	1.04	1.03	1.03	1.07	1.03	1.07	1.10	1.53			3.07	3.13	3.20
wind	0.6 m/s	velocity	5.42	8.87	9.14	8.79	8.87	8.87	8.54	8.87	8.54	8.31	9.16	8.17		8.93	8.76	8.57

FINAL - 2022 World Athletics Championships (Eugene, OR) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	17-Jul-22	time	2.61	3.64	4.64	5.64	6.68	7.68	8.71	9.75	10.81	11.89		13.32	2 / 4			
reaction time	0.140	interval	7 steps	1.03	1.00	1.00	1.04	1.00	1.03	1.04	1.06	1.08	1.43			3.03	3.07	3.18
wind	1.2 m/s	velocity	5.26	8.87	9.14	9.14	8.79	9.14	8.87	8.79	8.62	8.46	9.80	8.26		9.05	8.93	8.62

Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.56	3.58	4.60	5.60	6.60	7.58	8.60	9.63	10.70	11.78		13.22	6 / 4			
reaction time	0.135	interval	7 steps	1.02	1.02	1.00	1.00	0.98	1.02	1.03	1.07	1.08	1.44			3.04	3.00	3.18
wind	2.5 m/s	velocity	5.36	8.96	8.96	9.14	9.14	9.33	8.96	8.87	8.54	8.46	9.74	8.32		9.02	9.14	8.62

Heat 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.56	3.58	4.60	5.60	6.63	7.66	8.70	9.73	10.76	11.86		13.37	3 / 2			
reaction time	0.146	interval	7 steps	1.02	1.02	1.00	1.03	1.03	1.04	1.03	1.03	1.10	1.51			3.04	3.10	3.16
wind	0.4 m/s	velocity	5.36	8.96	8.96	9.14	8.87	8.87	8.79	8.87	8.87	8.31	9.28	8.23		9.02	8.85	8.68

FINAL - 2022 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	18-Jun-22	time	2.52	3.54	4.58	5.60	6.62	7.64	8.66	9.70	10.74	11.80		13.31	7 / 4			
reaction time	0.144	interval	7 steps	1.02	1.04	1.02	1.02	1.02	1.02	1.04	1.04	1.06	1.51			3.08	3.06	3.14
wind	-0.2 m/s	velocity	5.44	8.96	8.79	8.96	8.96	8.96	8.96	8.79	8.79	8.62	9.28	8.26		8.90	8.96	8.73

FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	21-May-22	time	2.49	3.52	4.53	5.53	6.55	7.57	8.59	9.65	10.72	11.77		13.32	1 / 4			
reaction time	0.158	interval	7 steps	1.03	1.01	1.00	1.02	1.02	1.02	1.06	1.07	1.05	1.55			3.04	3.06	3.18
wind	0.7 m/s	velocity	5.51	8.87	9.05	9.14	8.96	8.96	8.96	8.62	8.54	8.70	9.05	8.26		9.02	8.96	8.62

Semi-Final 2 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.50	3.54	4.58	5.60	6.64							7.61	5 / 5			
reaction time	0.157	interval	7 steps	1.04	1.04	1.02	1.04						0.97			3.10		
		velocity	5.49	8.79	8.79	8.96	8.79						10.02	7.88		8.85		

Semi-Final 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.59	3.60	4.62	5.63	6.69	7.79	8.86	9.94	11.05	12.15		13.63	2 / 6			
reaction time	0.152	interval	7 steps	1.01	1.02	1.01	1.06	1.10	1.07	1.08	1.11	1.10	1.48			3.04	3.23	3.29
wind	0.3 m/s	velocity	5.30	9.05	8.96	9.05	8.62	8.31	8.54	8.46	8.23	8.31	9.47	8.07		9.02	8.49	8.33

Heat 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.56	3.60	4.64	5.67	6.71	7.72	8.77	9.88	10.97	12.07		13.61	5 / 4			
reaction time	0.141	interval	7 steps	1.04	1.04	1.03	1.04	1.01	1.05	1.11	1.09	1.10	1.54			3.11	3.10	3.30
wind	-0.1 m/s	velocity	5.36	8.79	8.79	8.87	8.79	9.05	8.70	8.23	8.39	8.31	9.10	8.08		8.82	8.85	8.31

FINAL - 2021 European Indoor Championships (Toruń, POL) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	07-Mar-21	time	2.46	3.48	4.48	5.46	6.60							7.63	4 / 6			
reaction time	0.148	interval	7 steps	1.02	1.00	0.98	1.14						1.03			3.00		
		velocity	5.58	8.96	9.14	9.33	8.02						9.44	7.86		9.14		

FINAL - 2021 Copernicus Cup (Toruń, POL) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	17-Feb-21	time	2.54	3.59	4.60	5.60	6.67							7.63	7 / 4			

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

reaction time	0.149	interval	7 steps	1.05	1.01	1.00	1.07						0.96				3.06	
		velocity	5.40	8.70	9.05	9.14	8.54						10.13	7.86			8.96	

FINAL - 2021 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	09-Feb-21	time	2.55	3.58	4.60	5.60	6.62							7.59	3 / 5			
reaction time	0.161	interval	7 steps	1.03	1.02	1.00	1.02						0.97				3.05	
		velocity	5.38	8.87	8.96	9.14	8.96						10.02	7.91			8.99	

Heat 2 - 2021 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	09-Feb-21	time	2.45	3.50	4.53	5.53	6.53							7.63	6 / 2			
reaction time	0.155	interval	7 steps	1.05	1.03	1.00	1.00						1.10				3.08	
		velocity	5.60	8.70	8.87	9.14	9.14						8.84	7.86			8.90	

Semi-Final 2 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.45	3.52	4.57	5.62	6.65	7.64	8.65	9.71	10.77	11.84		13.42	9 / 5			
reaction time	0.183	interval	7 steps	1.07	1.05	1.05	1.03	0.99	1.01	1.06	1.06	1.07	1.58				3.17	3.03	3.19
wind	0.6 m/s	velocity	5.60	8.54	8.70	8.70	8.87	9.23	9.05	8.62	8.62	8.54	8.87	8.20			8.65	9.05	8.60

FINAL - 2017 Golden Spike (Ostrava, CZE) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	28-Jun-17	time	2.56	3.62	4.68	5.70	6.72	7.78	8.82	9.88	10.96	12.06		13.56	7 / 7			
reaction time	0.177	interval	7 steps	1.06	1.06	1.02	1.02	1.06	1.04	1.06	1.08	1.10	1.50				3.14	3.12	3.24
wind	0.6 m/s	velocity	5.36	8.62	8.62	8.96	8.96	8.62	8.79	8.62	8.46	8.31	9.35	8.11			8.73	8.79	8.46

FINAL - 2017 Bauhaus Athletics (Stockholm, SWE) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	18-Jun-17	time	2.54	3.62	4.64	5.64	6.66	7.70	8.72	9.74	10.78	11.86		13.36	7 / 5			
reaction time	0.164	interval	7 steps	1.08	1.02	1.00	1.02	1.04	1.02	1.02	1.04	1.08	1.50				3.10	3.08	3.14
wind	3.5 m/s	velocity	5.40	8.46	8.96	9.14	8.96	8.79	8.96	8.96	8.79	8.46	9.35	8.23			8.85	8.90	8.73

FINAL - 2016 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	15-Jul-16	time	2.56	3.58	4.62	5.66	6.70	7.72	8.80	9.88	10.96	12.08		13.64	1 / 6			
reaction time	0.157	interval	7 steps	1.02	1.04	1.04	1.04	1.02	1.08	1.08	1.08	1.12	1.56				3.10	3.14	3.28
wind	0.0 m/s	velocity	5.36	8.96	8.79	8.79	8.79	8.96	8.46	8.46	8.46	8.16	8.99	8.06			8.85	8.73	8.36

Dabó, Rasul (POR) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Race 1 - 2011 European Team Championships (Stockholm, SWE) *Blomkvist (2011) - www.sub13.se*

date	19-Jun-11	time	2.60	3.72	4.80	5.86	6.96	8.03	9.12	10.28	11.40	12.56		14.14	2 / 5			
reaction time	0.148	interval		1.12	1.08	1.06	1.10	1.07	1.09	1.16	1.12	1.16	1.58				3.26	3.26	3.44
wind	-0.8 m/s	velocity	5.28	8.16	8.46	8.62	8.31	8.54	8.39	7.88	8.16	7.88	8.87	7.78			8.41	8.41	7.97

Dal Molin, Paolo (ITA) (1987)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2022 Bislett Games (Oslo, NOR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jun-22	time	2.52	3.60	4.66	5.72	6.76	7.84	8.94	10.02	11.12	12.26		13.76	8 / 6			
reaction time	0.122	interval	7 steps	1.08	1.06	1.06	1.04	1.08	1.10	1.08	1.10	1.14	1.50				3.20	3.22	3.32
wind	-1.2 m/s	velocity	5.44	8.46	8.62	8.62	8.79	8.46	8.31	8.46	8.31	8.02	9.35	7.99			8.57	8.52	8.26

FINAL - 2021 Weltklasse (Zürich, SUI) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	09-Sep-21	time	2.54	3.54	4.56	5.60	6.64	7.68	8.76	9.80	10.86	11.96		13.43	2 / 5			
reaction time	0.135	interval	7 steps	1.00	1.02	1.04	1.04	1.04	1.08	1.04	1.06	1.10	1.47				3.06	3.16	3.20
wind	0.6 m/s	velocity	5.40	9.14	8.96	8.79	8.79	8.79	8.46	8.79	8.62	8.31	9.54	8.19			8.96	8.68	8.57

Semi-Final 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.51	3.56	4.59	5.64	6.68	7.71	8.75	9.86	10.91	12.04		13.40	9 / 4			
reaction time	0.133	interval	7 steps	1.05	1.03	1.05	1.04	1.03	1.04	1.11	1.05	1.13	1.36				3.13	3.11	3.29
wind	0.1 m/s	velocity	5.47	8.70	8.87	8.70	8.79	8.87	8.79	8.23	8.70	8.09	10.31	8.21			8.76	8.82	8.33

Heat 5 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.57	3.66	4.68	5.68	6.70	7.73	8.78	9.83	10.94	12.00		13.44	8 / 4			
reaction time	0.151	interval	7 steps	1.09	1.02	1.00	1.02	1.03	1.05	1.05	1.11	1.06	1.44				3.11	3.10	3.22
wind	-0.1 m/s	velocity	5.34	8.39	8.96	9.14	8.96	8.87	8.70	8.70	8.23	8.62	9.74	8.18			8.82	8.85	8.52

FINAL - 2021 Müller British Grand Prix (Gateshead, GBR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	13-Jul-21	time	2.52	3.60	4.64	5.74	6.86	7.96	9.04	10.16	11.24	12.36		13.97	8 / 7			
reaction time	0.150	interval	7 steps	1.08	1.04	1.10	1.12	1.10	1.08	1.12	1.08	1.12	1.61				3.22	3.30	3.32
wind	0.8 m/s	velocity	5.44	8.46	8.79	8.31	8.16	8.31	8.46	8.16	8.46	8.16	8.71	7.87			8.52	8.31	8.26

FINAL - 2021 Golden Gala Pietro Mennea (Florence, ITA) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	10-Jun-21	time	2.48	3.54	4.60	5.68	6.72	7.80	8.86	9.94	11.00	12.12		13.64	2 / 7			
reaction time	0.142	interval	7 steps	1.06	1.06	1.08	1.04	1.08	1.06	1.08	1.06	1.12	1.52				3.20	3.18	3.26
wind	-0.1 m/s	velocity	5.53	8.62	8.62	8.46	8.79	8.46	8.62	8.46	8.62	8.16	9.22	8.06			8.57	8.62	8.41

FINAL - 2021 European Indoor Championships (Toruń, POL) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	07-Mar-21	time	2.40	3.46	4.50	5.54	6.58							7.56	7 / 3			
reaction time	0.133	interval	7 steps	1.06	1.04	1.04	1.04						0.98				3.14	

		velocity	5.72	8.62	8.79	8.79	8.79						9.92	7.94		8.73			

FINAL - 2021 Villa de Madrid (Madrid, ESP) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Feb-21	time	2.37	3.43	4.47	5.50	6.54							7.57	5 / 3				
reaction time		interval	7 steps	1.06	1.04	1.03	1.04						1.03			3.13			
		velocity	5.79	8.62	8.79	8.87	8.79						9.44	7.93		8.76			

Heat 2 - 2021 Villa de Madrid (Madrid, ESP) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Feb-21	time	2.47	3.53	4.63	5.72	6.78							7.71	5 / 2				
reaction time	0.134	interval	7 steps	1.06	1.10	1.09	1.06						0.93			3.25			
		velocity	5.55	8.62	8.31	8.39	8.62						10.45	7.78		8.44			

FINAL - 2021 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	09-Feb-21	time	2.43	3.49	4.55	5.57	6.60							7.55	2 / 3				
reaction time	0.126	interval	7 steps	1.06	1.06	1.02	1.03						0.95			3.14			
		velocity	5.65	8.62	8.62	8.96	8.87						10.23	7.95		8.73			

Heat 1 - 2021 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	09-Feb-21	time	2.40	3.48	4.53	5.55	6.58							7.65	7 / 4				
reaction time	0.134	interval	7 steps	1.08	1.05	1.02	1.03						1.07			3.15			
		velocity	5.72	8.46	8.70	8.96	8.87						9.08	7.84		8.70			

FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	17-Sep-20	time	2.50	3.52	4.60	5.66	6.70	7.78	8.88	9.96	11.06	12.18		13.70	1 / 9				
reaction time	0.134	interval	7 steps	1.02	1.08	1.06	1.04	1.08	1.10	1.08	1.10	1.12	1.52			3.16	3.22	3.30	
wind	0.1 m/s	velocity	5.49	8.96	8.46	8.62	8.79	8.46	8.31	8.46	8.31	8.16	9.22	8.03		8.68	8.52	8.31	

FINAL - 2020 Herculis Meeting International d'Athletisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	14-Aug-20	time	2.50	3.57	4.64	5.70	6.77	7.80	8.87	9.97	11.04	12.14		13.61	8 / 5				
reaction time	0.123	interval	7 steps	1.07	1.07	1.06	1.07	1.03	1.07	1.10	1.07	1.10	1.47			3.20	3.17	3.27	
wind	0.8 m/s	velocity	5.49	8.54	8.54	8.62	8.54	8.87	8.54	8.31	8.54	8.31	9.54	8.08		8.57	8.65	8.39	

Heat 2 - 2014 European Championships (Zurich, SUI) *Incalza (2014) - https://www.youtube.com/watch?v=nliXgBWbl_k&list=UU7691fXeyNFIMROfkJ-WWUg*

date	13-Aug-14	time	2.55	3.64	4.67	5.73	6.77	7.80	8.90	9.97	11.05	12.14		13.54	6 / 4				
reaction time	0.138	interval		1.09	1.03	1.06	1.04	1.03	1.10	1.07	1.08	1.09	1.40			3.18	3.17	3.24	
wind	0.4 m/s	velocity	5.38	8.39	8.87	8.62	8.79	8.87	8.31	8.54	8.46	8.39	10.01	8.12		8.62	8.65	8.46	

FINAL - 2014 Italian National Indoor Championships (Ancona, ITA) *FIDAL - Centro Studi & Ricerche (2014) - www.youtube.com/watch?v=bF4QEqg7shU*

date	22-Feb-14	time	2.56	3.63	4.68	5.69	6.72							7.60	3 / 1				
reaction time		interval		1.07	1.05	1.01	1.03						0.88			3.13			
		velocity	5.36	8.54	8.70	9.05	8.87						11.05	7.89		8.76			

FINAL - 2013 European Indoor Championships (Göteborg, SWE) *Blomkvist (2013) - www.elitlandslag.se/SprintHäck/KortHäck.aspx*

date	01-Mar-13	time	2.51	3.55	4.60	5.62	6.66							7.51	4 / 2				
reaction time	0.138	interval		1.04	1.05	1.02	1.04						0.85	NR		3.11			
		velocity	5.47	8.79	8.70	8.96	8.79						11.44	7.99		8.82			

FINAL - 2012 Italian National Indoor Championships (Ancona, ITA) *FIDAL - Centro Studi & Ricerche (2012) - www.youtube.com/watch?v=SIDALf6RdBY*

date	25-Feb-12	time	2.60	3.66	4.71	5.75	6.82							7.75	6 / 1				
reaction time		interval		1.06	1.05	1.04	1.07						0.93			3.15			
		velocity	5.28	8.62	8.70	8.79	8.54						10.45	7.74		8.70			

Darien, Daniel (FRA) (1961)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 1986 French National Indoor Championships (Lievin, FRA)															*Aubert (1986) - indoor - video - haies, etude des performances*			
date	26-Jan-86	time	2.60	3.70	4.79	5.90	7.00							7.91	/ 4			
reaction time		interval		1.10	1.09	1.11	1.10						0.91			3.30		
		velocity	5.28	8.31	8.39	8.23	8.31						10.68	7.59		8.31		

Semi-Final ? - 1986 French National Indoor Championships (Lievin, FRA)															*Aubert (1986) - indoor - video - haies, etude des performances*			
date	26-Jan-86	time	2.67	3.76	4.85	5.95	7.04							7.94	/ 4			
reaction time		interval		1.09	1.09	1.10	1.09						0.90			3.28		
		velocity	5.14	8.39	8.39	8.31	8.39						10.80	7.56		8.36		

Darien, Garfield (FRA) (1987)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 2018 Shanghai Diamond League (Shanghai, CHN) (TV Analysis)															*Henson (2020) - Athlete First: 2018 year end hurdle report*			
date	12-May-18	time	2.56	3.62	4.68	5.74	6.76	7.84	8.92	10.00	11.08	12.20		13.74	3 / 7			
reaction time	0.144	interval	7 steps	1.06	1.06	1.06	1.02	1.08	1.08	1.08	1.08	1.12	1.54			3.18	3.18	3.28
wind	0.2 m/s	velocity	5.36	8.62	8.62	8.62	8.96	8.46	8.46	8.46	8.46	8.16	9.10	8.01		8.62	8.62	8.36

FINAL - 2017 Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	01-Sep-17	time	2.54	3.62	4.66	5.68	6.70	7.72	8.76	9.80	10.86	11.92		13.42	9 / 6				
reaction time	0.138	interval	7 steps	1.08	1.04	1.02	1.02	1.02	1.04	1.04	1.06	1.06	1.50			3.14	3.08	3.16	
wind	0.5 m/s	velocity	5.40	8.46	8.79	8.96	8.96	8.96	8.79	8.79	8.62	8.62	9.35	8.20		8.73	8.90	8.68	

FINAL - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	07-Aug-17	time	2.38	3.44	4.46	5.48	6.52	7.54	8.56	9.58	10.62	11.72		13.30	6 / 4			
reaction time	0.115	interval	7 steps	1.06	1.02	1.02	1.04	1.02	1.02	1.02	1.04	1.10	1.58			3.10	3.08	3.16
wind	0.0 m/s	velocity	5.76	8.62	8.96	8.96	8.79	8.96	8.96	8.96	8.79	8.31	8.87	8.27		8.85	8.90	8.68

Semi-Final 1 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.34	3.39	4.41	5.43	6.45	7.45	8.45	9.48	10.52	11.57		13.17	6 / 2			
reaction time	0.125	interval	7 steps	1.05	1.02	1.02	1.02	1.00	1.00	1.03	1.04	1.05	1.60			3.09	3.02	3.12
wind	0.2 m/s	velocity	5.86	8.70	8.96	8.96	8.96	9.14	9.14	8.87	8.79	8.70	8.76	8.35		8.87	9.08	8.79

FINAL - 2017 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	01-Jul-17	time	2.50	3.54	4.56	5.56	6.54	7.58	8.58	9.60	10.62	11.68		13.15	7 / 3			
reaction time	0.121	interval	7 steps	1.04	1.02	1.00	0.98	1.04	1.00	1.02	1.02	1.06	1.47			3.06	3.02	3.10
wind	-0.1 m/s	velocity	5.49	8.79	8.96	9.14	9.33	8.79	9.14	8.96	8.96	8.62	9.54	8.37		8.96	9.08	8.85

FINAL - 2017 Golden Spike (Ostrava, CZE) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	28-Jun-17	time	2.48	3.50	4.52	5.52	6.52	7.54	8.54	9.56	10.58	11.62		13.09	5 / 1			
reaction time	0.151	interval	7 steps	1.02	1.02	1.00	1.00	1.02	1.00	1.02	1.02	1.04	1.47	**PB**		3.04	3.02	3.08
wind	0.6 m/s	velocity	5.53	8.96	8.96	9.14	9.14	8.96	9.14	8.96	8.96	8.79	9.54	8.40		9.02	9.08	8.90

FINAL - 2017 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	08-Jun-17	time	2.52	3.56	4.58	5.60	6.72							15.64	8 / 9			
reaction time	0.148	interval	7 steps	1.04	1.02	1.02	1.12									3.08		
wind	-0.3 m/s	velocity	5.44	8.79	8.96	8.96	8.16							7.03		8.90		

FINAL - 2015 IAAF World Championships (Beijing, CHN) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	28-Aug-15	time	2.52	3.58	4.64	5.66	6.68	7.68	8.72	9.76	10.80	11.86		13.34	3 / 8			
reaction time	0.178	interval	7 steps	1.06	1.06	1.02	1.02	1.00	1.04	1.04	1.04	1.06	1.48			3.14	3.06	3.14
wind	0.2 m/s	velocity	5.44	8.62	8.62	8.96	8.96	9.14	8.79	8.79	8.79	8.62	9.47	8.25		8.73	8.96	8.73

FINAL - 2012 Herculis Meeting International D'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	20-Jul-12	time	2.48	3.54	4.54	5.56	6.56	7.58	8.60	9.64	10.71	11.81		13.27	2 / 6			
reaction time	0.161	interval		1.06	1.00	1.02	1.00	1.02	1.02	1.04	1.07	1.10	1.46			3.08	3.04	3.21
wind	0.0 m/s	velocity	5.53	8.62	9.14	8.96	9.14	8.96	8.96	8.79	8.54	8.31	9.60	8.29		8.90	9.02	8.54

Heat 3 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.67	3.71	4.75	5.80	6.83	7.87	8.93	9.99	11.07	12.15		13.56	2 / =1			
reaction time	0.149	interval		1.04	1.04	1.05	1.03	1.04	1.06	1.06	1.08	1.08	1.41			3.13	3.13	3.22
wind	0.2 m/s	velocity	5.14	8.79	8.79	8.70	8.87	8.79	8.62	8.62	8.46	8.46	9.94	8.11		8.76	8.76	8.52

Davenport, Willie (USA) (1943)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1976 Olympic Games (Montreal, CAN) *Ewen (1977) - montreal 1976*

date	28-Jul-76	time	2.6	3.6	4.6	5.7	6.7	7.7	8.8	9.8	10.9	11.9		13.38	3 / 3			
reaction time		interval		1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.10	1.00	1.48			3.10	3.10	3.10
wind	0.0 m/s	velocity	5.28	9.14	9.14	8.31	9.14	9.14	8.31	9.14	8.31	9.14	9.47	8.22		8.85	8.85	8.85

FINAL - 1972 Olympic Games (Munich, FRG) *Kay (1972) - BAAB Munich Technical Report*

date	07-Sep-72	time	2.5	3.5	4.6	5.6	6.6	7.6	8.7	9.8	10.9	11.9		13.50	1 / 4			
reaction time		interval		1.00	1.10	1.00	1.00	1.00	1.10	1.10	1.10	1.00	1.60			3.10	3.10	3.20
wind	0.3 m/s	velocity	5.49	9.14	8.31	9.14	9.14	9.14	8.31	8.31	8.31	9.14	8.76	8.15		8.85	8.85	8.57

de los Santos, Miguel (ESP) (1973)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1997 European Cup (Munich, GER) *Jung (2003) - http://www.fgs.uni-halle.de*

date	22-Jun-97	time	2.77	3.87	4.94	6.02	7.08	8.17	9.29	10.40	11.52	12.70		14.16	/ 8			
reaction time		interval		1.10	1.07	1.08	1.06	1.09	1.12	1.11	1.12	1.18	1.46			3.25	3.27	3.41
wind	0.2 m/s	velocity	4.95	8.31	8.54	8.46	8.62	8.39	8.16	8.23	8.16	7.75	9.60	7.77		8.44	8.39	8.04

de Oliveira, João Vitor (BRA) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2016 Meeting International Mohammed VI D'Athletisme (Rabat, MAR) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	22-May-16	time	2.54	3.62	4.68	5.72	6.78	7.82	8.94	10.00	11.10	12.24		13.90	2 / 7			
reaction time	0.101	interval		1.08	1.06	1.04	1.06	1.04	1.12	1.06	1.10	1.14	1.66			3.18	3.22	3.30
wind	1.4 m/s	velocity	5.40	8.46	8.62	8.79	8.62	8.79	8.16	8.62	8.31	8.02	8.45	7.91		8.62	8.52	8.31

FINAL - 2016 Seiko Golden Grand Prix (Kawasaki, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	08-May-16	time	2.64	3.72	4.78	5.81	6.87	7.92	8.99	10.07	11.17	12.30		13.81	7 / 5			
reaction time	0.128	interval		1.08	1.06	1.03	1.06	1.05	1.07	1.08	1.10	1.13	1.51			3.17	3.18	3.31
wind	-0.6 m/s	velocity	5.20	8.46	8.62	8.87	8.62	8.70	8.54	8.46	8.31	8.09	9.28	7.97		8.65	8.62	8.28

de Vries, Ruan (RSA) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2013 Windsprint (Sundsvall, SWE) *(2013) - www.ssg.se/windsprint/Splittider/*

date	28-Jul-13	time	2.68	3.77	4.83	5.89	6.95	8.00	9.04	10.10	11.16	12.24		13.70	6 / 4			
reaction time		interval		1.09	1.06	1.06	1.06	1.05	1.04	1.06	1.06	1.08	1.46			3.21	3.15	3.20

wind	1.7 m/s	velocity	5.12	8.39	8.62	8.62	8.62	8.70	8.79	8.62	8.62	8.46	9.60	8.03		8.54	8.70	8.57

FINAL - 2012 Windsprint (Sundsvall, SWE) *Blomkvist (2012) - www.sub13.se*

date	17-Jun-12	time	2.71	3.81	4.89	5.97	7.04	8.10	9.17	10.24	11.32	12.41		13.90	6 / 4			
reaction time		interval		1.10	1.08	1.08	1.07	1.06	1.07	1.07	1.08	1.09	1.49			3.26	3.20	3.24
wind	1.1 m/s	velocity	5.06	8.31	8.46	8.46	8.54	8.62	8.54	8.54	8.46	8.39	9.41	7.91		8.41	8.57	8.46

Decker, Jan (CZE) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.86	4.07	5.28	6.46	7.66	8.87	10.07	11.26	12.50	13.73		15.40	8 / 8			
reaction time	0.235	interval		1.21	1.21	1.18	1.20	1.21	1.20	1.19	1.24	1.23	1.67			3.60	3.61	3.66
wind	-2.2 m/s	velocity	4.80	7.55	7.55	7.75	7.62	7.55	7.62	7.68	7.37	7.43	8.40	7.14		7.62	7.60	7.49

Heat 1 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.78	3.95	5.12	6.30	7.48	8.69	9.90	11.10	12.34	13.60		15.34	6 / 3			
reaction time	0.206	interval		1.17	1.17	1.18	1.18	1.21	1.21	1.20	1.24	1.26	1.74			3.52	3.60	3.70
wind	-1.6 m/s	velocity	4.94	7.81	7.81	7.75	7.75	7.55	7.55	7.62	7.37	7.25	8.06	7.17		7.79	7.62	7.41

Dees, Tony (USA) (1963)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1999 IAAF World Championships (Sevilla, ESP) *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	25-Aug-99	time	2.47	3.51	4.53	5.52	6.53	7.53	8.56	9.58	10.64	11.72		13.22	8 / 4			
reaction time	0.148	interval		1.04	1.02	0.99	1.01	1.00	1.03	1.02	1.06	1.08	1.50			3.05	3.04	3.16
wind	1.0 m/s	velocity	5.55	8.79	8.96	9.23	9.05	9.14	8.87	8.96	8.62	8.46	9.35	8.32		8.99	9.02	8.68

Semi-Final 2 - 1999 IAAF World Championships (Sevilla, ESP) *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	24-Aug-99	time	2.43	3.45	4.49	5.49	6.50	7.51	8.54	9.60	10.70	11.81		13.30	4 / 3			
reaction time	0.123	interval		1.02	1.04	1.00	1.01	1.01	1.03	1.06	1.10	1.11	1.49			3.06	3.05	3.27
wind	0.0 m/s	velocity	5.65	8.96	8.79	9.14	9.05	9.05	8.87	8.62	8.31	8.23	9.41	8.27		8.96	8.99	8.39

FINAL - 1996 USA Olympic Trials (Atlanta, GA) *McNichols (2000) - Hurdle technique study through video analysis*

date	23-Jun-96	time	2.45	3.47	4.52	5.51	6.57	7.62	8.68	9.80	10.88	12.01		13.67	2 / 6			
reaction time		interval		1.02	1.05	0.99	1.06	1.05	1.06	1.12	1.08	1.13	1.66			3.06	3.17	3.33
wind	0.9 m/s	velocity	5.60	8.96	8.70	9.23	8.62	8.70	8.62	8.16	8.46	8.09	8.45	8.05		8.96	8.65	8.23

FINAL - 1992 Olympic Games (Barcelona, ESP) *Knight (1992) - 1992 Olympic report: the hurdling events*

date	03-Aug-92	time	2.53	3.56	4.56	5.57	6.59	7.60	8.64	9.69	10.78	11.85		13.24	7 / 2			
reaction time	0.159	interval		1.03	1.00	1.01	1.02	1.01	1.04	1.05	1.09	1.07	1.39			3.04	3.07	3.21
wind	0.8 m/s	velocity	5.42	8.87	9.14	9.05	8.96	9.05	8.79	8.70	8.39	8.54	10.09	8.31		9.02	8.93	8.54

Deghelt, Adrien (BEL) (1985)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2007 European Cup (Munich, GER) *Graubner (2007) - http://www.fgs.uni-halle.de*

date	24-Jun-07	time	2.65	3.71	4.75	5.80	6.85	7.91	8.96	10.03	11.13	12.23		13.67	/ 6			
reaction time	0.149	interval		1.06	1.04	1.05	1.05	1.06	1.05	1.07	1.10	1.10	1.44	PB		3.15	3.16	3.27
wind	0.4 m/s	velocity	5.18	8.62	8.79	8.70	8.70	8.62	8.70	8.54	8.31	8.31	9.74	8.05		8.70	8.68	8.39

Degughi, Masaya (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Nambu Memorial (Sapporo, JPN) *(2017) - tfdata-store.com/2017/07/12/post-1025/*

date	09-Jul-17	time	2.76	3.87	5.04	6.18	7.37	8.53	9.71	10.90	12.09	13.33		14.85	1 / 9			
reaction time		interval		1.11	1.17	1.14	1.19	1.16	1.18	1.19	1.19	1.24	1.52			3.42	3.53	3.62
wind	2.7 m/s	velocity	4.97	8.23	7.81	8.02	7.68	7.88	7.75	7.68	7.68	7.37	9.22	7.41		8.02	7.77	7.57

Demidyuk, Serhiy (UKR) (1982)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER) *Graubner (2007) - http://www.fgs.uni-halle.de*

date	23-Sep-07	time	2.68	3.72	4.76	5.79	6.81	7.83	8.86	9.90	10.95	12.01		13.37	8 / 7			
reaction time	0.214	interval		1.04	1.04	1.03	1.02	1.02	1.03	1.04	1.05	1.06	1.36			3.11	3.07	3.15
wind	0.0 m/s	velocity	5.12	8.79	8.79	8.87	8.96	8.96	8.87	8.79	8.70	8.62	10.31	8.23		8.82	8.93	8.70

Desensky, Lukáš (CZE) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2015 Czech Republic National U18 Indoor Championships (Praha, CZE) (91cm) *Feher (2015) - Final report U18 & U20 Czech Republic indoor national champs*

date	14-Feb-15	time	2.71	3.83	4.96	6.06	7.17							8.11	2 / 2			
reaction time	0.195	interval		1.12	1.13	1.10	1.11						0.94			3.35		
		velocity	5.06	8.16	8.09	8.31	8.23						10.34	7.40		8.19		

Heat 3 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.77	3.95	5.12	6.32	7.49	8.70	9.88	11.08	12.28	13.53		15.20	2 / 4			
reaction time	0.201	interval		1.18	1.17	1.20	1.17	1.21	1.18	1.20	1.20	1.25	1.67			3.55	3.56	3.65
wind	-1.6 m/s	velocity	4.95	7.75	7.81	7.62	7.81	7.55	7.75	7.62	7.62	7.31	8.40	7.24		7.72	7.70	7.51

Díaz, Yunior (CUB) (1987)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 1 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.69	3.86	5.00	6.13	7.26	8.38	9.51	10.86	11.86	13.08		14.56	6 / 2			
reaction time	0.155	interval		1.17	1.14	1.13	1.13	1.12	1.13	1.35	1.00	1.22	1.48			3.44	3.38	3.57
wind	0.3 m/s	velocity	5.10	7.81	8.02	8.09	8.09	8.16	8.09	6.77	9.14	7.49	9.47	7.55		7.97	8.11	7.68

Dickson, Michael (USA) (1997)

Heat 2 - 2024 Meeting de Paris (Paris, FRA) — *Omega Timing (2024) - diamond league race analysis*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	07-Jul-24	time	2.45	3.54	4.58	5.61	6.66	7.70	8.75	9.83	10.90	11.99		13.60	2 / 6			
reaction time	0.192	interval	7 steps	1.09	1.04	1.03	1.05	1.04	1.05	1.08	1.07	1.09	1.61			3.16	3.14	3.24
wind	0.4 m/s	velocity	5.60	8.39	8.79	8.87	8.70	8.79	8.70	8.46	8.54	8.39	8.71	8.09		8.68	8.73	8.46

FINAL - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) — *Henson (2024) - Athlete First: 2024 year end hurdle report*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	28-Jun-24	time	2.54	3.60	4.64	5.64	6.64	7.66	8.68	9.71	10.75	11.80		13.21	5 / 7			
reaction time		interval	7 steps	1.06	1.04	1.00	1.00	1.02	1.02	1.03	1.04	1.05	1.41			3.10	3.04	3.12
wind	2.0 m/s	velocity	5.40	8.62	8.79	9.14	9.14	8.96	8.96	8.87	8.79	8.70	9.94	8.33		8.85	9.02	8.79

Heat 3 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) — *Henson (2024) - Athlete First: 2024 year end hurdle report*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	24-Jun-24	time	2.53	3.60	4.63	5.64	6.66	7.70	8.73	9.75	10.78	11.93		13.36	2 / 4			
reaction time		interval	7 steps	1.07	1.03	1.01	1.02	1.04	1.03	1.02	1.03	1.15	1.43			3.11	3.09	3.20
wind	1.8 m/s	velocity	5.42	8.54	8.87	9.05	8.96	8.79	8.87	8.96	8.87	7.95	9.80	8.23		8.82	8.87	8.57

FINAL - 2024 Atlanta City Cames (Atlanta, GA) (Street Race) (TV Analysis) — *Henson (2024) - Athlete First: 2024 year end hurdle report*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	18-May-24	time	2.58	3.65	4.68	5.75	6.77	7.79	8.82	9.88	10.95	12.01		13.50	4 / 3			
reaction time		interval	7 steps	1.07	1.03	1.07	1.02	1.02	1.03	1.06	1.07	1.06	1.49			3.17	3.07	3.19
wind	-0.7 m/s	velocity	5.32	8.54	8.87	8.54	8.96	8.96	8.87	8.62	8.54	8.62	9.41	8.15		8.65	8.93	8.60

FINAL - 2024 USATF National Indoor Championships (Albuquerque, NM) (Altitude) (TV Analysis) — *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	16-Feb-24	time	2.57	3.63	4.65	5.67	6.67							7.57	1 / 5			
reaction time	0.181	interval	7 steps	1.06	1.02	1.02	1.00						0.90			3.10		
		velocity	5.34	8.62	8.96	8.96	9.14						10.80	7.93		8.85		

FINAL - 2024 New Balance Indoor Grand Prix (Boston, MA) (TV Analysis) — *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	04-Feb-24	time	2.56	3.60	4.60	5.62	6.67							7.57	2 / 5			
reaction time	0.194	interval	7 steps	1.04	1.00	1.02	1.05						0.90			3.06		
		velocity	5.36	8.79	9.14	8.96	8.70						10.80	7.93		8.96		

Heat 2 - 2023 Kamila Skolimowska Memorial (Silesia, POL) — *Omega Timing (2023) - diamond league race analysis*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	16-Jul-23	time	2.46	3.55	4.60	5.65	6.69	7.74	8.81	9.87	10.93	12.01		13.57	8 / 6			
reaction time	0.183	interval	7 steps	1.09	1.05	1.05	1.04	1.05	1.07	1.06	1.06	1.08	1.56			3.19	3.16	3.20
wind	-0.2 m/s	velocity	5.58	8.39	8.70	8.70	8.79	8.70	8.54	8.62	8.62	8.46	8.99	8.11		8.60	8.68	8.57

FINAL - 2023 USATF New York City Grand Prix (Randalls Island, NY) (TV Analysis) — *Henson (2023) - Athlete First: 2023 year end hurdle report*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	24-Jun-23	time	2.53	3.59	4.61	5.63	6.64	7.67	8.71	9.74	10.78	11.85		13.26	1 / 5			
reaction time	0.212	interval	7 steps	1.06	1.02	1.02	1.01	1.03	1.04	1.03	1.04	1.07	1.41			3.10	3.08	3.14
wind	1.6 m/s	velocity	5.42	8.62	8.96	8.96	9.05	8.87	8.79	8.87	8.79	8.54	9.94	8.30		8.85	8.90	8.73

FINAL - 2023 USATF Bermuda Grand Prix (Devonshire, BER) (TV Analysis) — *Henson (2023) - Athlete First: 2023 year end hurdle report*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	21-May-23	time	2.56	3.69	4.73	5.76	6.82	7.87	8.90	9.93	11.02	12.06		13.48	7 / 6			
reaction time	0.190	interval	7 steps	1.13	1.04	1.03	1.06	1.05	1.03	1.03	1.09	1.04	1.42			3.20	3.14	3.16
wind	4.0 m/s	velocity	5.36	8.09	8.79	8.87	8.62	8.70	8.87	8.87	8.39	8.79	9.87	8.16		8.57	8.73	8.68

Semi-Final 1 - 2022 USATF National Championships (Eugene, OR) — *USATF (2022) - Results powered by Karmarush.com*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	26-Jun-22	time	2.53	3.68	4.52	5.60	6.61	7.69	8.70	9.77	10.84	11.94		13.52	3 / 7			
reaction time		interval		1.15	0.84	1.08	1.01	1.08	1.01	1.07	1.07	1.10	1.58			3.07	3.10	3.24
wind	0.4 m/s	velocity	5.42	7.95	10.88	8.46	9.05	8.46	9.05	8.54	8.54	8.31	8.87	8.14		8.93	8.85	8.46

Heat 2 - 2022 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) — *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	17-Feb-22	time	2.46	3.55	4.58	5.60	6.63							7.64	6 / 4			
reaction time	0.183	interval	7 steps	1.09	1.03	1.02	1.03						1.01			3.14		
		velocity	5.58	8.39	8.87	8.96	8.87						9.62	7.85		8.73		

FINAL - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) — *Henson (2021) - Athlete First: 2021 year end hurdle report*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	26-Jun-21	time	2.50	3.55	4.60	5.62	6.64	7.67	8.71	9.74	10.78	11.85		13.34	2 / 6			
reaction time	0.201	interval	7 steps	1.05	1.05	1.02	1.02	1.03	1.04	1.03	1.04	1.07	1.49			3.12	3.09	3.14
wind	0.4 m/s	velocity	5.49	8.70	8.70	8.96	8.96	8.87	8.79	8.87	8.79	8.54	9.41	8.25		8.79	8.87	8.73

Semi-Final 2 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) — *Henson (2021) - Athlete First: 2021 year end hurdle report*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	26-Jun-21	time	2.50	3.60	4.57	5.60	6.63	7.67	8.67	9.71	10.74	11.86		13.29	6 / 3			
reaction time	0.173	interval	7 steps	1.10	0.97	1.03	1.03	1.04	1.00	1.04	1.03	1.12	1.43			3.10	3.07	3.19
wind	1.2 m/s	velocity	5.49	8.31	9.42	8.87	8.87	8.79	9.14	8.79	8.87	8.16	9.80	8.28		8.85	8.93	8.60

Heat 3 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) — *Henson (2021) - Athlete First: 2021 year end hurdle report*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	25-Jun-21	time	2.53	3.57	4.60	5.66	6.66	7.66	8.70	9.73	10.73	11.78		13.26	2 / 2			
reaction time	0.208	interval	7 steps	1.04	1.03	1.06	1.00	1.00	1.04	1.03	1.00	1.05	1.48	PB		3.13	3.04	3.08
wind	0.5 m/s	velocity	5.42	8.79	8.87	8.62	9.14	9.14	8.79	8.87	9.14	8.70	9.47	8.30		8.76	9.02	8.90

FINAL - 2021 American Track League 1 (Fayetteville, AR) (TV Analysis) — *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Jan-21	time	2.50	3.55	4.59	5.62	6.62						7.54	3 / 2			
reaction time	0.186	interval	7 steps	1.05	1.04	1.03	1.00					0.92	PB		3.12		
		velocity	5.49	8.70	8.79	8.87	9.14					10.57	7.96		8.79		

FINAL - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	15-Feb-20	time	2.58	3.65	4.72	5.74	6.79						7.69	6 / 6			
reaction time	0.171	interval		1.07	1.07	1.02	1.05					0.90			3.16		
		velocity	5.32	8.54	8.54	8.96	8.70					10.80	7.80		8.68		

Semi-Final 2 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	15-Feb-20	time	2.57	3.62	4.69	5.74	6.79						7.69	5 / 2			
reaction time	0.126	interval		1.05	1.07	1.05	1.05					0.90			3.17		
		velocity	5.34	8.70	8.54	8.70	8.70					10.80	7.80		8.65		

Heat 1 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.60	3.67	4.72	5.75	6.79						7.68	3 / 2			
reaction time	0.159	interval		1.07	1.05	1.03	1.04					0.89			3.15		
		velocity	5.28	8.54	8.70	8.87	8.79					10.92	7.81		8.70		

FINAL - 2020 Millrose Games (New York, NY) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	08-Feb-20	time	2.60	3.67	4.74	5.80	6.84						7.83	7 / 5			
reaction time	0.231	interval		1.07	1.07	1.06	1.04					0.99			3.20		
		velocity	5.28	8.54	8.54	8.62	8.79					9.82	7.66		8.57		

FINAL - 2019 The Match - Europe v USA (Minsk, BLR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	10-Sep-19	time	2.60	3.68	4.72	5.78	6.86	7.93	8.96	10.10	11.16	12.23		13.70	6 / 5				
reaction time	0.189	interval		1.08	1.04	1.06	1.08	1.07	1.03	1.14	1.06	1.07	1.47			3.18	3.18	3.27	
wind	0.1 m/s	velocity	5.28	8.46	8.79	8.62	8.46	8.54	8.87	8.02	8.62	8.54	9.54	8.03		8.62	8.62	8.39	

FINAL - 2019 USATF National Championships (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	28-Jul-19	time	2.56	3.60	4.67	5.70	6.74	7.77	8.80	9.85	10.94	12.00		13.45	3 / 5				
reaction time		interval		1.04	1.07	1.03	1.04	1.03	1.03	1.05	1.09	1.06	1.45	PB		3.14	3.10	3.20	
wind	-0.8 m/s	velocity	5.36	8.79	8.54	8.87	8.79	8.87	8.87	8.70	8.39	8.62	9.67	8.18		8.73	8.85	8.57	

Diessl, Enzo (AUT) (2004)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Repechage 1 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	06-Aug-24	time	2.43	3.53	4.56	5.60	6.63	7.67	8.72	9.78	10.86	11.94		13.56	7 / 4			
reaction time	0.109	interval	7 steps	1.10	1.03	1.04	1.03	1.04	1.05	1.06	1.08	1.08	1.62			3.17	3.12	3.22	
wind	0.2 m/s	velocity	5.65	8.31	8.87	8.79	8.87	8.79	8.70	8.62	8.46	8.46	8.65	8.11		8.65	8.79	8.52	

Heat 2 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.50	3.60	4.65	5.69	6.75	7.79	8.84	9.91	10.96	12.04		13.63	2 / 6			
reaction time	0.203	interval	7 steps	1.10	1.05	1.04	1.06	1.04	1.05	1.07	1.05	1.08	1.59			3.19	3.15	3.20	
wind	1.2 m/s	velocity	5.49	8.31	8.70	8.79	8.62	8.79	8.70	8.54	8.70	8.46	8.82	8.07		8.60	8.70	8.57	

Dinga, Libor (CZE) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2014 Czech Republic National Championships (Ostrava, CZE) *Feher (2014) - Final report from the Czech Republic national championships*

date	02-Aug-14	time	2.83	4.08	5.30	6.51	7.72	8.95	10.19	11.47	12.73	13.99		15.66	1 / 6			
reaction time	0.152	interval		1.25	1.22	1.21	1.21	1.23	1.24	1.28	1.26	1.26	1.67			3.68	3.68	3.80	
wind	-1.6 m/s	velocity	4.85	7.31	7.49	7.55	7.55	7.43	7.37	7.14	7.25	7.25	8.40	7.02		7.45	7.45	7.22	

Heat 2 - 2013 Czech Republic National Championships (Tábor, CZE) *Feher (2013) - Final report from the men's & women's Czech Republic national championships*

date	15-Jun-13	time	2.95	4.18	5.37	6.48	7.80	9.00	10.25	11.46	12.73	14.02		15.61	2 / 5			
reaction time	0.166	interval		1.23	1.19	1.11	1.32	1.20	1.25	1.21	1.27	1.29	1.59			3.53	3.77	3.77	
wind	-0.6 m/s	velocity	4.65	7.43	7.68	8.23	6.92	7.62	7.31	7.55	7.20	7.09	8.82	7.05		7.77	7.27	7.27	

Heat 3 - 2012 Czech Republic National Indoor Championships (Praha, CZE) *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

date	25-Feb-12	time	2.92	4.15	5.38	6.60	7.85						8.92	8 / 8			
reaction time	0.174	interval		1.23	1.23	1.22	1.25					1.07			3.68		
		velocity	4.70	7.43	7.43	7.49	7.31					9.08	6.73		7.45		

Dittmer, Paul (GER) (1987)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2006 German National Junior Championships (Watterscheid, GER) (99cm) *Killing (2006) - Werrmann und Dittmer im vergleich*

date	22-Jul-06	time	2.64	3.73	4.79	5.85	6.91	7.97	9.05	10.13	11.23	12.34		13.83	/ 1			
reaction time		interval		1.09	1.06	1.06	1.06	1.06	1.08	1.08	1.10	1.11	1.49	PB		3.21	3.20	3.29	
wind	0.8 m/s	velocity	5.20	8.39	8.62	8.62	8.62	8.62	8.46	8.46	8.31	8.23	9.41	7.95		8.54	8.57	8.33	

Dittrich, Thomas (GDR) (1954)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1981 USSR vs. GDR (Tbilisi, URS) *Chanon (1987) - analyse comparee des caracteristiques des courses de 100m haies et 110m haies*

date	26-Jun-81	time	2.50	3.65	4.78	5.80	6.82	7.89	9.04	10.19	11.39	12.64		13.94	/ 4			
reaction time		interval		1.15	1.13	1.02	1.02	1.07	1.15	1.15	1.20	1.25	1.30			3.30	3.24	3.60	
wind	???	velocity	5.49	7.95	8.09	8.96	8.96	8.54	7.95	7.95	7.62	7.31	10.78	7.89		8.31	8.46	7.62	

Doležal, Jan (CZE) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14 time	2.74	3.89	4.99	6.09	7.20	8.34	9.45	10.58	11.75	12.96		14.52	3 / 3			
reaction time 0.157 interval		1.15	1.10	1.10	1.11	1.14	1.11	1.13	1.17	1.21	1.56			3.35	3.36	3.51
wind -2.2 m/s velocity	5.01	7.95	8.31	8.31	8.23	8.02	8.23	8.09	7.81	7.55	8.99	7.58		8.19	8.16	7.81
Heat 3 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14 time	2.75	3.87	4.97	6.07	7.19	8.33	9.45	10.60	11.77	12.92		14.52	3 / 1			
reaction time 0.254 interval		1.12	1.10	1.10	1.12	1.14	1.12	1.15	1.17	1.15	1.60			3.32	3.38	3.47
wind -2.5 m/s velocity	4.99	8.16	8.31	8.31	8.16	8.02	8.16	7.95	7.81	7.95	8.76	7.58		8.26	8.11	7.90

Dorival, Dudley (HAI) (1975)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 2 - 1999 IAAF World Championships (Sevilla, ESP)													*Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*			
date 24-Aug-99 time	2.60	3.62	4.65	5.70	6.74	7.82	8.87	9.96	11.05	12.20		13.86	2 / 7			
reaction time 0.151 interval		1.02	1.03	1.05	1.04	1.08	1.05	1.09	1.09	1.15	1.66			3.10	3.17	3.33
wind 0.0 m/s velocity	5.28	8.96	8.87	8.70	8.79	8.46	8.70	8.39	8.39	7.95	8.45	7.94		8.85	8.65	8.23

dos Santos, Felipe (BRA) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date 05-Aug-21 time	2.72	3.88	4.95	6.07	7.20	8.32	9.48	10.63	11.85	13.05		14.58	8 / 7			
reaction time 0.172 interval	7 steps	1.16	1.07	1.12	1.13	1.12	1.16	1.15	1.22	1.20	1.53			3.35	3.41	3.57
wind -1.0 m/s velocity	5.04	7.88	8.54	8.16	8.09	8.16	7.88	7.95	7.49	7.62	9.16	7.54		8.19	8.04	7.68

Dostrašil, Tomáš (CZE) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 2 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14 time	2.85	4.09	5.30	6.52	7.75	9.00	10.22	11.52	12.78	14.11		15.87	6 / 6			
reaction time 0.184 interval		1.24	1.21	1.22	1.23	1.25	1.22	1.30	1.26	1.33	1.76			3.67	3.70	3.89
wind -2.9 m/s velocity	4.81	7.37	7.55	7.49	7.43	7.31	7.49	7.03	7.25	6.87	7.97	6.93		7.47	7.41	7.05

Doucouré, Ladji (FRA) (1983)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2009 ISTAF (Berlin, GER)													*Graubner (2009) - http://www.fgs.uni-halle.de*			
date 14-Jun-09 time	2.65	3.73	4.76	5.80	6.83	7.90	8.97	10.05	11.13	12.24		13.73	7 / 7			
reaction time 0.206 interval		1.08	1.03	1.04	1.03	1.07	1.07	1.08	1.08	1.11	1.49			3.15	3.17	3.27
wind 0.7 m/s velocity	5.18	8.46	8.87	8.79	8.87	8.54	8.54	8.46	8.46	8.23	9.41	8.01		8.70	8.65	8.39
FINAL - 2008 Olympic Games (Beijing, CHN)													*Tsiokanos (2018) - race pattern of men's 110m hurdles- time analysis of olympic hurdle performance*			
date 21-Aug-08 time	2.58	3.64	4.66	5.68	6.69	7.68	8.69	9.73	10.78	11.84		13.24	8 / 4			
reaction time 0.170 interval		1.06	1.02	1.02	1.01	0.99	1.01	1.04	1.05	1.06	1.40			3.10	3.01	3.15
wind 0.1 m/s velocity	5.32	8.62	8.96	8.96	9.05	9.23	9.05	8.79	8.70	8.62	10.01	8.31		8.85	9.11	8.70
FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER)													*Graubner (2007) - http://www.fgs.uni-halle.de*			
date 23-Sep-07 time	2.61	3.65	4.67	5.69	6.70	7.72	8.74	9.77	10.81	11.87		13.27	1 / 5			
reaction time 0.160 interval		1.04	1.02	1.02	1.01	1.02	1.02	1.03	1.04	1.06	1.40			3.08	3.05	3.13
wind 0.0 m/s velocity	5.26	8.79	8.96	8.96	9.05	8.96	8.96	8.87	8.79	8.62	10.01	8.29		8.90	8.99	8.76
FINAL - 2007 European Cup (Munich, GER)													*Graubner (2007) - http://www.fgs.uni-halle.de*			
date 24-Jun-07 time	2.57	3.61	4.63	5.63	6.64	7.65	8.67	9.70	10.77	11.87		13.35	/ 1			
reaction time 0.152 interval		1.04	1.02	1.00	1.01	1.01	1.02	1.03	1.07	1.10	1.48			3.06	3.04	3.20
wind 0.4 m/s velocity	5.34	8.79	8.96	9.14	9.05	9.05	8.96	8.87	8.54	8.31	9.47	8.24		8.96	9.02	8.57
m																
FINAL - 2005 IAAF World Championships (Helsinki, FIN)													*Longuevre (2005) - Helsinki 2005 - Les haies: Cinq qualifiées et un titre mondial*			
date 12-Aug-05 time	2.30	3.30	4.30	5.28	6.26	7.26	8.26	9.26	10.32	11.36		13.07	5 / 1			
reaction time 0.164 interval		1.00	1.00	0.98	0.98	1.00	1.00	1.00	1.06	1.04	1.71			2.98	2.98	3.10
wind -0.2 m/s velocity	5.97	9.14	9.14	9.33	9.33	9.14	9.14	9.14	8.62	8.79	8.20	8.42		9.20	9.20	8.85
FINAL - 2004 Olympic Games (Athens, GRE)													*Ruiz (2004) - las carreras con vallas de juegos olimpicos de atenas '04*			
date 27-Aug-04 time	2.52	3.54	4.55	5.56	6.55	7.54	8.54	9.55	10.58	11.63		13.76	3 / 8			
reaction time 0.204 interval		1.02	1.01	1.01	0.99	0.99	1.00	1.01	1.03	1.05	2.13			3.04	2.98	3.09
wind 0.3 m/s velocity	5.44	8.96	9.05	9.05	9.23	9.23	9.14	9.05	8.87	8.70	6.58	7.99		9.02	9.20	8.87
Semi-Final 2 - 2004 Olympic Games (Athens, GRE)													*Liagonne (2007) - Historique: Le 110m haies en chiffres*			
date 26-Aug-04 time	2.48	3.50	4.49	5.48	6.48	7.46	8.48	9.48	10.50	11.56		13.06	5 / 1			
reaction time 0.200 interval		1.02	0.99	0.99	1.00	0.98	1.02	1.00	1.02	1.06	1.50	NR / PB		3.00	3.00	3.08
wind 0.0 m/s velocity	5.53	8.96	9.23	9.23	9.14	9.33	8.96	9.14	8.96	8.62	9.35	8.42		9.14	9.14	8.90
Heat 1 - 2004 Olympic Games (Athens, GRE)													*Liagonne (2007) - Historique: Le 110m haies en chiffres*			
date 24-Aug-04 time	2.52	3.56	4.55	5.54	6.54	7.54	8.55	9.56	10.60	11.64		13.18	8 / 1			
reaction time 0.205 interval		1.04	0.99	0.99	1.00	1.00	1.01	1.01	1.04	1.04	1.54	NR / PB		3.02	3.01	3.09
wind 1.5 m/s velocity	5.44	8.79	9.23	9.23	9.14	9.14	9.05	9.05	8.79	8.79	9.10	8.35		9.08	9.11	8.87
FINAL - 2001 European Cup (Bremen, GER)													*Graubner (2007) - http://www.fgs.uni-halle.de*			
date 24-Jun-01 time	2.70	3.78	4.82	5.84	6.86	7.91	8.98	10.03	11.17	12.44		14.02	7 / 7			
reaction time 0.164 interval		1.08	1.04	1.02	1.02	1.05	1.07	1.05	1.14	1.27	1.58			3.14	3.14	3.46

wind	1.3 m/s	velocity	5.08	8.46	8.79	8.96	8.96	8.70	8.54	8.70	8.02	7.20	8.87	7.85		8.73	8.73	7.92

Douglas, Chris (AUS) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)													*Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*			
date 20-Mar-22	time	2.46	3.50	4.54	5.56	6.56						7.60	8 / 5			
reaction time 0.159	interval	7 steps	1.04	1.04	1.02	1.00					1.04			3.10		
	velocity	5.58	8.79	8.79	8.96	9.14					9.35	7.89		8.85		
Semi-Final 3 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)													*Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*			
date 20-Mar-22	time	2.46	3.53	4.56	5.56	6.58						7.56	8 / 2			
reaction time 0.145	interval	7 steps	1.07	1.03	1.00	1.02					0.98	NR PB		3.10		
	velocity	5.58	8.54	8.87	9.14	8.96					9.92	7.94		8.85		

Douvalídis, Konstadínos (GRE) (198

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 5 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date 03-Aug-21	time	2.62	3.74	4.77	5.78	6.78	7.81	8.86	9.95	11.01	12.10	13.63	2 / 7			
reaction time 0.128	interval	7 steps	1.12	1.03	1.01	1.00	1.03	1.05	1.09	1.06	1.09	1.53		3.16	3.08	3.24
wind -0.1 m/s	velocity	5.24	8.16	8.87	9.05	9.14	8.87	8.70	8.39	8.62	8.39	9.16	8.07		8.68	8.90	8.46
Semi-Final 3 - 2019 IAAF World Championships (Doha, QAT)													*CAA Hurdle Development (2019)*			
date 02-Oct-19	time	2.65	3.71	4.75	5.77	6.81	7.86	8.92	9.99	11.05	12.13	13.54	9 / 4			
reaction time 0.198	interval	7 steps	1.06	1.04	1.02	1.04	1.05	1.06	1.07	1.06	1.08	1.41		3.12	3.15	3.21
wind 0.6 m/s	velocity	5.18	8.62	8.79	8.96	8.79	8.70	8.62	8.54	8.62	8.46	9.94	8.12		8.79	8.70	8.54
FINAL - 2017 Golden Spike (Ostrava, CZE) (TV Analysis)													*Henson (2020) - Athlete First: 2017 year end hurdle report*			
date 28-Jun-17	time	2.56	3.62	4.66	5.70	6.72	7.76	8.80	9.88	10.96	12.04	13.51	2 / 5			
reaction time 0.154	interval		1.06	1.04	1.04	1.02	1.04	1.04	1.08	1.08	1.08	1.47		3.14	3.10	3.24
wind 0.6 m/s	velocity	5.36	8.62	8.79	8.79	8.96	8.79	8.79	8.46	8.46	8.46	9.54	8.14		8.73	8.85	8.46
FINAL - 2016 Athletissima (Lausanne, SUI) (TV Analysis)													*Henson (2020) - Athlete First: 2016 year end hurdle report*			
date 25-Aug-16	time	2.58	3.66	4.70	5.74	6.76	7.80	8.86	9.92	11.00	12.10	13.69	8 / 8			
reaction time 0.136	interval		1.08	1.04	1.04	1.02	1.04	1.06	1.06	1.08	1.10	1.59		3.16	3.12	3.24
wind 0.5 m/s	velocity	5.32	8.46	8.79	8.79	8.96	8.79	8.62	8.62	8.46	8.31	8.82	8.04		8.68	8.79	8.46
FINAL - 2016 London Anniversary Games (London, GBR) (TV Analysis)													*Henson (2021) - Athlete First: 2016 year end hurdle report*			
date 23-Jul-16	time	2.60	3.63	4.66	5.73	6.76	7.80	8.85	9.90	10.98	12.06	13.54	7 / 3			
reaction time 0.146	interval		1.03	1.03	1.07	1.03	1.04	1.05	1.05	1.08	1.08	1.48		3.13	3.12	3.21
wind -1.0 m/s	velocity	5.28	8.87	8.87	8.54	8.87	8.79	8.70	8.70	8.46	8.46	9.47	8.12		8.76	8.79	8.54
FINAL - 2016 Meeting International Mohammed VI D'Athletisme (Rabat, MAR) (TV Analysis)													*Henson (2020) - Athlete First: 2016 year end hurdle report*			
date 22-May-16	time	2.52	3.56	4.58	5.60	6.60	7.62	8.66	9.70	10.78	11.86	13.38	3 / 4			
reaction time 0.113	interval		1.04	1.02	1.02	1.00	1.02	1.04	1.04	1.08	1.08	1.52		3.08	3.06	3.20
wind 1.4 m/s	velocity	5.44	8.79	8.96	8.96	9.14	8.96	8.79	8.79	8.46	8.46	9.22	8.22		8.90	8.96	8.57
FINAL - 2013 European Indoor Championships (Göteborg, SWE)													*Blomkvist (2013) - www.elitlandslag.se/SprintHäck/KortHäck.aspx*			
date 01-Mar-13	time	2.62	3.68	4.72	5.76	6.78						7.64	1 / 7			
reaction time 0.153	interval		1.06	1.04	1.04	1.02					0.86			3.14		
	velocity	5.24	8.62	8.79	8.79	8.96					11.30	7.85		8.73		
FINAL - 2007 European Cup (Munich, GER)													*Graubner (2007) - http://www.fgs.uni-halle.de*			
date 24-Jun-07	time	2.63	3.70	4.74	5.79	6.83	7.91	8.97	10.03	11.10	12.20	13.63	/ 5			
reaction time 0.141	interval		1.07	1.04	1.05	1.04	1.08	1.06	1.06	1.07	1.10	1.43		3.16	3.18	3.23
wind 0.4 m/s	velocity	5.22	8.54	8.79	8.70	8.79	8.46	8.62	8.62	8.54	8.31	9.80	8.07		8.68	8.62	8.49

Drut, Guy (FRA) (1950)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1976 Olympic Games (Montreal, CAN)													*Ewen (1977) - montreal 1976*			
date 28-Jul-76	time	2.5	3.5	4.6	5.6	6.6	7.6	8.7	9.7	10.7	11.8	13.30	5 / 1			
reaction time	interval		1.00	1.10	1.00	1.00	1.00	1.10	1.00	1.00	1.10	1.50		3.10	3.10	3.10
wind 0.0 m/s	velocity	5.49	9.14	8.31	9.14	9.14	9.14	8.31	9.14	9.14	8.31	9.35	8.27		8.85	8.85	8.85
FINAL - 1972 Olympic Games (Munich, FRG)													*Kay (1972) - BAAB Munich Technical Report*			
date 07-Sep-72	time	2.5	3.6	4.6	5.6	6.6	7.7	8.7	9.7	10.7	11.8	13.34	8 / 2			
reaction time	interval		1.10	1.00	1.00	1.00	1.10	1.00	1.00	1.00	1.10	1.54		3.10	3.10	3.10
wind 0.3 m/s	velocity	5.49	8.31	9.14	9.14	9.14	8.31	9.14	9.14	9.14	8.31	9.10	8.25		8.85	8.85	8.85

Dubler, Cedric (AUS) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis)													*Henson (2024) - Athlete First: 2022 year end hurdle report*			
date 24-Jul-22	time	2.66	3.80	4.86	5.96	7.05	8.20	9.32	10.41	11.54	12.73	14.28	3 / 6			
reaction time 0.129	interval		1.14	1.06	1.10	1.09	1.15	1.12	1.09	1.13	1.19	1.55		3.30	3.36	3.41
wind 1.1 m/s	velocity	5.16	8.02	8.62	8.31	8.39	7.95	8.16	8.39	8.09	7.68	9.05	7.70		8.31	8.16	8.04
Decathlon - Heat 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date 05-Aug-21	time	2.70	3.88	5.05	6.23	7.38	8.61	9.82	10.97	12.18		15.10	4 / 8			

reaction time	0.129	interval		1.18	1.17	1.18	1.15	1.23	1.21	1.15	1.21					3.53	3.59	
wind	-1.0 m/s	velocity	5.08	7.75	7.81	7.75	7.95	7.43	7.55	7.95	7.55		7.28			7.77	7.64	

DuBose, Jacoby (USA) (1982)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2007 USATF National Championships (Indianapolis, IN) — *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.79	3.90	5.01	6.10	7.22	8.34	9.44	10.58	11.71	12.85		14.37	4 / 8			
reaction time		interval		1.11	1.11	1.09	1.12	1.12	1.10	1.14	1.13	1.14	1.52			3.31	3.34	3.41
wind	-3.2 m/s	velocity	4.92	8.23	8.23	8.39	8.16	8.16	8.31	8.02	8.09	8.02	9.22	7.65		8.28	8.21	8.04

Dunning, Robert (USA) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) — *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.60	3.63	4.66	5.67	6.69	7.72	8.74	9.77	10.82	11.92		13.44	9 / 5			
reaction time		interval		1.03	1.03	1.01	1.02	1.03	1.02	1.03	1.05	1.10	1.52			3.07	3.07	3.18
wind	-0.3 m/s	velocity	5.28	8.87	8.87	9.05	8.96	8.87	8.96	8.87	8.70	8.31	9.22	8.18		8.93	8.93	8.62

FINAL - 2024 Atlanta City Cames (Atlanta, GA) (Street Race) (TV Analysis) — *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	18-May-24	time	2.55	3.61	4.65	5.68	6.68	7.71	8.71	9.75	10.81	11.90		13.40	1 / 2			
reaction time		interval	7 steps	1.06	1.04	1.03	1.00	1.03	1.00	1.04	1.06	1.09	1.50			3.13	3.03	3.19
wind	-0.7 m/s	velocity	5.38	8.62	8.79	8.87	9.14	8.87	9.14	8.79	8.62	8.39	9.35	8.21		8.76	9.05	8.60

Heat 1 - 2023 Kamila Skolimowska Memorial (Silesia, POL) — *Omega Timing (2023) - diamond league race analysis*

date	16-Jul-23	time	2.51	3.59	4.63	5.65	6.66	7.67	8.69	9.72	10.76	11.81		13.38	4 / 5			
reaction time	0.140	interval	7 steps	1.08	1.04	1.02	1.01	1.01	1.02	1.03	1.04	1.05	1.57			3.14	3.04	3.12
wind	0.3 m/s	velocity	5.47	8.46	8.79	8.96	9.05	9.05	8.96	8.87	8.79	8.70	8.93	8.22		8.73	9.02	8.79

FINAL - 2023 USATF National Championshps (Eugene, OR) (TV Analysis) — *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	09-Jul-23	time	2.53	3.59	4.60	5.62	6.64	7.67	8.71	9.75	10.81	11.89		13.40	2 / 7			
reaction time		interval	7 steps	1.06	1.01	1.02	1.02	1.03	1.04	1.04	1.06	1.08	1.51			3.09	3.09	3.18
wind	-0.2 m/s	velocity	5.42	8.62	9.05	8.96	8.96	8.87	8.79	8.79	8.62	8.46	9.28	8.21		8.87	8.87	8.62

FINAL - 2023 USATF New York City Grand Prix (Randalls Island, NY) (TV Analysis) — *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	24-Jun-23	time	2.53	3.57	4.61	5.61	6.62	7.64	8.66	9.68	10.74	11.83		13.29	6 / 6			
reaction time	0.181	interval	7 steps	1.04	1.04	1.00	1.01	1.02	1.02	1.02	1.06	1.09	1.46			3.08	3.05	3.17
wind	1.6 m/s	velocity	5.42	8.79	8.79	9.14	9.05	8.96	8.96	8.96	8.62	8.39	9.60	8.28		8.90	8.99	8.65

FINAL - 2023 USATF Bermuda Grand Prix (Devonshire, BER) (TV Analysis) — *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-May-23	time	2.56	3.62	4.63	5.63	6.66	7.66	8.68	9.76	10.83	12.00		22.28	5 / 8			
reaction time	0.152	interval	7 steps	1.06	1.01	1.00	1.03	1.00	1.02	1.08	1.07	1.17	10.28			3.07	3.05	3.32
wind	4.0 m/s	velocity	5.36	8.62	9.05	9.14	8.87	9.14	8.96	8.46	8.54	7.81	1.36	4.94		8.93	8.99	8.26

FINAL - 2023 Adidas Atlanta City Games (Atlanta, GA) (street) (TV Analysis) — *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	05-May-23	time	2.57	3.63	4.65	5.65	6.65	7.65	8.65	9.65	10.68	11.73		13.09	1 / 2			
reaction time	0.187	interval	7 steps	1.06	1.02	1.00	1.00	1.00	1.00	1.00	1.03	1.05	1.36	PB		3.08	3.00	3.08
wind	0.0 m/s	velocity	5.34	8.62	8.96	9.14	9.14	9.14	9.14	9.14	8.87	8.70	10.31	8.40		8.90	9.14	8.90

FINAL - 2022 USATF National Championships (Eugene, OR) (TV Analysis) — *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	26-Jun-22	time	2.53	3.55	4.57	5.59	6.61	7.61	8.61	9.64	10.67	11.74		13.27	9 / 6			
reaction time		interval	7 steps	1.02	1.02	1.02	1.02	1.00	1.00	1.03	1.03	1.07	1.53			3.06	3.02	3.13
wind	1.2 m/s	velocity	5.42	8.96	8.96	8.96	8.96	9.14	9.14	8.87	8.87	8.54	9.16	8.29		8.96	9.08	8.76

Semi-Final 1 - 2022 USATF National Championships (Eugene, OR) — *USATF (2022) - Results powered by Karmarush.com*

date	26-Jun-22	time	2.55	3.59	4.62	5.62	6.66	7.71	8.73	9.77	10.82	11.88		13.38	2 / 4			
reaction time		interval		1.04	1.03	1.00	1.04	1.05	1.02	1.04	1.05	1.06	1.50			3.07	3.11	3.15
wind	0.4 m/s	velocity	5.38	8.79	8.87	9.14	8.79	8.70	8.96	8.79	8.70	8.62	9.35	8.22		8.93	8.82	8.70

FINAL - 2022 New Balance Indoor Grand Prix (Staten Island, NY) (TV Analysis) — *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	06-Feb-22	time	2.55	3.64	4.70	5.74	6.85							7.82	7 / 8			
reaction time	0.179	interval	7 steps	1.09	1.06	1.04	1.11						0.97			3.19		
		velocity	5.38	8.39	8.62	8.79	8.23						10.02	7.67		8.60		

FINAL - 2021 Müller British Grand Prix (Gateshead, GBR) (TV Analysis) — *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	13-Jul-21	time	2.60	3.62	4.72	5.76	6.82	7.88	8.92	10.00	11.08	12.18		13.71	6 / 4			
reaction time	0.130	interval	7 steps	1.02	1.10	1.04	1.06	1.06	1.04	1.08	1.08	1.10	1.53			3.16	3.16	3.26
wind	0.8 m/s	velocity	5.28	8.96	8.31	8.79	8.62	8.62	8.79	8.46	8.46	8.31	9.16	8.02		8.68	8.68	8.41

FINAL - 2021 NCAA Championships (Eugene, OR) (TV Analysis) — *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	11-Jun-21	time	2.53	3.57	4.60	5.62	6.60	7.63	8.63	9.65	10.69	11.75		13.25	2 / 1			
reaction time	0.161	interval	7 steps	1.04	1.03	1.02	0.98	1.03	1.00	1.02	1.04	1.06	1.50			3.09	3.01	3.12
wind	-0.6 m/s	velocity	5.42	8.79	8.87	8.96	9.33	8.87	9.14	8.96	8.79	8.62	9.35	8.30		8.87	9.11	8.79

FINAL - 2019 The Match - Europe v USA (Minsk, BLR) (TV Analysis) — *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	10-Sep-19	time	2.60	3.68	4.73	5.80	6.85	7.91	8.95	10.03	11.13	12.28		13.86	2 / 7			
reaction time	0.183	interval	7 steps	1.08	1.05	1.07	1.05	1.06	1.04	1.08	1.10	1.15	1.58			3.20	3.15	3.33

wind	0.1 m/s	velocity	5.28	8.46	8.70	8.54	8.70	8.62	8.79	8.46	8.31	7.95	8.87	7.94		8.57	8.70	8.23

Dutch, Johnny (USA) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2007 USATF National Junior Championships (Indianapolis, IN) (99cm)													*USATF Men's Hurdle Development (2007)*			
date 21-Jun-07 time	2.64	3.67	4.70	5.69	6.67	7.67	8.68	9.74	10.81	11.88		13.36	/ 2			
reaction time interval		1.03	1.03	0.99	0.98	1.00	1.01	1.06	1.07	1.07	1.48			3.05	2.99	3.20
wind 2.7 m/s velocity	5.20	8.87	8.87	9.23	9.33	9.14	9.05	8.62	8.54	8.54	9.47	8.23		8.99	9.17	8.57

Eaton, Ashton (USA) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 2 - 2010 NCAA National Championships (Eugene, OR)													*Deca Newsletter (2010) - eaton on ncaa three-peat*			
date 01-Jun-10 time	2.4	3.5	4.7	5.7	6.7	7.7	8.8	9.9	11.1	12.1		13.68	6 / 1			
reaction time interval		1.10	1.20	1.00	1.00	1.00	1.10	1.10	1.20	1.00	1.58			3.30	3.10	3.30
wind 1.6 m/s velocity	5.72	8.31	7.62	9.14	9.14	9.14	8.31	8.31	7.62	9.14	8.87	8.04		8.31	8.85	8.31
Decathlon - Heat 2 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 20-Aug-09 time	2.70	3.79	4.87	5.97	7.07	8.17	9.27	10.45	11.61	12.75		14.28	5 / 5			
reaction time 0.178 interval		1.09	1.08	1.10	1.10	1.10	1.10	1.18	1.16	1.14	1.53			3.27	3.30	3.48
wind 0.3 m/s velocity	5.08	8.39	8.46	8.31	8.31	8.31	8.31	7.75	7.88	8.02	9.16	7.70		8.39	8.31	7.88

Eaton, Jarret (USA) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)													*Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*			
date 20-Mar-22 time	2.46	3.48	4.52	5.52	6.54							7.53	6 / 3			
reaction time 0.166 interval 7 steps	1.02	1.04	1.00	1.02							0.99			3.06		
velocity	5.58	8.96	8.79	9.14	8.96						9.82	7.97		8.96		
Semi-Final 1 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)													*Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*			
date 20-Mar-22 time	2.43	3.46	4.46	5.48	6.50							7.52	4 / 1			
reaction time 0.134 interval 7 steps	1.03	1.00	1.02	1.02							1.02			3.05		
velocity	5.65	8.87	9.14	8.96	8.96						9.53	7.98		8.99		
Heat 1 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)													*Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*			
date 20-Mar-22 time	2.56	3.63	4.63	5.65	6.66							7.66	8 / 2			
reaction time 0.128 interval 7 steps	1.07	1.00	1.02	1.01							1.00			3.09		
velocity	5.36	8.54	9.14	8.96	9.05						9.72	7.83		8.87		
FINAL - 2022 Müller Indoor Grand Prix (Birmingham, GBR) (TV Analysis)													*Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*			
date 19-Feb-22 time	2.46	3.49	4.51	5.52	6.53							7.60	6 / 3			
reaction time 0.154 interval 7 steps	1.03	1.02	1.01	1.01							1.07			3.06		
velocity	5.58	8.87	8.96	9.05	9.05						9.08	7.89		8.96		
FINAL - 2022 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis)													*Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*			
date 17-Feb-22 time	2.43	3.44	4.44	5.44	6.46							7.51	5 / 3			
reaction time 0.146 interval 7 steps	1.01	1.00	1.00	1.02							1.05			3.01		
velocity	5.65	9.05	9.14	9.14	8.96						9.26	7.99		9.11		
FINAL - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis)													*Henson (2021) - Athlete First: 2021 year end hurdle report*			
date 26-Jun-21 time	2.47	3.50	4.50	5.54	6.54	7.57	8.64	9.71	10.84	11.98		13.64	1 / 8			
reaction time 0.137 interval 7 steps	1.03	1.00	1.04	1.00	1.03	1.07	1.07	1.13	1.14		1.66			3.07	3.10	3.34
wind 0.4 m/s velocity	5.55	8.87	9.14	8.79	9.14	8.87	8.54	8.54	8.09	8.02	8.45	8.06		8.93	8.85	8.21
Semi-Final 2 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis)													*Henson (2021) - Athlete First: 2021 year end hurdle report*			
date 26-Jun-21 time	2.50	3.56	4.53	5.54	6.55	7.60	8.60	9.63	10.70	11.80		13.32	3 / 4			
reaction time 0.157 interval 7 steps	1.06	0.97	1.01	1.01	1.05	1.00	1.03	1.07	1.10		1.52			3.04	3.06	3.20
wind 1.2 m/s velocity	5.49	8.62	9.42	9.05	9.05	8.70	9.14	8.87	8.54	8.31	9.22	8.26		9.02	8.96	8.57
FINAL - 2021 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis)													*Henson (2021) - men's 60m hurdles world record season - Grant Holloway*			
date 09-Feb-21 time	2.50	3.52	4.55	5.59	6.62							7.60	6 / 6			
reaction time 0.140 interval 7 steps	1.02	1.03	1.04	1.03							0.98			3.09		
velocity	5.49	8.96	8.87	8.79	8.87						9.92	7.89		8.87		
Heat 1 - 2021 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis)													*Henson (2021) - men's 60m hurdles world record season - Grant Holloway*			
date 09-Feb-21 time	2.37	3.40	4.43	5.46	6.49							7.55	4 / 2			
reaction time 0.161 interval 7 steps	1.03	1.03	1.03	1.03							1.06			3.09		
velocity	5.79	8.87	8.87	8.87	8.87						9.17	7.95		8.87		
FINAL - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude)													*CAA Hurdle Development (2020)*			
date 15-Feb-20 time	2.55	3.57	4.60	5.62	6.65							7.57	4 / 2			
reaction time 0.155 interval 7 Steps	1.02	1.03	1.02	1.03							0.92			3.07		
velocity	5.38	8.96	8.87	8.96	8.87						10.57	7.93		8.93		
Semi-Final 1 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude)													*CAA Hurdle Development (2020)*			
date 15-Feb-20 time	2.58	3.62	4.63	5.65	6.70							7.63	4 / 1			
reaction time 0.148 interval 7 Steps	1.04	1.01	1.02	1.05							0.93			3.07		

		velocity	5.32	8.79	9.05	8.96	8.70						10.45	7.86		8.93		

Heat 2 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.62	3.67	4.69	5.74	6.81							7.74	3 / 1			
reaction time	0.154	interval	7 Steps	1.05	1.02	1.05	1.07						0.93			3.12		
		velocity	5.24	8.70	8.96	8.70	8.54						10.45	7.75		8.79		

FINAL - 2019 The Match - Europe v USA (Minsk, BLR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	10-Sep-19	time	2.73	3.93	5.13	6.33	7.60	8.76	10.00	11.22	12.43	13.73		15.54	8 / 8			
reaction time	0.180	interval	7 steps	1.20	1.20	1.20	1.27	1.16	1.24	1.22	1.21	1.30	1.81			3.60	3.67	3.73
wind	0.1 m/s	velocity	5.03	7.62	7.62	7.62	7.20	7.88	7.37	7.49	7.55	7.03	7.75	7.08		7.62	7.47	7.35

FINAL - 2019 USATF National Championships (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	28-Jul-19	time	2.50	3.54	4.54	5.57	6.57	7.60	8.64	9.71	10.81	11.93		13.51	1 / 6			
reaction time		interval	7 steps	1.04	1.00	1.03	1.00	1.03	1.04	1.07	1.10	1.12	1.58			3.07	3.07	3.29
wind	-0.8 m/s	velocity	5.49	8.79	9.14	8.87	9.14	8.87	8.79	8.54	8.31	8.16	8.87	8.14		8.93	8.93	8.33

FINAL - 2019 Müller Indoor Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Feb-19	time	2.50	3.54	4.54	5.54	6.56							7.51	4 / 1			
reaction time	0.136	interval	7 steps	1.04	1.00	1.00	1.02						0.95			3.04		
		velocity	5.49	8.79	9.14	9.14	8.96						10.23	7.99		9.02		

FINAL - 2018 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	30-Jun-18	time	2.44	3.48	4.52	5.54	6.54	7.58	8.60	9.64	10.74	11.84		13.40	2 / 5			
reaction time	0.129	interval	7 steps	1.04	1.04	1.02	1.00	1.04	1.02	1.04	1.10	1.10	1.56			3.10	3.06	3.24
wind	1.5 m/s	velocity	5.62	8.79	8.79	8.96	9.14	8.79	8.96	8.79	8.31	8.31	8.99	8.21		8.85	8.96	8.46

FINAL - 2018 USATF Championships (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	24-Jun-18	time	2.47	3.50	4.52	5.54	6.56	7.56	8.60	9.68	10.76	11.88		13.51	7 / 3			
reaction time		interval	7 steps	1.03	1.02	1.02	1.02	1.00	1.04	1.08	1.08	1.12	1.63			3.07	3.06	3.28
wind	-1.8 m/s	velocity	5.55	8.87	8.96	8.96	8.96	9.14	8.79	8.46	8.46	8.16	8.60	8.14		8.93	8.96	8.36

FINAL - 2018 IAAF World Indoor Championships (Birmingham, GBR) *Walker (2019). Biomechanical Report for the IAAF World Indoor Championships 2018: 60 Metres Hurdles Men*

date	04-Mar-18	time	2.47	3.49	4.51	5.50	6.52							7.47	7 / 2			
reaction time	0.129	interval	7 steps	1.02	1.02	0.99	1.02						0.95			3.03		
		velocity	5.55	8.96	8.96	9.23	8.96						10.23	8.03		9.05		

FINAL - 2017 Galà dei Castelli (Bellinzona, SUI) *(2017.07.18) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	18-Jul-17	time	2.53	3.58	4.59	5.59	6.62	7.67	8.71	9.78	10.87	12.01		13.52	3 / 2			
reaction time		interval	7 steps	1.05	1.01	1.00	1.03	1.05	1.04	1.07	1.09	1.14	1.51			3.06	3.12	3.30
wind	-0.6 m/s	velocity	5.42	8.70	9.05	9.14	8.87	8.70	8.79	8.54	8.39	8.02	9.28	8.14		8.96	8.79	8.31

FINAL - 2017 Müller's Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	09-Jul-17	time	2.44	3.48	4.48	5.48	6.48	7.52	8.56	9.62	10.72	11.80		13.34	9 / 5			
reaction time	0.125	interval	7 steps	1.04	1.00	1.00	1.00	1.04	1.04	1.06	1.10	1.08	1.54			3.04	3.08	3.24
wind	0.0 m/s	velocity	5.62	8.79	9.14	9.14	9.14	8.79	8.79	8.62	8.31	8.46	9.10	8.25		9.02	8.90	8.46

FINAL - 2017 Drake Relays (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	29-Apr-17	time	2.50	3.56	4.60	5.60	6.64	7.68	8.76	9.86	10.96	12.10		13.68	2 / 8			
reaction time		interval	7 steps	1.06	1.04	1.00	1.04	1.04	1.08	1.10	1.10	1.14	1.58			3.10	3.16	3.34
wind	1.8 m/s	velocity	5.49	8.62	8.79	9.14	8.79	8.79	8.46	8.31	8.31	8.02	8.87	8.04		8.85	8.68	8.21

FINAL - 2016 Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	09-Sep-16	time	2.50	3.57	4.60	5.60	6.62	7.66	8.72	9.77	10.83	11.94		13.54	9 / 8			
reaction time	0.181	interval	7 steps	1.07	1.03	1.00	1.02	1.04	1.06	1.05	1.06	1.11	1.60			3.10	3.12	3.22
wind	0.2 m/s	velocity	5.49	8.54	8.87	9.14	8.96	8.79	8.62	8.70	8.62	8.23	8.76	8.12		8.85	8.79	8.52

FINAL - 2016 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	09-Jul-16	time	2.47	3.47	4.47	5.47	6.45	7.47	8.49	9.51	10.61	11.71		13.30	2 / 6			
reaction time	0.196	interval	7 steps	1.00	1.00	1.00	0.98	1.02	1.02	1.02	1.10	1.10	1.59			3.00	3.02	3.22
wind	1.0 m/s	velocity	5.55	9.14	9.14	9.14	9.33	8.96	8.96	8.96	8.31	8.31	8.82	8.27		9.14	9.08	8.52

FINAL - 2016 Racers Grand Prix (Kingston, JAM) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	11-Jun-16	time	2.43	3.46	4.46	5.48	6.50	7.50	8.53	9.56	10.63	11.70		13.28	5 / 3			
reaction time		interval	7 steps	1.03	1.00	1.02	1.02	1.00	1.03	1.03	1.07	1.07	1.58			3.05	3.05	3.17
wind	0.2 m/s	velocity	5.65	8.87	9.14	8.96	8.96	9.14	8.87	8.87	8.54	8.54	8.87	8.28		8.99	8.99	8.65

FINAL - 2016 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	28-May-16	time	2.44	3.48	4.52	5.54	6.56	7.60	8.66	9.72	10.82	11.94		13.52	7 / 5			
reaction time		interval	7 steps	1.04	1.04	1.02	1.02	1.04	1.06	1.06	1.10	1.12	1.58			3.10	3.12	3.28
wind	0.7 m/s	velocity	5.62	8.79	8.79	8.96	8.96	8.79	8.62	8.62	8.31	8.16	8.87	8.14		8.85	8.79	8.36

FINAL - 2012 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	02-Jun-12	time	2.56	3.60	4.64	5.66	6.68	7.72	8.76	9.78	10.82	11.90		13.34	1 / 7			
reaction time	0.168	interval	*7 steps*	1.04	1.04	1.02	1.02	1.04	1.04	1.02	1.04	1.08	1.44			3.10	3.10	3.14
wind	2.4 m/s	velocity	5.36	8.79	8.79	8.96	8.96	8.79	8.79	8.96	8.79	8.46	9.74	8.25		8.85	8.85	8.73

Edwards, Eric (USA) (2000)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN) *Omega Timing (2025) - diamond league race analysis*

date	03-May-25	time	2.44	3.54	4.61	5.65	6.69	7.76	8.83	9.89	10.97	12.11		13.90	9 / 9			
reaction time	0.142	interval		1.10	1.07	1.04	1.04	1.07	1.07	1.06	1.08	1.14	1.79			3.21	3.18	3.28
wind	0.6 m/s	velocity	5.62	8.31	8.54	8.79	8.79	8.54	8.54	8.62	8.46	8.02	7.83	7.91		8.54	8.62	8.36

FINAL - 2024 Memorial van damme (Brussels, BEL) *Omega Timing (2024) - diamond league race analysis*

date	13-Sep-24	time	2.39	3.48	4.51	5.54	6.56	7.57	8.61	9.65	10.71	11.77		13.35	1 / 7			
reaction time	0.128	interval		1.09	1.03	1.03	1.02	1.01	1.04	1.04	1.06	1.06	1.58			3.15	3.07	3.16
wind	0.4 m/s	velocity	5.74	8.39	8.87	8.87	8.96	9.05	8.79	8.79	8.62	8.62	8.87	8.24		8.70	8.93	8.68

FINAL - 2024 Golden Gala • Pietro Mennea (Roma, ITA) *Omega Timing (2024) - diamond league race analysis*

date	30-Aug-24	time	2.39	3.46	4.51	5.53	6.55	7.57	8.59	9.63	10.68	11.73		13.29	8 / 4			
reaction time	0.130	interval		1.07	1.05	1.02	1.02	1.02	1.02	1.04	1.05	1.05	1.56			3.14	3.06	3.14
wind	0.4 m/s	velocity	5.74	8.54	8.70	8.96	8.96	8.96	8.96	8.79	8.70	8.70	8.99	8.28		8.73	8.96	8.73

Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	27-Jun-24	time	2.59	3.63	4.67	5.70	6.70	7.70	8.73	9.80	10.86	11.93		13.36	8 / 4			
reaction time		interval		1.04	1.04	1.03	1.00	1.00	1.03	1.07	1.06	1.07	1.43			3.11	3.03	3.20
wind	-0.2 m/s	velocity	5.30	8.79	8.79	8.87	9.14	9.14	8.87	8.54	8.62	8.54	9.80	8.23		8.82	9.05	8.57

Heat 2 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.63	3.66	4.72	5.74	6.74	7.77	8.79	9.82	10.85	11.92		13.37	8 / 4			
reaction time		interval		1.03	1.06	1.02	1.00	1.03	1.02	1.03	1.03	1.07	1.45			3.11	3.05	3.13
wind	-0.3 m/s	velocity	5.22	8.87	8.62	8.96	9.14	8.87	8.96	8.87	8.87	8.54	9.67	8.23		8.82	8.99	8.76

FINAL - 2024 Seiko Golden Grand Prix (Tokyo, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	19-May-24	time	2.63	3.68	4.73	5.75	6.80	7.84	8.88	9.94	11.03	12.10		13.55	4 / 3			
reaction time	0.158	interval		1.05	1.05	1.02	1.05	1.04	1.04	1.06	1.09	1.07	1.45			3.12	3.13	3.22
wind	-0.6 m/s	velocity	5.22	8.70	8.70	8.96	8.70	8.79	8.79	8.62	8.39	8.54	9.67	8.12		8.79	8.76	8.52

FINAL - 2024 Yangtze River Delta Athletics Diamond Gala (Suzhou, CHN) (TV Analysis) *Omega Timing (2024) - diamond league race analysis*

date	27-Apr-24	time	2.54	3.59	4.64	5.65	6.67	7.68	8.70	9.77	10.86	11.97		13.37	7 / 5			
reaction time	0.139	interval		1.05	1.05	1.01	1.02	1.01	1.02	1.07	1.09	1.11	1.40			3.11	3.05	3.27
wind	0.8 m/s	velocity	5.40	8.70	8.70	9.05	8.96	9.05	8.96	8.54	8.39	8.23	10.01	8.23		8.82	8.99	8.39

FINAL - 2024 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2024) - diamond league race analysis*

date	20-Apr-24	time	2.42	3.47	4.50	5.51	6.54	7.57	8.59	9.63	10.68	11.75		13.31	9 / 5			
reaction time	0.143	interval		1.05	1.03	1.01	1.03	1.03	1.02	1.04	1.05	1.07	1.56			3.09	3.08	3.16
wind	-0.3 m/s	velocity	5.67	8.70	8.87	9.05	8.87	8.87	8.96	8.79	8.70	8.54	8.99	8.26		8.87	8.90	8.68

FINAL - 2023 Weltklasse (Zürich, SUI) *Omega Timing (2023) - diamond league race analysis*

date	31-Aug-23	time	2.36	3.43	4.47	5.49	6.50	7.54	8.57	9.61	10.70	11.83		13.45	6 / 3			
reaction time	0.125	interval		1.07	1.04	1.02	1.01	1.04	1.03	1.04	1.09	1.13	1.62			3.13	3.08	3.26
wind	-0.1 m/s	velocity	5.81	8.54	8.79	8.96	9.05	8.79	8.87	8.79	8.39	8.09	8.65	8.18		8.76	8.90	8.41

FINAL - 2023 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2023) - diamond league race analysis*

date	16-Jul-23	time	2.38	3.46	4.51	5.57	6.61	7.65	8.69	9.75	10.82	11.92		13.54	9 / 6			
reaction time	0.130	interval		1.08	1.05	1.06	1.04	1.04	1.04	1.06	1.07	1.10	1.62			3.19	3.12	3.23
wind	0.3 m/s	velocity	5.76	8.46	8.70	8.62	8.79	8.79	8.79	8.62	8.54	8.31	8.65	8.12		8.60	8.79	8.49

Heat 1 - 2023 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2023) - diamond league race analysis*

date	16-Jul-23	time		3.46	4.50	5.53	6.57	7.62	8.64	9.68	10.73	11.80		13.36	3 / 4			
reaction time	0.137	interval			1.04	1.03	1.04	1.05	1.02	1.04	1.05	1.07	1.56				3.11	3.16
wind	0.3 m/s	velocity		6.61	8.79	8.87	8.79	8.70	8.96	8.79	8.70	8.54	8.99	8.23			8.82	8.68

FINAL - 2023 USATF National Championshps (Eugene, OR) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	09-Jul-23	time	2.53	3.58	4.60	5.60	6.62	7.65	8.68	9.71	10.75	11.81		13.26	1 / 4			
reaction time		interval		1.05	1.02	1.00	1.02	1.03	1.03	1.03	1.04	1.06	1.45			3.07	3.08	3.13
wind	-0.2 m/s	velocity	5.42	8.70	8.96	9.14	8.96	8.87	8.87	8.87	8.79	8.62	9.67	8.30		8.93	8.90	8.76

FINAL - 2023 USATF New York City Grand Prix (Randalls Island, NY) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	24-Jun-23	time	2.50	3.54	4.59	5.61	6.62	7.64	8.67	9.71	10.76	11.83		13.23	8 / 4			
reaction time	0.127	interval		1.04	1.05	1.02	1.01	1.02	1.03	1.04	1.05	1.07	1.40			3.11	3.06	3.16
wind	1.6 m/s	velocity	5.49	8.79	8.70	8.96	9.05	8.96	8.87	8.79	8.70	8.54	10.01	8.31		8.82	8.96	8.68

FINAL - 2023 Meeting de Paris (Paris, FRA) *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.32	3.39	4.42	5.45	6.48	7.51	8.55	9.58	10.65	11.72		13.32	1 / 8			
reaction time	0.130	interval		1.07	1.03	1.03	1.03	1.03	1.04	1.03	1.07	1.07	1.60			3.13	3.10	3.17

wind	-0.5 m/s	velocity	5.91	8.54	8.87	8.87	8.87	8.87	8.79	8.87	8.54	8.54	8.76	8.26		8.76	8.85	8.65

Heat 1 - 2023 Meeting de Paris (Paris, FRA) *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.39	3.46	4.50	5.53	6.56	7.60	8.64	9.69	10.75	11.81		13.39	2 / 4			
reaction time	0.149	interval		1.07	1.04	1.03	1.03	1.04	1.04	1.05	1.06	1.06	1.58			3.14	3.11	3.17
wind	-2.0 m/s	velocity	5.74	8.54	8.79	8.87	8.87	8.79	8.79	8.70	8.62	8.62	8.87	8.22		8.73	8.82	8.65

FINAL - 2023 FBK Games (Hengelo, NED) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	04-Jun-23	time	2.56	3.60	4.64	5.67	6.70	7.73	8.76	9.80	10.83	11.93		13.29	3 / 3			
reaction time	0.129	interval		1.04	1.04	1.03	1.03	1.03	1.03	1.04	1.03	1.10	1.36			3.11	3.09	3.17
wind	0.4 m/s	velocity	5.36	8.79	8.79	8.87	8.87	8.87	8.87	8.79	8.87	8.31	10.31	8.28		8.82	8.87	8.65

FINAL - 2023 USATF Bermuda Grand Prix (Devonshire, BER) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-May-23	time	2.53	3.56	4.56	5.56	6.56	7.56	8.56	9.60	10.64	11.70		13.07	2 / 2			
reaction time	0.122	interval		1.03	1.00	1.00	1.00	1.00	1.00	1.04	1.04	1.06	1.37			3.03	3.00	3.14
wind	4.0 m/s	velocity	5.42	8.87	9.14	9.14	9.14	9.14	9.14	8.79	8.79	8.62	10.23	8.42		9.05	9.14	8.73

FINAL - 2022 USATF National Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	26-Jun-22	time	2.57	3.63	4.70	5.74	6.78	7.82	8.87	9.94	11.02	12.11		13.76	8 / 7			
reaction time		interval		1.06	1.07	1.04	1.04	1.04	1.05	1.07	1.08	1.09	1.65			3.17	3.13	3.24
wind	1.2 m/s	velocity	5.34	8.62	8.54	8.79	8.79	8.79	8.70	8.54	8.46	8.39	8.50	7.99		8.65	8.76	8.46

Semi-Final 1 - 2022 USATF National Championships (Eugene, OR) *USATF (2022) - Results powered by Karmarush.com*

date	26-Jun-22	time	2.42	3.45	4.53	5.51	6.54	7.60	8.61	9.64	10.56	11.66		13.29	5 / 3			
reaction time		interval		1.03	1.08	0.98	1.03	1.06	1.01	1.03	0.92	1.10	1.63			3.09	3.10	3.05
wind	0.4 m/s	velocity	5.67	8.87	8.46	9.33	8.87	8.62	9.05	8.87	9.93	8.31	8.60	8.28		8.87	8.85	8.99

FINAL - 2022 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	10-Jun-22	time	2.44	3.47	4.47	5.46	6.46	7.46	8.47	9.49	10.53	11.61		13.15	6 / 2			
reaction time		interval		1.03	1.00	0.99	1.00	1.00	1.01	1.02	1.04	1.08	1.54	PB		3.02	3.01	3.14
wind	0.0 m/s	velocity	5.62	8.87	9.14	9.23	9.14	9.14	9.05	8.96	8.79	8.46	9.10	8.37		9.08	9.11	8.73

Efremov, David (KAZ) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2019 Asian Grand Prix 2 (Chongqing, CHN) *CAA Hurdle Development (2019)*

date	07-Jun-19	time	2.66	3.75	4.78	5.84	6.90	7.95	9.02	10.12	11.20	12.32		13.81	8 / 4			
reaction time	0.186	interval	7 steps	1.09	1.03	1.06	1.06	1.05	1.07	1.10	1.08	1.12	1.49	PB		3.18	3.18	3.30
wind	1.2 m/s	velocity	5.16	8.39	8.87	8.62	8.62	8.70	8.54	8.31	8.46	8.16	9.41	7.97		8.62	8.62	8.31

FINAL - 2019 Asian Grand Prix 1 (Chongqing, CHN) *CAA Hurdle Development (2019)*

date	04-Jun-19	time	2.65	3.70	4.77	5.79	6.87	7.95	9.05	10.16	11.26	12.39		13.91	9 / 4			
reaction time	0.174	interval	7 steps	1.05	1.07	1.02	1.08	1.08	1.10	1.11	1.10	1.13	1.52			3.14	3.26	3.34
wind	-0.3 m/s	velocity	5.18	8.70	8.54	8.96	8.46	8.46	8.31	8.23	8.31	8.09	9.22	7.91		8.73	8.41	8.21

FINAL - 2019 Asian Athletics Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	24-Apr-19	time	2.65	3.72	4.76	5.81	6.82	7.89	8.96	10.03	11.13	12.25		13.83	3 / 6			
reaction time	0.168	interval	7 steps	1.07	1.04	1.05	1.01	1.07	1.07	1.07	1.10	1.12	1.58	PB		3.16	3.15	3.29
wind	1.7 m/s	velocity	5.18	8.54	8.79	8.70	9.05	8.54	8.54	8.54	8.31	8.16	8.87	7.95		8.68	8.70	8.33

Eida, Ryusei (JPN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 Japanese National High School Championships (Nagoya, JPN) (99cm) *Sota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection*

date	06-Aug-18	time	2.70	3.83	4.94	6.06	7.18	8.32	9.47	10.60	11.76	12.89		14.35	7 / 7			
reaction time		interval		1.13	1.11	1.12	1.12	1.14	1.15	1.13	1.16	1.13	1.46			3.36	3.41	3.42
wind	1.6 m/s	velocity	5.08	8.09	8.23	8.16	8.16	8.02	7.95	8.09	7.88	8.09	9.60	7.67		8.16	8.04	8.02

Eitel, Manuel (GER) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2024) - Athlete First: 2023 year end hurdle report*

date	26-Aug-23	time	2.72	3.83	4.95	6.05	7.16	8.26	9.42	10.55	11.72	12.85		14.39	3 / 4			
reaction time	0.172	interval		1.11	1.12	1.10	1.11	1.10	1.16	1.13	1.17	1.13	1.54			3.33	3.37	3.43
wind	0.1 m/s	velocity	5.04	8.23	8.16	8.31	8.23	8.31	7.88	8.09	7.81	8.09	9.10	7.64		8.23	8.14	7.99

English, Andre (USA) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2003 USATF National Junior Championships (Palo Alto, CA) (99cm) *USATF Women's Sprint Development (2003)*

date	22-Jun-03	time	2.63	3.75	4.89	6.01	7.12	8.24	9.39	10.54	11.69	12.85		14.52	9 / 8			
reaction time		interval		1.12	1.14	1.12	1.11	1.12	1.15	1.15	1.15	1.16	1.67			3.38	3.38	3.46
wind	-0.4 m/s	velocity	5.22	8.16	8.02	8.16	8.23	8.16	7.95	7.95	7.95	7.88	8.40	7.58		8.11	8.11	7.92

Erm, Johannes (EST) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	03-Aug-24	time	2.63	3.77	4.89	5.99	7.07	8.15	9.27	10.38	11.53	12.68		14.35	7 / 3			
reaction time	0.208	interval	7 steps	1.14	1.12	1.10	1.08	1.08	1.12	1.11	1.15	1.15	1.67			3.36	3.28	3.41
wind	0.2 m/s	velocity	5.22	8.02	8.16	8.31	8.46	8.46	8.16	8.23	7.95	7.95	8.40	7.67		8.16	8.36	8.04

Decathlon - Heat 1 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2024) - Athlete First: 2023 year end hurdle report*

date	26-Aug-23	time	2.82	3.99	5.10	6.28	7.46	8.63	9.80	10.93	12.18	13.40		14.90	4 / 5			
reaction time	0.179	interval		1.17	1.11	1.18	1.18	1.17	1.17	1.13	1.25	1.22	1.50			3.46	3.52	3.60
wind	0.2 m/s	velocity	4.87	7.81	8.23	7.75	7.75	7.81	7.81	8.09	7.31	7.49	9.35	7.38		7.92	7.79	7.62

Decathlon - Heat 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2022 year end hurdle report*

date	24-Jul-22	time	2.78	3.96	5.06	6.20	7.30	8.43	9.55	10.62	11.75	12.87		14.38	6 / 1			
reaction time	0.171	interval	7 steps	1.18	1.10	1.14	1.10	1.13	1.12	1.07	1.13	1.12	1.51			3.42	3.35	3.32
wind	1.5 m/s	velocity	4.94	7.75	8.31	8.02	8.31	8.09	8.16	8.54	8.09	8.16	9.28	7.65		8.02	8.19	8.26

Decathlon - Heat 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	05-Aug-21	time	2.72	3.83	4.97	6.08	7.20	8.39	9.52	10.63	11.80	12.96		14.55	4 / 3			
reaction time	0.155	interval	7 steps	1.11	1.14	1.11	1.12	1.19	1.13	1.11	1.17	1.16	1.59			3.36	3.44	3.44
wind	0.1 m/s	velocity	5.04	8.23	8.02	8.23	8.16	7.68	8.09	8.23	7.81	7.88	8.82	7.56		8.16	7.97	7.97

Ewen, Tim (AUS) (1977)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2002 IAAF World Cup (Madrid, ESP) *Sanchez (2002) - copa del mundo de Madrid '02: análisis de la carreras con villas*

date	21-Sep-02	time	2.69	3.78	4.85	5.93	6.97	8.03	9.13	10.22	11.31	12.42		14.10	8 / 7			
reaction time	0.140	interval		1.09	1.07	1.08	1.04	1.06	1.10	1.09	1.09	1.11	1.68			3.24	3.20	3.29
wind	-2.2 m/s	velocity	5.10	8.39	8.54	8.46	8.79	8.62	8.31	8.39	8.39	8.23	8.35	7.80		8.46	8.57	8.33

Faragona, Alessandro (ITA) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2012 Italian National Indoor Youth Championships (Ancona, ITA) (91cm) *FIDAL - Centro Studi & Ricerche (2012) - www.youtube.com/watch?v=SIDALf6RdBY*

date	18-Feb-12	time	2.68	3.78	4.83	5.87	6.93							7.93	4 / 1			
reaction time		interval	7 steps	1.10	1.05	1.04	1.06						1.00	PB		3.19		
		velocity	5.12	8.31	8.70	8.79	8.62						9.72	7.57		8.60		

Fareed, Naim (USA) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	15-Feb-20	time	2.63	3.72	4.80	5.86	6.96							7.95	1 / 7			
reaction time	0.136	interval		1.09	1.08	1.06	1.10						0.99			3.23		
		velocity	5.22	8.39	8.46	8.62	8.31						9.82	7.55		8.49		

Heat 1 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.64	3.70	4.79	5.86	6.99							7.94	7 / 5			
reaction time	0.153	interval		1.06	1.09	1.07	1.13						0.95			3.22		
		velocity	5.20	8.62	8.39	8.54	8.09						10.23	7.56		8.52		

Faulk, Dexter (USA) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2012 USA Olympic Trials (Eugene, OR) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	30-Jun-12	time	2.42	3.46	4.48	5.50	6.56	7.60	8.62	9.64	10.69	11.74		13.23	8 / 6			
reaction time	0.142	interval		1.04	1.02	1.02	1.06	1.04	1.02	1.02	1.05	1.05	1.49			3.08	3.12	3.12
wind	1.2 m/s	velocity	5.67	8.79	8.96	8.96	8.62	8.79	8.96	8.96	8.70	8.70	9.41	8.31		8.90	8.79	8.79

FINAL - 2012 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	02-Jun-12	time	2.52	3.56	4.58	5.60	6.60	7.60	8.62	9.64	10.66	11.74		13.12	7 / 4			
reaction time	0.143	interval		1.04	1.02	1.02	1.00	1.00	1.02	1.02	1.02	1.08	1.38			3.08	3.02	3.12
wind	2.4 m/s	velocity	5.44	8.79	8.96	8.96	9.14	9.14	8.96	8.96	8.96	8.46	10.16	8.38		8.90	9.08	8.79

FINAL - 2012 Golden Grand Prix (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	19-May-12	time	2.52	3.58	4.62	5.64	6.66	7.70	8.74	9.80	10.86	11.94		13.43	2 / 5			
reaction time	0.177	interval		1.06	1.04	1.02	1.02	1.04	1.04	1.06	1.06	1.08	1.49			3.12	3.10	3.20
wind	0.4 m/s	velocity	5.44	8.62	8.79	8.96	8.96	8.79	8.79	8.62	8.62	8.46	9.41	8.19		8.79	8.85	8.57

FINAL - 2009 ISTAF (Berlin, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Jun-09	time	2.55	3.61	4.63	5.66	6.69	7.70	8.75	9.77	10.81	11.86		13.18	4 / 1			
reaction time	0.147	interval		1.06	1.02	1.03	1.03	1.01	1.05	1.02	1.04	1.05	1.32	PB		3.11	3.09	3.11
wind	0.7 m/s	velocity	5.38	8.62	8.96	8.87	8.87	9.05	8.70	8.96	8.79	8.70	10.62	8.35		8.82	8.87	8.82

Semi-Final 2 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.65	3.69	4.72	5.76	6.81	7.86	8.90	9.99	11.04	12.12		13.52	1 / 5			
reaction time		interval		1.04	1.03	1.04	1.05	1.05	1.04	1.09	1.05	1.08	1.40			3.11	3.14	3.22
wind	-0.9 m/s	velocity	5.18	8.79	8.87	8.79	8.70	8.70	8.79	8.39	8.70	8.46	10.01	8.14		8.82	8.73	8.52

Heat 1 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.56	3.65	4.67	5.72	6.87	7.93	9.01	10.08	11.18	12.23		13.67	1 / 4			
reaction time		interval		1.09	1.02	1.05	1.15	1.06	1.08	1.07	1.10	1.05	1.44			3.16	3.29	3.22
wind	0.1 m/s	velocity	5.36	8.39	8.96	8.70	7.95	8.62	8.46	8.54	8.31	8.70	9.74	8.05		8.68	8.33	8.52

FINAL - 2003 USATF National Junior Championships (Palo Alto, CA) (99cm) *USATF Women's Sprint Development (2003)*

date	21-Jun-03	time	2.55	3.64	4.72	5.76	6.82	7.89	8.94	10.03	11.11	12.19		13.75	5 / 2			
reaction time		interval		1.09	1.08	1.04	1.06	1.07	1.05	1.09	1.08	1.08	1.56			3.21	3.18	3.25
wind	-2.4 m/s	velocity	5.38	8.39	8.46	8.79	8.62	8.54	8.70	8.39	8.46	8.46	8.99	8.00		8.54	8.62	8.44

Favaro, Denis (ITA) (1972)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2002 European Championships (Munich, GER)													*Graubner (2009) - http://www.fgs.uni-halle.de*			
date 10-Aug-02 time	2.73	3.79	4.85	5.89	6.93	7.95	8.99	10.03	11.09	12.18		13.59	/ 6			
reaction time 0.202 interval		1.06	1.06	1.04	1.04	1.02	1.04	1.04	1.06	1.09	1.41	**PB**		3.16	3.10	3.19
wind 0.4 m/s velocity	5.03	8.62	8.62	8.79	8.79	8.96	8.79	8.79	8.62	8.39	9.94	8.09		8.68	8.85	8.60

Fei Xiang (CHN) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 3 - 2021 Chinese National Championships (Chongqing, CHN)													*CAA Hurdle Development (2021)*			
date 27-Jun-21 time	2.82	4.02	5.20	6.39	7.57	8.79	9.99	11.19	12.43	13.66		15.28	4 / 5			
reaction time 0.186 interval		1.20	1.18	1.19	1.18	1.22	1.20	1.20	1.24	1.23	1.62			3.57	3.60	3.67
wind -0.2 m/s velocity	4.87	7.62	7.75	7.68	7.75	7.49	7.62	7.62	7.37	7.43	8.65	7.20		7.68	7.62	7.47
Decathlon - Heat 2 - 2019 Chinese National Grand Prix Final (Daqing, CHN)													*CAA Hurdle Development (2019)*			
date 23-Aug-19 time	2.87	4.10	5.30	6.54	7.74	8.96	10.19	11.41	12.64	13.88		15.46	5 / 2			
reaction time 0.197 interval		1.23	1.20	1.24	1.20	1.22	1.23	1.22	1.23	1.24	1.58			3.67	3.65	3.69
wind ?? m/s velocity	4.78	7.43	7.62	7.37	7.62	7.49	7.43	7.49	7.43	7.37	8.87	7.12		7.47	7.51	7.43
Decathlon - Heat 1 - 2019 Chinese National Championships (Shenyang, CHN)													*CAA Hurdle Development (2019)*			
date 11-Jul-19 time	2.82	4.00	5.17	6.34	7.52	8.71	9.89	11.11	12.31	13.54		15.10	3 / 3			
reaction time 0.165 interval		1.18	1.17	1.17	1.18	1.19	1.18	1.22	1.20	1.23	1.56	**PB**		3.52	3.55	3.65
wind -0.6 m/s velocity	4.87	7.75	7.81	7.81	7.75	7.68	7.75	7.49	7.62	7.43	8.99	7.28		7.79	7.72	7.51

Fenner, Mike (GER) (1971)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2002 European Championships (Munich, GER)													*Graubner (2009) - http://www.fgs.uni-halle.de*			
date 10-Aug-02 time	2.63	3.67	4.71	5.73	6.75	7.77	8.83	9.85	10.91	11.97		13.39	/ 5			
reaction time 0.161 interval		1.04	1.04	1.02	1.02	1.02	1.06	1.02	1.06	1.06	1.42			3.10	3.10	3.14
wind 0.4 m/s velocity	5.22	8.79	8.79	8.96	8.96	8.96	8.62	8.96	8.62	8.62	9.87	8.22		8.85	8.85	8.73
Semi-Final 2 - 2002 European Championships (Munich, GER)													*Graubner (2009) - http://www.fgs.uni-halle.de*			
date 10-Aug-02 time	2.62	3.66	4.70	5.72	6.76	7.78	8.80	9.84	10.92	11.99		13.44	/ 2			
reaction time 0.138 interval		1.04	1.04	1.02	1.04	1.02	1.02	1.04	1.08	1.07	1.45			3.10	3.08	3.19
wind 0.8 m/s velocity	5.24	8.79	8.79	8.96	8.79	8.96	8.96	8.79	8.46	8.54	9.67	8.18		8.85	8.90	8.60
Heat 2 - 2002 European Championships (Munich, GER)													*Graubner (2009) - http://www.fgs.uni-halle.de*			
date 09-Aug-02 time	2.64	3.70	4.76	5.81	6.84	7.88	8.94	9.99	11.05	12.14		13.57	/ 2			
reaction time 0.134 interval		1.06	1.06	1.05	1.03	1.04	1.06	1.05	1.06	1.09	1.43			3.17	3.13	3.20
wind 0.5 m/s velocity	5.20	8.62	8.62	8.70	8.87	8.79	8.62	8.70	8.62	8.39	9.80	8.11		8.65	8.76	8.57
FINAL - 2001 ISTAF (Berlin, GER)													*Graubner (2009) - http://www.fgs.uni-halle.de*			
date 31-Aug-01 time	2.62	3.70	4.79	5.86	6.92	8.01	9.09	10.18	11.27	12.38		13.83	1 / 7			
reaction time 0.140 interval		1.08	1.09	1.07	1.06	1.09	1.08	1.09	1.09	1.11	1.45			3.24	3.23	3.29
wind 1.0 m/s velocity	5.24	8.46	8.39	8.54	8.62	8.39	8.46	8.39	8.39	8.23	9.67	7.95		8.46	8.49	8.33
FINAL - 1998 European Championships (Budapest, HUN)													*Sanchez (1998) - Budapest '98: análisis de la carreras con villas*			
date 22-Aug-98 time	2.61	3.63	4.68	5.72	6.74	7.77	8.82	9.85	10.88	11.97		13.38	2 / 7			
reaction time interval		1.02	1.05	1.04	1.02	1.03	1.05	1.03	1.03	1.09	1.41			3.11	3.10	3.15
wind 1.5 m/s velocity	5.26	8.96	8.70	8.79	8.96	8.87	8.70	8.87	8.87	8.39	9.94	8.22		8.82	8.85	8.70

Ferguson, Kenneth (USA) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2003 USATF National Junior Championships (Palo Alto, CA) (99cm)													*USATF Women's Sprint Development (2003)*			
date 21-Jun-03 time	2.55	3.62	4.67	5.69	6.72	7.75	8.79	9.86	10.94	12.04		13.60	4 / 1			
reaction time interval		1.07	1.05	1.02	1.03	1.03	1.04	1.07	1.08	1.10	1.56			3.14	3.10	3.25
wind -2.4 m/s velocity	5.38	8.54	8.70	8.96	8.87	8.87	8.79	8.54	8.46	8.31	8.99	8.09		8.73	8.85	8.44

Fernando Santana, José (BRA) (199

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 3 - 2024 Olympic Games (Paris, FRA)													*Paris 2024 Olympic Games - Results Book (2024)*			
date 03-Aug-24 time	2.50	3.62	4.70	5.77	6.83	7.90	8.99	10.11	11.24	12.36		14.00	9 / 5			
reaction time 0.150 interval 7 steps		1.12	1.08	1.07	1.06	1.07	1.09	1.12	1.13	1.12	1.64			3.27	3.22	3.37
wind 0.7 m/s velocity	5.49	8.16	8.46	8.54	8.62	8.54	8.39	8.16	8.09	8.16	8.55	7.86		8.39	8.52	8.14

Ferreira, João (POR) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2010 European Team Championships, 1st League (Budapest, HUN)													*Blomkvist (2010) - www.sub13.se*			
date 20-Jun-10 time	2.62	3.67	4.75	5.80	6.87	7.96	9.04	10.13	11.24	12.36		13.97	7 / 6			
reaction time 0.168 interval		1.05	1.08	1.05	1.07	1.09	1.08	1.09	1.11	1.12	1.61			3.18	3.24	3.32
wind 1.1 m/s velocity	5.24	8.70	8.46	8.70	8.54	8.39	8.46	8.39	8.23	8.16	8.71	7.87		8.62	8.46	8.26

Fillery, Cameron (GBR) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR) (TV Analysis)													*Henson (2022) - Athlete First: 2022 year end hurdle report*			
date 21-May-22 time	2.57	3.67	4.73	5.79	6.88	7.93	8.98	10.08	11.17	12.28		13.90	9 / 9			
reaction time 0.126 interval 7 steps		1.10	1.06	1.06	1.09	1.05	1.05	1.10	1.09	1.11	1.62			3.22	3.19	3.30
wind 0.7 m/s velocity	5.34	8.31	8.62	8.62	8.39	8.70	8.70	8.31	8.39	8.23	8.65	7.91		8.52	8.60	8.31

FINAL - 2020 Doha Diamond League (Doha, QAT) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	25-Sep-20	time	2.52	3.64	4.72	5.76	6.80	7.84	8.92	10.00	11.08	12.16		13.76	6 / 5			
reaction time	0.128	interval	7 steps	1.12	1.08	1.04	1.04	1.04	1.08	1.08	1.08	1.08	1.60			3.24	3.16	3.24
wind	0.3 m/s	velocity	5.44	8.16	8.46	8.79	8.79	8.79	8.46	8.46	8.46	8.46	8.76	7.99		8.46	8.68	8.46

FINAL - 2019 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	18-Aug-19	time	2.58	3.65	4.74	5.76	6.77	7.78	8.83	9.88	10.92	12.02		13.54	9 / 5			
reaction time	0.109	interval	7 steps	1.07	1.09	1.02	1.01	1.01	1.05	1.05	1.04	1.10	1.52	PB		3.18	3.07	3.19
wind	-0.2 m/s	velocity	5.32	8.54	8.39	8.96	9.05	9.05	8.70	8.70	8.79	8.31	9.22	8.12		8.62	8.93	8.60

Fofana, Hassane (ITA) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Golden Gala • Pietro Mennea (Roma, ITA) *Omega Timing (2024) - diamond league race analysis*

date	30-Aug-24	time	2.48	3.60	4.68	5.74	6.79	7.85	8.93	10.02	11.10	12.21		13.84	1 / 9			
reaction time	0.154	interval		1.12	1.08	1.06	1.05	1.06	1.08	1.09	1.08	1.11	1.63			3.26	3.19	3.28
wind	0.4 m/s	velocity	5.53	8.16	8.46	8.62	8.70	8.62	8.46	8.39	8.46	8.23	8.60	7.95		8.41	8.60	8.36

Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.56	3.66	4.73	5.75	6.78	7.82	8.88	9.92	10.96	12.03		13.50	9 / 7			
reaction time	0.147	interval	7 steps	1.10	1.07	1.02	1.03	1.04	1.06	1.04	1.04	1.07	1.47			3.19	3.13	3.15
wind	-0.1 m/s	velocity	5.36	8.31	8.54	8.96	8.87	8.79	8.62	8.79	8.79	8.54	9.54	8.15		8.60	8.76	8.70

Heat 2 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.63	3.68	4.78	5.83	6.86	7.90	8.95	10.00	11.04	12.10		13.53	5 / 4			
reaction time	0.141	interval	7 steps	1.05	1.10	1.05	1.03	1.04	1.05	1.05	1.04	1.06	1.43			3.20	3.12	3.15
wind	0.5 m/s	velocity	5.22	8.70	8.31	8.70	8.87	8.79	8.70	8.70	8.79	8.62	9.80	8.13		8.57	8.79	8.70

Semi-Final 2 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.48	3.54	4.58	5.60	6.64							7.65	1 / 6			
reaction time	0.122	interval		1.06	1.04	1.02	1.04						1.01	PB		3.12		
		velocity	5.53	8.62	8.79	8.96	8.79						9.62	7.84		8.79		

Heat 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.70	3.73	4.80	5.86	6.89	7.93	9.01	10.09	11.13	12.26		13.70	6 / 8			
reaction time	0.161	interval		1.03	1.07	1.06	1.03	1.04	1.08	1.08	1.04	1.13	1.44			3.16	3.15	
wind	-0.1 m/s	velocity	5.08	8.87	8.54	8.62	8.87	8.79	8.46	8.46	8.79	8.09	9.74	8.03		8.68	8.70	

FINAL - 2020 Paavo Nurmi Games (Turku, FIN) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	11-Aug-20	time	2.60	3.70	4.80	5.85	6.91	8.00	9.08	10.14	11.22	12.30		13.88	7 / 6			
reaction time	0.170	interval	7 steps	1.10	1.10	1.05	1.06	1.09	1.08	1.06	1.08	1.08	1.58			3.25	3.23	3.22
wind	1.1 m/s	velocity	5.28	8.31	8.31	8.70	8.62	8.39	8.46	8.62	8.46	8.46	8.87	7.93		8.44	8.49	8.52

Semi-Final 2 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.60	3.67	4.72	5.75	6.79	7.83	8.87	9.92	10.99	12.08		13.52	2 / 6			
reaction time	0.155	interval	7 steps	1.07	1.05	1.03	1.04	1.04	1.04	1.05	1.07	1.09	1.44			3.15	3.12	3.21
wind	0.9 m/s	velocity	5.28	8.54	8.70	8.87	8.79	8.79	8.79	8.70	8.54	8.39	9.74	8.14		8.70	8.79	8.54

FINAL - 2015 Italian National Championships (Torino, ITA) *Incalza (FIDAL - Centro Studi & Ricerche) (2015) - https://www.youtube.com/watch?v=Ytpg1XHNpfg*

date	25-Jul-15	time	2.66	3.74	4.79	5.82	6.85	7.91	8.96	9.99	11.09	12.17		13.59	6 / 1			
reaction time		interval		1.08	1.05	1.03	1.03	1.06	1.05	1.03	1.10	1.08	1.42			3.16	3.14	3.21
wind	1.8 m/s	velocity	5.16	8.46	8.70	8.87	8.87	8.62	8.70	8.87	8.31	8.46	9.87	8.09		8.68	8.73	8.54

Heat 4 - 2014 European Championships (Zurich, SUI) *Incalza (2014) - https://www.youtube.com/watch?v=wFOM-j9iZHE&list=UU7691fXeyNFIMROfkJ-WWUg*

date	13-Aug-14	time	2.64	3.71	4.74	5.79	6.83	7.86	8.89	9.93	10.99	12.08		13.55	2 / 5			
reaction time	0.130	interval		1.07	1.03	1.05	1.04	1.03	1.03	1.04	1.06	1.09	1.47	PB		3.15	3.10	3.19
wind	0.7 m/s	velocity	5.20	8.54	8.87	8.70	8.79	8.87	8.87	8.79	8.62	8.39	9.54	8.12		8.70	8.85	8.60

Fontenot, Ryan (USA) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	15-Feb-20	time	2.67	3.73	4.80	5.84	6.87							7.84	8 / 7			
reaction time	0.170	interval		1.06	1.07	1.04	1.03						0.97			3.17		
		velocity	5.14	8.62	8.54	8.79	8.87						10.02	7.65		8.65		

Semi-Final 1 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	15-Feb-20	time	2.67	3.73	4.79	5.82	6.85							7.79	3 / 4			
reaction time	0.151	interval		1.06	1.06	1.03	1.03						0.94			3.15		
		velocity	5.14	8.62	8.62	8.87	8.87						10.34	7.70		8.70		

Heat 2 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.66	3.74	4.79	5.84	6.89							7.81	4 / 2			
reaction time	0.160	interval		1.08	1.05	1.05	1.05						0.92			3.18		
		velocity	5.16	8.46	8.70	8.70	8.70						10.57	7.68		8.62		

FINAL - 2019 Seiko Golden Grand Prix (Osaka, JPN) *Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*

date	19-May-19	time	2.67	3.75	4.82	5.91	6.95	8.01	9.06	10.10	11.18	12.27		13.70	6 / 6			

reaction time	0.157	interval		1.08	1.07	1.09	1.04	1.06	1.05	1.04	1.08	1.09	1.43			3.24	3.15	3.21
wind	2.9 m/s	velocity	5.14	8.46	8.54	8.39	8.79	8.62	8.70	8.79	8.46	8.39	9.80	8.03		8.46	8.70	8.54

Forsberg, Anton (SWE) (1991)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2010 Swedish National Championships (Falun, SWE)													*Blomkvist (2010) - www.sub13.se*			
date 22-Aug-10	time	2.82	4.00	5.15	6.30	7.43	8.59	9.78	10.97	12.16	13.39		15.02	/ 6			
reaction time	interval		1.18	1.15	1.15	1.13	1.16	1.19	1.19	1.19	1.23	1.63			3.48	3.48	3.61
wind -0.7 m/s	velocity	4.87	7.75	7.95	7.95	8.09	7.88	7.68	7.68	7.68	7.43	8.60	7.32		7.88	7.88	7.60
B FINAL - 2010 Folksam GP (Sollentuna, SWE)													*Blomkvist (2010) - www.sub13.se*			
date 01-Jul-10	time	2.60	3.77	4.90	6.05	7.24	8.33	9.55	10.72	11.97	13.28		15.16	/ 3			
reaction time	interval		1.17	1.13	1.15	1.19	1.09	1.22	1.17	1.25	1.31	1.88	PB		3.45	3.50	3.73
wind 0.8 m/s	velocity	5.28	7.81	8.09	7.95	7.68	8.39	7.49	7.81	7.31	6.98	7.46	7.26		7.95	7.83	7.35

Foster, Charles (USA) (1953)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 1976 Olympic Games (Montreal, CAN)													*Lamare (1976) - les jeux de la XXI olympia, Montreal 1976*			
date 26-Jul-76	time	2.4			5.5	6.6						13.68	6 / 1			
reaction time	interval				3.15	1.07								3.15		
wind 0.0 m/s	velocity	5.84			8.70	8.54						8.04		8.70		

Foster, Greg (USA) (1958)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1987 IAAF World Championships (Rome, ITA)													*Susanka (1988) - time analysis of the sprint hurdle events at the II World Championships in Athletics*			
date 03-Sep-87	time	2.60	3.64	4.64	5.64	6.64	7.65	8.67	9.72	10.76	11.81		13.21	3 / 1			
reaction time	interval		1.04	1.00	1.00	1.00	1.01	1.02	1.05	1.04	1.05	1.40			3.04	3.03	3.14
wind 0.5 m/s	velocity	5.28	8.79	9.14	9.14	9.14	9.05	8.96	8.70	8.79	8.70	10.01	8.33		9.02	9.05	8.73
Semi-Final 1 - 1987 IAAF World Championships (Rome, ITA)													*Susanka (1988) - time analysis of the sprint hurdle events at the II World Championships in Athletics*			
date 01-Sep-87	time	2.60	3.65	4.68	5.70	6.72	7.76	8.79	9.85	10.93	11.99		13.41	6 / 2			
reaction time	interval		1.05	1.03	1.02	1.02	1.04	1.03	1.06	1.08	1.06	1.42			3.10	3.09	3.20
wind -0.5 m/s	velocity	5.28	8.70	8.87	8.96	8.96	8.79	8.87	8.62	8.46	8.62	9.87	8.20		8.85	8.87	8.57
Heat 1 - 1987 IAAF World Championships (Rome, ITA)													*Susanka (1988) - time analysis of the sprint hurdle events at the II World Championships in Athletics*			
date 01-Sep-87	time	2.60	3.63	4.64	5.64	6.64	7.62	8.63	9.67	10.72	11.79		13.20	8 / 1			
reaction time	interval		1.03	1.01	1.00	1.00	0.98	1.01	1.04	1.05	1.07	1.41	CR		3.04	2.99	3.16
wind 1.4 m/s	velocity	5.28	8.87	9.05	9.14	9.14	9.33	9.05	8.79	8.70	8.54	9.94	8.33		9.02	9.17	8.68
FINAL - 1983 IAAF World Championships (Helsinki, FIN)																	*Knoke (1984) - the hurdles*
date 12-Aug-83	time	2.58	3.68	4.62	5.62	6.61	7.61	8.60	9.61	10.68	11.81		13.42	5 / 1			
reaction time 0.191	interval		1.10	0.94	1.00	0.99	1.00	0.99	1.01	1.07	1.13	1.61			3.04	2.98	3.21
wind 1.3 m/s	velocity	5.32	8.31	9.72	9.14	9.23	9.14	9.23	9.05	8.54	8.09	8.71	8.20		9.02	9.20	8.54
FINAL - 1981 USSR vs. USA (Leningrad, URS)													*Chanon (1987) - analyse comparee des caracteristiques des courses de 100m haies et 110m haies*			
date 10-Jul-81	time	2.48	3.58	4.60	5.61	6.62	7.67	8.72	9.82	10.92	12.02		13.30	/ 1			
reaction time	interval		1.10	1.02	1.01	1.01	1.05	1.05	1.10	1.10	1.10	1.28			3.13	3.11	3.30
wind 2.8 m/s	velocity	5.53	8.31	8.96	9.05	9.05	8.70	8.70	8.31	8.31	8.31	10.95	8.27		8.76	8.82	8.31

Foster, Jasher (USA) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2020 Don Kirby Elite Invitational (Albuquerque, NM) (Altitude)													*CAA Hurdle Development (2020)*			
date 14-Feb-20	time	2.64	3.74	4.82	5.89	6.97						7.95	7 / 4			
reaction time	interval		1.10	1.08	1.07	1.08					0.98			3.25		
	velocity	5.20	8.31	8.46	8.54	8.46					9.92	7.55		8.44		

Fourie, Lehann (RSA) (1987)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2012 Memorial Van Damme (Brussels, BEL) (TV Analysis)													*Henson (2020) - Athlete First: 2012 Aries Merritt world record season*			
date 07-Sep-12	time	2.48	3.52	4.52	5.52	6.52	7.54	8.58	9.60	10.62	11.70		13.24	3 / 6			
reaction time 0.133	interval *7 steps*	1.04	1.00	1.00	1.00	1.02	1.04	1.02	1.02	1.08	1.54	AR		3.04	3.06	3.12
wind 0.3 m/s	velocity	5.53	8.79	9.14	9.14	9.14	8.96	8.79	8.96	8.96	8.46	9.10	8.31		9.02	8.96	8.79
FINAL - 2012 AVIVA Grand Prix (Birmingham, GBR) (TV Analysis)													*Henson (2020) - Athlete First: 2012 Aries Merritt world record season*			
date 26-Aug-12	time	2.48	3.52	4.54	5.56	6.58	7.60	8.70	9.81	10.87	11.99		13.59	8 / 7			
reaction time 0.139	interval *7 steps*	1.04	1.02	1.02	1.02	1.02	1.10	1.11	1.06	1.12	1.60			3.08	3.14	3.29
wind -0.9 m/s	velocity	5.53	8.79	8.96	8.96	8.96	8.96	8.31	8.23	8.62	8.16	8.76	8.09		8.90	8.73	8.33
FINAL - 2012 Olympic Games (London, GBR) (TV Analysis)													*Henson (2020) - Athlete First: 2012 Aries Merritt world record season*			
date 08-Aug-12	time	2.48	3.56	4.58	5.58	6.62	7.66	8.74	9.78	10.90	12.02		13.53	3 / 7			
reaction time 0.136	interval 7 steps	1.08	1.02	1.00	1.04	1.04	1.08	1.04	1.12	1.12	1.51			3.10	3.16	3.28
wind -0.3 m/s	velocity	5.53	8.46	8.96	9.14	8.79	8.79	8.46	8.79	8.16	8.16	9.28	8.13		8.85	8.68	8.36
Semi-Final 3 - 2012 Olympic Games (London, GBR) (TV Analysis)													*Henson (2020) - Athlete First: 2012 Aries Merritt world record season*			
date 08-Aug-12	time	2.44	3.52	4.54	5.56	6.56	7.58	8.58	9.64	10.70	11.78		13.28	6 / 3			
reaction time 0.139	interval *7 steps*	1.08	1.02	1.02	1.00	1.02	1.00	1.06	1.06	1.08	1.50			3.12	3.02	3.20
wind 0.1 m/s	velocity	5.62	8.46	8.96	8.96	9.14	8.96	9.14	8.62	8.62	8.46	9.35	8.28		8.79	9.08	8.57

FINAL - 2012 IAAF World Indoor Championships (Istanbul, TUR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	11-Mar-12	time	2.52	3.58	4.62	5.66	6.70							7.69	8 / 7			
reaction time	0.147	interval	*7 steps*	1.06	1.04	1.04	1.04						0.99			3.14		
		velocity	5.44	8.62	8.79	8.79	8.79						9.82	7.80		8.73		

Heat 1 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.62	3.66	4.72	5.78	6.84	7.88	8.96	10.02	11.10	12.21		13.67	3 / 4			
reaction time	0.139	interval		1.04	1.06	1.06	1.06	1.04	1.08	1.06	1.08	1.11	1.46			3.16	3.18	3.25
wind	-0.4 m/s	velocity	5.24	8.79	8.62	8.62	8.62	8.79	8.46	8.62	8.46	8.23	9.60	8.05		8.68	8.62	8.44

Frolík, Petr (CZE) (1991)

Heat 1 - 2014 Czech Republic National Championships (Ostrava, CZE) *Feher (2014) - Final report from the Czech Republic national championships*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	02-Aug-14	time	2.88	4.07	5.26	6.46	7.63	8.85	10.07	11.29	12.48	13.74		15.36	7 / 5			
reaction time	0.186	interval		1.19	1.19	1.20	1.17	1.22	1.22	1.22	1.19	1.26	1.62			3.58	3.61	3.67
wind	-1.6 m/s	velocity	4.76	7.68	7.68	7.62	7.81	7.49	7.49	7.49	7.68	7.25	8.65	7.16		7.66	7.60	7.47

Heat 3 - 2013 Czech Republic National Championships (Tábor, CZE) *Feher (2013) - Final report from the men's & women's Czech Republic national championships*

date	15-Jun-13	time	2.92	4.13	5.31	6.51	7.75	8.98	10.26	11.51	12.81	14.09		15.78	2 / 5			
reaction time	0.204	interval		1.21	1.18	1.20	1.24	1.23	1.28	1.25	1.30	1.28	1.69			3.59	3.75	3.83
wind	-0.3 m/s	velocity	4.70	7.55	7.75	7.62	7.37	7.43	7.14	7.31	7.03	7.14	8.30	6.97		7.64	7.31	7.16

Heat 3 - 2012 Czech Republic National Indoor Championships (Praha, CZE) *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

date	25-Feb-12	time	2.82	4.01	5.19	6.37	7.54							8.56	7 / 6			
reaction time	0.172	interval		1.19	1.18	1.18	1.17						1.02			3.55		
		velocity	4.87	7.68	7.75	7.75	7.81						9.53	7.01		7.72		

Fudaba, Hiroki (JPN) (1994)

FINAL - 2019 Japanese National Championships (Fukuoka, JPN) *Yamanaka (2019) - research on athlete performance and technique- 2019 data book*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	30-Jun-19	time	2.66	3.75	4.81	5.91	6.98	8.07	9.15	10.26	11.37	12.49		14.00	8 / 7			
reaction time	0.148	interval	7 steps	1.09	1.06	1.10	1.07	1.09	1.08	1.11	1.11	1.12	1.51			3.25	3.24	3.34
wind	-0.6 m/s	velocity	5.16	8.39	8.62	8.31	8.54	8.39	8.46	8.23	8.23	8.16	9.28	7.86		8.44	8.46	8.21

FINAL - 2019 Fuse Sprint (Tottori, JPN) *Kijima (2019) - research on athlete performance and technique- 2019 data book*

date	02-Jun-19	time	2.66	3.75	4.84	5.89	6.96	8.04	9.11	10.20	11.29	12.39		13.89	3 / 7			
reaction time	0.150	interval	7 steps	1.09	1.09	1.05	1.07	1.08	1.07	1.09	1.09	1.10	1.50			3.23	3.22	3.28
wind	1.9 m/s	velocity	5.16	8.39	8.39	8.70	8.54	8.46	8.54	8.39	8.39	8.31	9.35	7.92		8.49	8.52	8.36

FINAL - 2018 Japanese National Championships (Yamaguchi, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	24-Jun-18	time	2.68	3.75	4.82	5.85	6.92	7.97	9.04	10.11	11.20	12.32		13.76	3 / 4			
reaction time	0.164	interval	7 steps	1.07	1.07	1.03	1.07	1.05	1.07	1.07	1.09	1.12	1.44			3.17	3.19	3.28
wind	0.7 m/s	velocity	5.12	8.54	8.54	8.87	8.54	8.70	8.54	8.54	8.39	8.16	9.74	7.99		8.65	8.60	8.36

Semi-Final 2 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.68	3.77	4.85	5.91	6.98	8.05	9.15	10.27	11.40	12.54		14.06	9 / 8			
reaction time	0.171	interval	*7 steps*	1.09	1.08	1.06	1.07	1.07	1.10	1.12	1.13	1.14	1.52			3.23	3.24	3.39
wind	0.3 m/s	velocity	5.12	8.39	8.46	8.62	8.54	8.54	8.31	8.16	8.09	8.02	9.22	7.82		8.49	8.46	8.09

Heat 3 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.69	3.78	4.85	5.93	6.99	8.08	9.15	10.25	11.36	12.49		13.94	5 / 3			
reaction time	0.165	interval	*7 steps*	1.09	1.07	1.08	1.06	1.09	1.07	1.10	1.11	1.13	1.45			3.24	3.22	3.34
wind	0.5 m/s	velocity	5.10	8.39	8.54	8.46	8.62	8.39	8.54	8.31	8.23	8.09	9.67	7.89		8.46	8.52	8.21

FINAL - 2017 East Japan Business Athletics Championships (Yuma, JPN) *(2017) - tfdata-store.com/2017/05/20/post-579/*

date	20-May-17	time	2.71	3.81	4.86	5.94	7.01	8.10	9.18	10.28	11.37	12.50		14.00	2 / 5			
reaction time		interval	*7 steps*	1.10	1.05	1.08	1.07	1.09	1.08	1.10	1.09	1.13	1.50			3.23	3.24	3.32
wind	1.1 m/s	velocity	5.06	8.31	8.70	8.46	8.54	8.39	8.46	8.31	8.39	8.09	9.35	7.86		8.49	8.46	8.26

Open FINAL - 2017 Michitaka Memorial (Osaka, JPN) *(2017) - tfdata-store.com/2017/05/08/post-413/*

date	07-May-17	time	2.77	3.85	4.96	6.06	7.16	8.24	9.37	10.51	11.61	12.75		14.27	5 / 6			
reaction time		interval	*7 steps*	1.08	1.11	1.10	1.10	1.08	1.13	1.14	1.10	1.14	1.52			3.29	3.31	3.38
wind	-1.5 m/s	velocity	4.95	8.46	8.23	8.31	8.31	8.46	8.09	8.02	8.31	8.02	9.22	7.71		8.33	8.28	8.11

FINAL - 2017 Michitaka Memorial (Osaka, JPN) *(2017) - tfdata-store.com/2017/05/08/post-413/*

date	07-May-17	time	2.72	3.81	4.92	6.00	7.10	8.19	9.29	10.39	11.52	12.63		14.14	1 / 6			
reaction time		interval	*7 steps*	1.09	1.11	1.08	1.10	1.09	1.10	1.10	1.13	1.11	1.51			3.28	3.29	3.34
wind	-0.8 m/s	velocity	5.04	8.39	8.23	8.46	8.31	8.39	8.31	8.31	8.09	8.23	9.28	7.78		8.36	8.33	8.21

B FINAL - 2017 Mikio Oda Memorial (Hiroshima, JPN) *(2017) - tfdata-store.com/2017/05/01/458/*

date	29-Apr-17	time	2.72	3.83	4.92	6.00	7.09	8.18	9.29	10.40	11.54	12.68		14.20	1 / 5			
reaction time		interval	*7 steps*	1.11	1.09	1.08	1.09	1.09	1.11	1.11	1.14	1.14	1.52			3.28	3.29	3.39
wind	-1.5 m/s	velocity	5.04	8.23	8.39	8.46	8.39	8.39	8.23	8.23	8.02	8.02	9.22	7.75		8.36	8.33	8.09

FINAL - 2016 Japanese National Championships (Nagoya, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	26-Jun-16	time	2.64	3.74	4.80	5.87	6.93	7.98	9.05	10.11	11.19	12.27		13.71	4 / 5			
reaction time	0.140	interval		1.10	1.06	1.07	1.06	1.05	1.07	1.06	1.08	1.08	1.44			3.23	3.18	3.22
wind	2.4 m/s	velocity	5.20	8.31	8.62	8.54	8.62	8.70	8.54	8.62	8.46	8.46	9.74	8.02		8.49	8.62	8.52

FINAL - 2016 Fuse Sprint (Tottori, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	05-Jun-16	time	2.67	3.75	4.83	5.89	6.96	8.05	9.14	10.23	11.33	12.46		13.96	8 / 8			
reaction time		interval		1.08	1.08	1.06	1.07	1.09	1.09	1.09	1.10	1.13	1.50			3.22	3.25	3.32
wind	1.4 m/s	velocity	5.14	8.46	8.46	8.62	8.54	8.39	8.39	8.39	8.31	8.09	9.35	7.88		8.52	8.44	8.26

FINAL - 2015 Shizuoka International Athletics Meeting (Fukuroi, JPN) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	03-May-15	time	2.74	3.86	4.93	6.01	7.08	8.14	9.22	10.30	11.40	12.51		13.99	/ 4			
reaction time		interval		1.12	1.07	1.08	1.07	1.06	1.08	1.08	0.10	2.11	1.48			3.27	3.21	3.29
wind	-0.8 m/s	velocity	5.01	8.16	8.54	8.46	8.54	8.62	8.46	8.46	91.40	4.33	9.47	7.86		8.39	8.54	8.33

Fujihara, Koki (JPN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

B FINAL - 2022 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	29-Apr-22	time	2.63	3.74	4.80	5.85	6.90	7.99	9.10	10.23	11.38	12.50		14.03	8 / 4			
reaction time	0.177	interval	7 steps	1.11	1.06	1.05	1.05	1.09	1.11	1.13	1.15	1.12	1.53			3.22	3.25	3.40
wind	-0.7 m/s	velocity	5.22	8.23	8.62	8.70	8.70	8.39	8.23	8.09	7.95	8.16	9.16	7.84		8.52	8.44	8.06

Fujii, Ryota (JPN) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Japanese National Championsips (Niigata, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	30-Jun-24	time	2.58	3.62	4.66	5.68	6.70	7.73	8.80	9.86	10.93	12.02		13.48	2 / 7			
reaction time	0.159	interval		1.04	1.04	1.02	1.02	1.03	1.07	1.06	1.07	1.09	1.46			3.10	3.12	3.22
wind	0.2 m/s	velocity	5.32	8.79	8.79	8.96	8.96	8.87	8.54	8.62	8.54	8.39	9.60	8.16		8.85	8.79	8.52

FINAL - 2024 Fuse Sprint (Tottori, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	02-Jun-24	time	2.61	3.65	4.70	5.74	6.79	7.83	8.88	9.94	11.00	12.08		13.51	8 / 5			
reaction time	0.165	interval		1.04	1.05	1.04	1.05	1.04	1.05	1.06	1.06	1.08	1.43			3.13	3.14	3.20
wind	1.3 m/s	velocity	5.26	8.79	8.70	8.79	8.70	8.79	8.70	8.62	8.62	8.46	9.80	8.14		8.76	8.73	8.57

FINAL - 2024 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	12-May-24	time	2.58	3.63	4.65	5.68	6.71	7.76	8.81	9.87	10.95	12.06		13.56	4 / 4			
reaction time	0.173	interval		1.05	1.02	1.03	1.03	1.05	1.05	1.06	1.08	1.11	1.50			3.10	3.13	3.25
wind	0.9 m/s	velocity	5.32	8.70	8.96	8.87	8.87	8.70	8.70	8.62	8.46	8.23	9.35	8.11		8.85	8.76	8.44

FINAL - 2023 Fuse Sprint (Tottori, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	25-Jun-23	time	2.57	3.64	4.67	5.70	6.73	7.77	8.83	9.88	10.97	12.05		13.51	5 / 3			
reaction time	0.147	interval		1.07	1.03	1.03	1.03	1.04	1.06	1.05	1.09	1.08	1.46			3.13	3.13	3.22
wind	1.1 m/s	velocity	5.34	8.54	8.87	8.87	8.87	8.79	8.62	8.70	8.39	8.46	9.60	8.14		8.76	8.76	8.52

FINAL - 2023 Japanese National Championsips (Osaka, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	04-Jun-23	time	2.62	3.67	4.70	5.72	6.75	7.80	8.84	9.91	10.99	12.10		13.61	9 / 5			
reaction time	0.169	interval		1.05	1.03	1.02	1.03	1.05	1.04	1.07	1.08	1.11	1.51			3.10	3.12	3.26
wind	-0.9 m/s	velocity	5.24	8.70	8.87	8.96	8.87	8.70	8.79	8.54	8.46	8.23	9.28	8.08		8.85	8.79	8.41

FINAL - 2023 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	07-May-23	time	2.59	3.65	4.72	5.77	6.81	7.88	8.94	10.00	11.09	12.19		13.65	5 / 6			
reaction time	0.143	interval		1.06	1.07	1.05	1.04	1.07	1.06	1.06	1.09	1.10	1.46			3.18	3.17	3.25
wind	-0.3 m/s	velocity	5.30	8.62	8.54	8.70	8.79	8.54	8.62	8.62	8.39	8.31	9.60	8.06		8.62	8.65	8.44

FINAL - 2022 Japanese National Championsips (Osaka, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	12-Jun-22	time	2.58	3.65	4.70	5.73	6.76	7.82	8.89	9.97	11.05	12.15		13.63	9 / 6			
reaction time	0.145	interval		1.07	1.05	1.03	1.03	1.06	1.07	1.08	1.08	1.10	1.48			3.15	3.16	3.26
wind	-1.2 m/s	velocity	5.32	8.54	8.70	8.87	8.87	8.62	8.54	8.46	8.46	8.31	9.47	8.07		8.70	8.68	8.41

FINAL - 2022 Seiko Golden Grand Prix (Tokyo, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	08-May-22	time	2.62	3.70	4.75	5.80	6.85	7.91	8.98	10.06	11.15	12.25		13.70	7 / 5			
reaction time	0.153	interval		1.08	1.05	1.05	1.05	1.06	1.07	1.08	1.09	1.10	1.45			3.18	3.18	3.27
wind	0.1 m/s	velocity	5.24	8.46	8.70	8.70	8.70	8.62	8.54	8.46	8.39	8.31	9.67	8.03		8.62	8.62	8.39

FINAL - 2022 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	01-May-22	time	2.59	3.65	4.69	5.73	6.77	7.83	8.88	9.95	11.02	12.14		13.59	4 / 4			
reaction time	0.147	interval		1.06	1.04	1.04	1.04	1.06	1.05	1.07	1.07	1.12	1.45			3.14	3.15	3.26
wind	0.8 m/s	velocity	5.30	8.62	8.79	8.79	8.79	8.62	8.70	8.54	8.54	8.16	9.67	8.09		8.73	8.70	8.41

FINAL - 2022 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	29-Apr-22	time	2.64	3.73	4.81	5.89	6.96	8.05	9.14	10.23	11.33	12.46		13.94	8 / 6			
reaction time	0.155	interval		1.09	1.08	1.08	1.07	1.09	1.09	1.09	1.10	1.13	1.48			3.25	3.25	3.32
wind	-1.5 m/s	velocity	5.20	8.39	8.46	8.46	8.54	8.39	8.39	8.39	8.31	8.09	9.47	7.89		8.44	8.44	8.26

FINAL - 2021 Japanese National Championships (Osaka, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	27-Jun-21	time	2.59	3.65	4.69	5.73	6.77	7.80	8.86	9.92	11.00	12.08		13.54	2 / 6			

reaction time	0.149	interval		1.06	1.04	1.04	1.04	1.03	1.06	1.06	1.08	1.08	1.46	**PB**		3.14	3.13	3.22
wind	1.2 m/s	velocity	5.30	8.62	8.79	8.79	8.79	8.87	8.62	8.62	8.46	8.46	9.60	8.12		8.73	8.76	8.52

FINAL - 2021 Fuse Sprint (Tottori, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	06-Jun-21	time	2.62	3.71	4.76	5.81	6.90	7.96	9.02	10.13	11.21	12.31		13.79	9 / 6			
reaction time	0.152	interval		1.09	1.05	1.05	1.09	1.06	1.06	1.11	1.08	1.10	1.48			3.19	3.21	3.29
wind	1.8 m/s	velocity	5.24	8.39	8.70	8.70	8.39	8.62	8.62	8.23	8.46	8.31	9.47	7.98		8.60	8.54	8.33

FINAL - 2021 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	29-Apr-21	time	2.64	3.73	4.78	5.85	6.91	7.98	9.05	10.13	11.22	12.34		13.84	2 / 8			
reaction time		interval		1.09	1.05	1.07	1.06	1.07	1.07	1.08	1.09	1.12	1.50			3.21	3.20	3.29
wind	1.7 m/s	velocity	5.20	8.39	8.70	8.54	8.62	8.54	8.54	8.46	8.39	8.16	9.35	7.95		8.54	8.57	8.33

FINAL - 2020 All Japan Corporate Championships (Kumagaya, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	20-Sep-20	time	2.60	3.68	4.73	5.79	6.83	7.90	8.98	10.06	11.16	12.28		13.78	7 / 3			
reaction time	0.151	interval		1.08	1.05	1.06	1.04	1.07	1.08	1.08	1.10	1.12	1.50			3.19	3.19	3.30
wind	0.1 m/s	velocity	5.28	8.46	8.70	8.62	8.79	8.54	8.46	8.46	8.31	8.16	9.35	7.98		8.60	8.60	8.31

Race 2 - 2020 World Athletics Trials (Fuji, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	06-Sep-20	time	2.60	3.67	4.73	5.78	6.83	7.89	8.95	10.03	11.15	12.26		13.78	4 / 2			
reaction time		interval		1.07	1.06	1.05	1.05	1.06	1.06	1.08	1.12	1.11	1.52			3.18	3.17	3.31
wind	1.3 m/s	velocity	5.28	8.54	8.62	8.70	8.70	8.62	8.62	8.46	8.16	8.23	9.22	7.98		8.62	8.65	8.28

FINAL - 2020 Athlete Night Games (Fukui, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	29-Aug-20	time	2.59	3.65	4.68	5.70	6.76	7.82	8.87	9.94	11.02	12.14		13.58	8 / 5			
reaction time		interval		1.06	1.03	1.02	1.06	1.06	1.05	1.07	1.08	1.12	1.44			3.11	3.17	3.27
wind	1.4 m/s	velocity	5.30	8.62	8.87	8.96	8.62	8.62	8.70	8.54	8.46	8.16	9.74	8.10		8.82	8.65	8.39

Heat 2 - 2020 Athlete Night Games (Fukui, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	29-Aug-20	time	2.57	3.61	4.64	5.68	6.72	7.78	8.87	9.93	11.03	12.10		13.57	/ 1			
reaction time		interval		1.04	1.03	1.04	1.04	1.06	1.09	1.06	1.10	1.07	1.47	**PB**		3.11	3.19	3.23
wind	1.5 m/s	velocity	5.34	8.79	8.87	8.79	8.79	8.62	8.39	8.62	8.31	8.54	9.54	8.11		8.82	8.60	8.49

FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	23-Aug-20	time	2.60	3.67	4.73	5.77	6.82	7.88	8.97	10.08	11.19	12.31		13.79	9 / 5			
reaction time	0.144	interval		1.07	1.06	1.04	1.05	1.06	1.09	1.11	1.11	1.12	1.48			3.17	3.20	3.34
wind	-0.4 m/s	velocity	5.28	8.54	8.62	8.79	8.70	8.62	8.39	8.23	8.23	8.16	9.47	7.98		8.65	8.57	8.21

FINAL - 2019 Japanese World Championships Trials (Fujiyoshida, JPN) *Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*

date	01-Sep-19	time	2.59	3.65	4.70	5.74	6.80	7.86	8.92	10.00	11.10	12.21		13.65	2 / 6			
reaction time		interval		1.06	1.05	1.04	1.06	1.06	1.06	1.08	1.10	1.11	1.44	**PB**		3.15	3.18	3.29
wind	1.4 m/s	velocity	5.30	8.62	8.70	8.79	8.62	8.62	8.62	8.46	8.31	8.23	9.74	8.06		8.70	8.62	8.33

FINAL - 2019 Japanese National Championships (Fukuoka, JPN) *Yamanaka (2019) - research on athlete performance and technique- 2019 data book*

date	30-Jun-19	time	2.64	3.72	4.79	5.87	6.95	8.05	9.15	10.26	11.39	12.52		13.99	2 / 6			
reaction time	0.148	interval		1.08	1.07	1.08	1.08	1.10	1.10	1.11	1.13	1.13	1.47			3.23	3.28	3.37
wind	-0.6 m/s	velocity	5.20	8.46	8.54	8.46	8.46	8.31	8.31	8.23	8.09	8.09	9.54	7.86		8.49	8.36	8.14

FINAL - 2019 Fuse Sprint (Tottori, JPN) *Kijima (2019) - research on athlete performance and technique- 2019 data book*

date	02-Jun-19	time	2.60	3.68	4.74	5.81	6.87	7.95	9.02	10.11	11.21	12.31		13.78	8 / 5			
reaction time	0.146	interval		1.08	1.06	1.07	1.06	1.08	1.07	1.09	1.10	1.10	1.47	**PB**		3.21	3.21	3.29
wind	1.9 m/s	velocity	5.28	8.46	8.62	8.54	8.62	8.46	8.54	8.39	8.31	8.31	9.54	7.98		8.54	8.54	8.33

FINAL - 2019 Kinami Memorial (Osaka, JPN) *Matsubayashi (2019) - research on athlete performance and technique- 2019 data book*

date	06-May-19	time	2.60	3.70	4.78	5.87	6.97	8.05	9.15	10.24	11.35	12.49		13.94	3 / 7			
reaction time		interval		1.10	1.08	1.09	1.10	1.08	1.10	1.09	1.11	1.14	1.45			3.27	3.28	3.34
wind	0.3 m/s	velocity	5.28	8.31	8.46	8.39	8.31	8.46	8.31	8.39	8.23	8.02	9.67	7.89		8.39	8.36	8.21

A FINAL - 2019 Mikio Oda Memorial (Hiroshima, JPN) *Kobayashi (2019) - research on athlete performance and technique- 2019 data book*

date	28-Apr-19	time	2.74	3.84	4.89	5.96	7.03	8.12	9.22	10.32	11.44	12.58		14.07	1 / 7			
reaction time		interval		1.10	1.05	1.07	1.07	1.09	1.10	1.10	1.12	1.14	1.49			3.22	3.26	3.36
wind	0.6 m/s	velocity	5.01	8.31	8.70	8.54	8.54	8.39	8.31	8.31	8.16	8.02	9.41	7.82		8.52	8.41	8.16

A FINAL - 2018 National Sports Festival (Fukui, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	08-Oct-18	time	2.61	3.70	4.75	5.82	6.89	7.98	9.05	10.14	11.24	12.33		13.81	1 / 6			
reaction time	0.142	interval		1.09	1.05	1.07	1.07	1.09	1.07	1.09	1.10	1.09	1.48	**PB**		3.21	3.23	3.28
wind	1.2 m/s	velocity	5.26	8.39	8.70	8.54	8.54	8.39	8.54	8.39	8.31	8.39	9.47	7.97		8.54	8.49	8.36

Heat 4 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.64	3.73	4.80	5.88	6.95	8.01	9.13	10.24	11.34	12.47		13.92	1 / 4			
reaction time	0.138	interval		1.09	1.07	1.08	1.07	1.06	1.12	1.11	1.10	1.13	1.45	**=PB**		3.24	3.25	3.34
wind	0.0 m/s	velocity	5.20	8.39	8.54	8.46	8.54	8.62	8.16	8.23	8.31	8.09	9.67	7.90		8.46	8.44	8.21

B FINAL - 2017 Mikio Oda Memorial (Hiroshima, JPN) *(2017) - tfdata-store.com/2017/05/01/458/*

date	29-Apr-17	time	2.61	3.73	4.84	5.97	7.09	8.19	9.34	10.49	11.65	12.81		14.36	2 / 7		
reaction time		interval		1.12	1.11	1.13	1.12	1.10	1.15	1.15	1.16	1.16	1.55			3.36	3.37	3.47
wind	-1.5 m/s	velocity	5.26	8.16	8.23	8.09	8.16	8.31	7.95	7.95	7.88	7.88	9.05	7.66		8.16	8.14	7.90

FINAL - 2016 Six College Meeting (Sagamihara, JPN) *(2016.07.18) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	17-Jul-16	time	2.63	3.73	4.82	5.90	6.98	8.07	9.18	10.28	11.38	12.51		13.95	5 / 2		
reaction time		interval		1.10	1.09	1.08	1.08	1.09	1.11	1.10	1.10	1.13	1.44	PB		3.27	3.28	3.33
wind	0.3 m/s	velocity	5.22	8.31	8.39	8.46	8.46	8.39	8.23	8.31	8.31	8.09	9.74	7.89		8.39	8.36	8.23

Fujioka, Tetsuya (JPN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 Shimane High School Championships (Izumo, JPN) *Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*

date	27-May-18	time	2.92	4.15	5.42	6.68	7.98	9.27	10.55	11.83	13.13	14.48		16.10	3 / 4		
reaction time		interval		1.23	1.27	1.26	1.30	1.29	1.28	1.28	1.30	1.35	1.62			3.76	3.87	3.93
wind	1.2 m/s	velocity	4.70	7.43	7.20	7.25	7.03	7.09	7.14	7.14	7.03	6.77	8.65	6.83		7.29	7.09	6.98

Fujiwara, Koki (JPN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2019 Japanese National High School Championships (Okinawa, JPN) (99cm) *Kota (2019) - 72nd high school champs: JAF scientific committee - biomechanics data*

date	08-Aug-19	time	2.71	3.84	4.93	6.01	7.10	8.26	9.37	10.54	11.71	12.93		14.47	3 / 4		
reaction time		interval		1.13	1.09	1.08	1.09	1.16	1.11	1.17	1.17	1.22	1.54			3.30	3.36	3.56
wind	-3.0 m/s	velocity	5.06	8.09	8.39	8.46	8.39	7.88	8.23	7.81	7.81	7.49	9.10	7.60		8.31	8.16	7.70

Fukumoto, Ren (JPN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

U20 FINAL - 2018 National Sports Festival (Fukui, JPN) (99cm) *Joshi (2018) - research on athlete performance and technique- 2018 data book*

date	07-Oct-18	time	2.62	3.70	4.76	5.82	6.88	7.96	9.03	10.11	11.20	12.31		13.72	1 / 5		
reaction time	0.135	interval		1.08	1.06	1.06	1.06	1.08	1.07	1.08	1.09	1.11	1.41			3.20	3.21	3.28
wind	1.5 m/s	velocity	5.24	8.46	8.62	8.62	8.62	8.46	8.54	8.46	8.39	8.23	9.94	8.02		8.57	8.54	8.36

Fukumoto, Riku (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.11) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.64	3.73	4.83	5.90	6.98	8.06	9.15	10.26	11.38	12.51		13.95	3 / 1		
reaction time		interval		1.09	1.10	1.07	1.08	1.08	1.09	1.11	1.12	1.13	1.44			3.26	3.25	3.36
wind	1.6 m/s	velocity	5.20	8.39	8.31	8.54	8.46	8.46	8.39	8.23	8.16	8.09	9.74	7.89		8.41	8.44	8.16

Heat 3 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.07) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.62	3.71	4.78	5.83	6.89	7.97	9.05	10.17	11.27	12.41		13.86	2 / 1		
reaction time		interval		1.09	1.07	1.05	1.06	1.08	1.08	1.12	1.10	1.14	1.45			3.21	3.22	3.36
wind	1.4 m/s	velocity	5.24	8.39	8.54	8.70	8.62	8.46	8.46	8.16	8.31	8.02	9.67	7.94		8.54	8.52	8.16

FINAL - 2016 China Perfecture High School Championships (Izumo, JPN) *(2016.10.16) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	15-Oct-16	time	2.75	3.90	5.04	6.16	7.33	8.46	9.65	10.82	12.02	13.23		14.71	4 / 1		
reaction time		interval		1.15	1.14	1.12	1.17	1.13	1.19	1.17	1.20	1.21	1.48			3.41	3.49	3.58
wind	0.9 m/s	velocity	4.99	7.95	8.02	8.16	7.81	8.09	7.68	7.81	7.62	7.55	9.47	7.48		8.04	7.86	7.66

Fung Kin Hei (HKG) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

U20 FINAL - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.68	3.78	4.90	5.99	7.07	8.17	9.24	10.37	11.48	12.61		14.10	3 / 7		
reaction time	0.155	interval		1.10	1.12	1.09	1.08	1.10	1.07	1.13	1.11	1.13	1.49			3.31	3.25	3.37
wind	-0.3 m/s	velocity	5.12	8.31	8.16	8.39	8.46	8.31	8.54	8.09	8.23	8.09	9.41	7.80		8.28	8.44	8.14

U20 Heat 2 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.65	3.72	4.81	5.91	6.97	8.07	9.18	10.28	11.39	12.53		14.04	7 / 3		
reaction time	0.160	interval		1.07	1.09	1.10	1.06	1.10	1.11	1.10	1.11	1.14	1.51			3.26	3.27	3.35
wind	-0.3 m/s	velocity	5.18	8.54	8.39	8.31	8.62	8.31	8.23	8.31	8.23	8.02	9.28	7.83		8.41	8.39	8.19

Furukawa, Yutaro (JPN) (1985)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

A FINAL - 2018 National Sports Festival (Fukui, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	08-Oct-18	time	2.63	3.70	4.76	5.84	6.90	7.97	9.05	10.15	11.24	12.36		13.86	2 / 7		
reaction time	0.145	interval		1.07	1.06	1.08	1.06	1.07	1.08	1.10	1.09	1.12	1.50			3.21	3.21	3.31
wind	1.2 m/s	velocity	5.22	8.54	8.62	8.46	8.62	8.54	8.46	8.31	8.39	8.16	9.35	7.94		8.54	8.54	8.28

FINAL - 2017 Mito Invitational (Mito, JPN) *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.64	3.72	4.81	5.90	6.97	8.06	9.16	10.27	11.39	12.53		14.05	2 / 4		
reaction time		interval		1.08	1.09	1.09	1.07	1.09	1.10	1.11	1.12	1.14	1.52			3.26	3.26	3.37
wind	-2.3 m/s	velocity	5.20	8.46	8.39	8.39	8.54	8.39	8.31	8.23	8.16	8.02	9.22	7.83		8.41	8.41	8.14

Heat 3 - 2017 Mito Invitational (Mito, JPN) *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.65	3.73	4.81	5.90	6.99	8.09	9.21	10.35	11.49	12.66		14.25	4 / 3		
reaction time		interval		1.08	1.08	1.09	1.09	1.10	1.12	1.14	1.14	1.17	1.59			3.25	3.31	3.45
wind	-2.5 m/s	velocity	5.18	8.46	8.46	8.39	8.39	8.31	8.16	8.02	8.02	7.81	8.82	7.72		8.44	8.28	7.95

B FINAL - 2017 Mikio Oda Memorial (Hiroshima, JPN) *(2017) - tfdata-store.com/2017/05/01/458/*

date	29-Apr-17	time	2.67	3.77	4.88	5.98	7.08	8.20	9.35	10.50	11.68	12.87		14.61	5 / 8		

reaction time		interval		1.10	1.11	1.10	1.10	1.12	1.15	1.15	1.18	1.19	1.74			3.31	3.37	3.52
wind	-1.5 m/s	velocity	5.14	8.31	8.23	8.31	8.31	8.16	7.95	7.95	7.75	7.68	8.06	7.53		8.28	8.14	7.79

FINAL - 2015 Japanese National Championships (Niigata, JPN) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	28-Jun-15	time	2.63	3.70	4.77	5.83	6.89	7.97	9.09	10.20	11.34	12.48		14.00	9 / 8			
reaction time	0.150	interval		1.07	1.07	1.06	1.06	1.08	1.12	1.11	1.14	1.14	1.52			3.20	3.26	3.39
wind	-1.4 m/s	velocity	5.22	8.54	8.54	8.62	8.62	8.46	8.16	8.23	8.02	8.02	9.22	7.86		8.57	8.41	8.09

FINAL - 2009 Japanese National Championships (Hiroshima, JPN) *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*

date	27-Jun-09	time	2.63	3.72	4.80	5.86	6.93	7.99	9.09	10.17	11.27	12.43		13.96	8 / 8			
reaction time		interval		1.09	1.08	1.06	1.07	1.06	1.10	1.08	1.10	1.16	1.53			3.23	3.23	3.34
wind	1.6 m/s	velocity	5.22	8.39	8.46	8.62	8.54	8.62	8.31	8.46	8.31	7.88	9.16	7.88		8.49	8.49	8.21

Heat 5 - 2009 Japanese National Championships (Hiroshima, JPN) *Akirabun (2010) - analysis of speed and stride on straight track events in the 2009 season*

date	26-Jun-09	time	2.41	3.51	4.57	5.63	6.70	7.77	8.85	9.93	11.04	12.16		13.82	2 / 1			
reaction time		interval		1.10	1.06	1.06	1.07	1.07	1.08	1.08	1.11	1.12	1.66			3.22	3.22	3.31
wind	0.6 m/s	velocity	5.69	8.31	8.62	8.62	8.54	8.54	8.46	8.46	8.23	8.16	8.45	7.96		8.52	8.52	8.28

Furumoto, Tsubasa (JPN) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.65	3.77	4.88	5.98	7.07	8.18	9.28	10.40	11.52	12.65		14.11	3 / 7			
reaction time	0.120	interval		1.12	1.11	1.10	1.09	1.11	1.10	1.12	1.12	1.13	1.46			3.33	3.30	3.37
wind	0.5 m/s	velocity	5.18	8.16	8.23	8.31	8.39	8.23	8.31	8.16	8.16	8.09	9.60	7.80		8.23	8.31	8.14

Heat 2 - 2017 Mito Invitational (Mito, JPN) *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.64	3.73	4.84	5.91	6.99	8.08	9.17	10.27	11.41	12.54		14.01	5 / 1			
reaction time		interval		1.09	1.11	1.07	1.08	1.09	1.09	1.10	1.14	1.13	1.47			3.27	3.26	3.37
wind	0.6 m/s	velocity	5.20	8.39	8.23	8.54	8.46	8.39	8.39	8.31	8.02	8.09	9.54	7.85		8.39	8.41	8.14

Semi-Final 2 - 2016 Japanese University Championships (Kumagaya, JPN) *(2016.09.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Sep-16	time	2.70	3.80	4.93	6.04	7.14	8.24	9.34	10.47	11.66	12.85		14.36	8 / 8			
reaction time	0.133	interval		1.10	1.13	1.11	1.10	1.10	1.10	1.13	1.19	1.19	1.51			3.34	3.30	3.51
wind	0.7 m/s	velocity	5.08	8.31	8.09	8.23	8.31	8.31	8.31	8.09	7.68	7.68	9.28	7.66		8.21	8.31	7.81

Furuta, Kazuaki (JPN) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 4 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.69	3.79	4.86	5.95	7.04	8.13	9.26	10.37	11.50	12.65		14.17	3 / 7			
reaction time	0.130	interval	*7 steps*	1.10	1.07	1.09	1.09	1.09	1.13	1.11	1.13	1.15	1.52			3.26	3.31	3.39
wind	0.0 m/s	velocity	5.10	8.31	8.54	8.39	8.39	8.39	8.09	8.23	8.09	7.95	9.22	7.76		8.41	8.28	8.09

Furuya, Kyohei (JPN) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.61	3.69	4.79	5.86	6.94	8.03	9.14	10.26	11.36	12.51		13.94	3 / 7			
reaction time	0.102	interval		1.08	1.10	1.07	1.08	1.09	1.11	1.12	1.10	1.15	1.43			3.25	3.28	3.37
wind	0.3 m/s	velocity	5.26	8.46	8.31	8.54	8.46	8.39	8.23	8.16	8.31	7.95	9.80	7.89		8.44	8.36	8.14

Heat 1 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.63	3.69	4.76	5.83	6.88	7.95	9.06	10.16	11.28	12.43		13.89	9 / 5			
reaction time	0.124	interval		1.06	1.07	1.07	1.05	1.07	1.11	1.10	1.12	1.15	1.46			3.20	3.23	3.37
wind	1.3 m/s	velocity	5.22	8.62	8.54	8.54	8.70	8.54	8.23	8.31	8.16	7.95	9.60	7.92		8.57	8.49	8.14

FINAL - 2017 Mito Invitational (Mito, JPN) *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.63	3.72	4.82	5.93	7.05	8.15	9.23	10.37	11.48	12.59		14.02	4 / 3			
reaction time		interval		1.09	1.10	1.11	1.12	1.10	1.08	1.14	1.11	1.11	1.43			3.30	3.30	3.36
wind	-2.3 m/s	velocity	5.22	8.39	8.31	8.23	8.16	8.31	8.46	8.02	8.23	8.23	9.80	7.85		8.31	8.31	8.16

Heat 1 - 2017 Mito Invitational (Mito, JPN) *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.64	3.74	4.82	5.90	7.00	8.09	9.18	10.30	11.42	12.55		14.00	5 / 1			
reaction time		interval		1.10	1.08	1.08	1.10	1.09	1.09	1.12	1.12	1.13	1.45			3.26	3.28	3.37
wind	0.3 m/s	velocity	5.20	8.31	8.46	8.46	8.31	8.39	8.39	8.16	8.16	8.09	9.67	7.86		8.41	8.36	8.14

B FINAL - 2017 Mikio Oda Memorial (Hiroshima, JPN) *(2017) - tfdata-store.com/2017/05/01/458/*

date	29-Apr-17	time	2.60	3.71	4.81	5.89	6.98	8.06	9.18	10.28	11.44	12.58		14.07	4 / 2			
reaction time		interval		1.11	1.10	1.08	1.09	1.08	1.12	1.10	1.16	1.14	1.49			3.29	3.29	3.40
wind	-1.5 m/s	velocity	5.28	8.23	8.31	8.46	8.39	8.46	8.16	8.31	7.88	8.02	9.41	7.82		8.33	8.33	8.06

Semi-Final 2 - 2016 Japanese University Championships (Kumagaya, JPN) *(2016.09.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Sep-16	time	2.68	3.77	4.89	5.97	7.09	8.18	9.34	10.48	11.61	12.78		14.21	3 / 7			
reaction time	0.133	interval		1.09	1.12	1.08	1.12	1.09	1.16	1.14	1.13	1.17	1.43			3.29	3.37	3.44
wind	0.7 m/s	velocity	5.12	8.39	8.16	8.46	8.16	8.39	7.88	8.02	8.09	7.81	9.80	7.74		8.33	8.14	7.97

Furuya, Shinta (JPN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Race 2 - 2020 World Athletics Trials (Fuji, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	06-Sep-20	time	2.65	3.76	4.83	5.92	7.00	8.10	9.22	10.36	11.49	12.64		14.16	7 / 4			
reaction time		interval		1.11	1.07	1.09	1.08	1.10	1.12	1.14	1.13	1.15	1.52	PB		3.27	3.30	3.42
wind	1.3 m/s	velocity	5.18	8.23	8.54	8.39	8.46	8.31	8.16	8.02	8.09	7.95	9.22	7.77		8.39	8.31	8.02

U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (99cm) *Kijima (2019) - research on athlete performance and technique- 2019 data book*

date	18-Oct-19	time	2.60	3.69	4.75	5.79	6.85	7.91	8.99	10.06	11.17	12.28		13.79	7 / 3			
reaction time	0.122	interval		1.09	1.06	1.04	1.06	1.06	1.08	1.07	1.11	1.11	1.51			3.19	3.20	3.29
wind	-0.6 m/s	velocity	5.28	8.39	8.62	8.79	8.62	8.62	8.46	8.54	8.23	8.23	9.28	7.98		8.60	8.57	8.33

Furuya, Takumu (JPN) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

B FINAL - 2019 Mikio Oda Memorial (Hiroshima, JPN) *Kobayashi (2019) - research on athlete performance and technique- 2019 data book*

date	28-Apr-19	time	2.73	3.82	4.93	6.00	7.10	8.20	9.31	10.43	11.57	12.73		14.28	4 / 5			
reaction time		interval		1.09	1.11	1.07	1.10	1.10	1.11	1.12	1.14	1.16	1.55			3.27	3.31	3.42
wind	1.4 m/s	velocity	5.03	8.39	8.23	8.54	8.31	8.31	8.23	8.16	8.02	7.88	9.05	7.70		8.39	8.28	8.02

FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	20-May-18	time	2.66	3.73	4.77	5.82	6.86	7.92	8.98	10.04	11.12	12.22		13.61	2 / 4			
reaction time	0.133	interval		1.07	1.04	1.05	1.04	1.06	1.06	1.06	1.08	1.10	1.39	PB		3.16	3.16	3.24
wind	-0.4 m/s	velocity	5.16	8.54	8.79	8.70	8.79	8.62	8.62	8.62	8.46	8.31	10.09	8.08		8.68	8.68	8.46

FINAL - 2018 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	29-Apr-18	time	2.67	3.74	4.77	5.81	6.87	7.91	8.96	10.02	11.10	12.18		13.57	2 / 2			
reaction time		interval		1.07	1.03	1.04	1.06	1.04	1.05	1.06	1.08	1.08	1.39			3.14	3.15	3.22
wind	2.6 m/s	velocity	5.14	8.54	8.87	8.79	8.62	8.79	8.70	8.62	8.46	8.46	10.09	8.11		8.73	8.70	8.52

Heat 3 - 2018 Mikio Oda Memorial (Hiroshima, JPN) *(2018.05.01) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	29-Apr-18	time	2.65	3.71	4.77	5.83	6.88	7.95	9.00	10.07	11.15	12.24		13.70	2 / 3			
reaction time		interval		1.06	1.06	1.06	1.05	1.07	1.05	1.07	1.08	1.09	1.46			3.18	3.17	3.24
wind	2.2 m/s	velocity	5.18	8.62	8.62	8.62	8.70	8.54	8.70	8.54	8.46	8.39	9.60	8.03		8.62	8.65	8.46

FINAL - 2017 Nambu Memorial (Sapporo, JPN) *(2017) - tfdata-store.com/2017/07/12/post-1025/*

date	09-Jul-17	time	2.64	3.73	4.78	5.83	6.87	7.92	8.98	10.06	11.14	12.26		13.70	4 / 2			
reaction time		interval		1.09	1.05	1.05	1.04	1.05	1.06	1.08	1.08	1.12	1.44			3.19	3.15	3.28
wind	2.7 m/s	velocity	5.20	8.39	8.70	8.70	8.79	8.70	8.62	8.46	8.46	8.16	9.74	8.03		8.60	8.70	8.36

Heat 1 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.66	3.75	4.80	5.87	6.90	7.95	9.02	10.10	11.18	12.30		13.74	6 / 4			
reaction time	0.146	interval		1.09	1.05	1.07	1.03	1.05	1.07	1.08	1.08	1.12	1.44			3.21	3.15	3.28
wind	1.3 m/s	velocity	5.16	8.39	8.70	8.54	8.87	8.70	8.54	8.46	8.46	8.16	9.74	8.01		8.54	8.70	8.36

FINAL - 2017 Tokyo Six School Meeting (Tokyo, JPN) *(2017) - tfdata-store.com/2017/04/10/post-342/*

date	08-Apr-17	time	2.62	3.72	4.79	5.85	6.94	7.99	9.06	10.15	11.22	12.31		13.75	5 / 2			
reaction time		interval	*7 steps*	1.10	1.07	1.06	1.09	1.05	1.07	1.09	1.07	1.09	1.44			3.23	3.21	3.25
wind	0.5 m/s	velocity	5.24	8.31	8.54	8.62	8.39	8.70	8.54	8.39	8.54	8.39	9.74	8.00		8.49	8.54	8.44

Heat 1 - 2017 Tokyo Six School Meeting (Tokyo, JPN) *(2017) - tfdata-store.com/2017/04/10/post-342/*

date	08-Apr-17	time	2.64	3.72	4.82	5.86	6.92	7.98	9.06	10.14	11.23	12.34		13.84	5 / 1			
reaction time		interval	*7 steps*	1.08	1.10	1.04	1.06	1.06	1.08	1.08	1.09	1.11	1.50			3.22	3.20	3.28
wind	1.3 m/s	velocity	5.20	8.46	8.31	8.79	8.62	8.62	8.46	8.46	8.39	8.23	9.35	7.95		8.52	8.57	8.36

FINAL - 2016 Japanese University Championships (Kumagaya, JPN) *(2016.09.06) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Sep-16	time	2.66	3.76	4.85	5.94	7.02	8.12	9.23	10.34	11.48	12.64		14.09	3 / 2			
reaction time	0.149	interval		1.10	1.09	1.09	1.08	1.10	1.11	1.11	1.14	1.16	1.45			3.28	3.29	3.41
wind	-1.9 m/s	velocity	5.16	8.31	8.39	8.39	8.46	8.31	8.23	8.23	8.02	7.88	9.67	7.81		8.36	8.33	8.04

Semi-Final 2 - 2016 Japanese University Championships (Kumagaya, JPN) *(2016.09.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Sep-16	time	2.65	3.75	4.83	5.92	7.00	8.09	9.17	10.27	11.37	12.48		13.93	6 / 3			
reaction time	0.143	interval		1.10	1.08	1.09	1.08	1.09	1.08	1.10	1.10	1.11	1.45			3.27	3.25	3.31
wind	0.7 m/s	velocity	5.18	8.31	8.46	8.39	8.46	8.39	8.46	8.31	8.31	8.23	9.67	7.90		8.39	8.44	8.28

FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL) (99cm) *(2016.07.24) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Jul-16	time	2.62	3.66	4.68	5.69	6.70	7.72	8.74	9.76	10.81	11.86		13.31	7 / 3			
reaction time	0.152	interval		1.04	1.02	1.01	1.01	1.02	1.02	1.02	1.05	1.05	1.45	NJR		3.07	3.05	3.12
wind	0.2 m/s	velocity	5.24	8.79	8.96	9.05	9.05	8.96	8.96	8.96	8.70	8.70	9.67	8.26		8.93	8.99	8.79

FINAL - 2016 Seiko Golden Grand Prix (Kawasaki, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	08-May-16	time	2.64	3.75	4.82	5.89	6.94	8.02	9.10	10.21	11.29	12.40		13.85	2 / 6			
reaction time	0.149	interval		1.11	1.07	1.07	1.05	1.08	1.08	1.11	1.08	1.11	1.45			3.25	3.21	3.30
wind	-0.6 m/s	velocity	5.20	8.23	8.54	8.54	8.70	8.46	8.46	8.23	8.46	8.23	9.67	7.94		8.44	8.54	8.31

FINAL - 2016 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	29-Apr-16	time	2.67	3.75	4.84	5.90	6.96	8.03	9.12	10.21	11.32	12.44		13.92	/ 4			
reaction time		interval		1.08	1.09	1.06	1.06	1.07	1.09	1.09	1.11	1.12	1.48			3.23	3.22	3.32

wind	-0.5 m/s	velocity	5.14	8.46	8.39	8.62	8.62	8.54	8.39	8.39	8.23	8.16	9.47	7.90		8.49	8.52	8.26

FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN) (99cm) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	16-Oct-15	time	2.67	3.76	4.83	5.90	6.97	8.05	9.13	10.21	11.31	12.40		13.86	3 / 1			
reaction time		interval		1.09	1.07	1.07	1.07	1.08	1.08	1.08	1.10	1.09	1.46			3.23	3.23	3.27
wind	0.1 m/s	velocity	5.14	8.39	8.54	8.54	8.54	8.46	8.46	8.46	8.31	8.39	9.60	7.94		8.49	8.49	8.39

FINAL - 2015 Japanese National Championships (Niigata, JPN) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	28-Jun-15	time	2.62	3.72	4.79	5.86	6.92	7.98	9.07	10.17	11.27	12.36		13.81	5 / 2			
reaction time	0.132	interval		1.10	1.07	1.07	1.06	1.06	1.09	1.10	1.10	1.09	1.45			3.24	3.21	3.29
wind	-1.4 m/s	velocity	5.24	8.31	8.54	8.54	8.62	8.62	8.39	8.31	8.31	8.39	9.67	7.97		8.46	8.54	8.33

FINAL - 2015 Shizuoka International Athletics Meeting (Fukuroi, JPN) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	03-May-15	time	2.63	3.74	4.82	5.91	6.99	8.07	9.16	10.26	11.36	12.48		13.93	/ 2			
reaction time		interval		1.11	1.08	1.09	1.08	1.08	1.09	1.10	1.10	1.12	1.45			3.28	3.25	3.32
wind	-0.8 m/s	velocity	5.22	8.23	8.46	8.39	8.46	8.46	8.39	8.31	8.31	8.16	9.67	7.90		8.36	8.44	8.26

Semi-Final 1 - 2014 Japanese National Junior Championships (Nagoya, JPN) (99cm) *Kota (2017) - 70th high school championships: JAF scientific committee- biomechanics data*

date	03-Oct-14	time	2.62	3.71	4.81	5.87	6.93	8.01	9.10	10.18	11.28	12.37		13.83	/ 1			
reaction time		interval		1.09	1.10	1.06	1.06	1.08	1.09	1.08	1.10	1.09	1.46	PB		3.25	3.23	3.27
wind	0.7 m/s	velocity	5.24	8.39	8.31	8.62	8.62	8.46	8.39	8.46	8.31	8.39	9.60	7.95		8.44	8.49	8.39

Semi-Final 1 - 2014 Kanto Championships (Sagamihara, JPN) *(2017.03.01) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	31-Aug-14	time	2.62	3.72	4.80	5.85	6.93	8.00	9.08	10.17	11.28	12.40		13.89	6 / 1			
reaction time		interval		1.10	1.08	1.05	1.08	1.07	1.08	1.09	1.11	1.12	1.49	PB		3.23	3.23	3.32
wind	-0.2 m/s	velocity	5.24	8.31	8.46	8.70	8.46	8.54	8.46	8.39	8.23	8.16	9.41	7.92		8.49	8.49	8.26

FINAL - 2014 Japanese National High School Championships (Kofu, JPN) (99cm) *Yanagiya (2014) - research on athlete performance and technique- 2014 data book*

date	03-Aug-14	time	2.64	3.74	4.82	5.89	6.97	8.05	9.16	10.27	11.39	12.55		14.05	4 / 1			
reaction time		interval		1.10	1.08	1.07	1.08	1.08	1.11	1.11	1.12	1.16	1.50			3.25	3.27	3.39
wind	-2.4 m/s	velocity	5.20	8.31	8.46	8.54	8.46	8.46	8.23	8.23	8.16	7.88	9.35	7.83		8.44	8.39	8.09

Gabriel, G.

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final ? - 1986 French National Indoor Championships (Lievin, FRA)																		
Aubert (1986) - indoor - video - haies, etude des performances																		
date	26-Jan-86	time	2.66	3.76	4.91	6.01	7.10							8.08	/ 5			
reaction time		interval		1.10	1.15	1.10	1.09						0.98			3.35		
		velocity	5.16	8.31	7.95	8.31	8.39						9.92	7.43		8.19		
Heat ? - 1986 French National Indoor Championships (Lievin, FRA)																		
Aubert (1986) - indoor - video - haies, etude des performances																		
date	25-Jan-86	time	2.70	3.85	4.98	6.08	7.24							8.16	/ 5			
reaction time		interval		1.15	1.13	1.10	1.16						0.92			3.38		
		velocity	5.08	7.95	8.09	8.31	7.88						10.57	7.35		8.11		

Gaio, Finley (SUI) (1999)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2023 Weltklasse (Zürich, SUI) *Omega Timing (2023) - diamond league race analysis*																		
date	31-Aug-23	time	2.45	3.55	4.63	5.69	6.74	7.81	8.92	10.01	11.10	12.18		13.77	9 / 8			
reaction time	0.154	interval	7 steps	1.10	1.08	1.06	1.05	1.07	1.11	1.09	1.09	1.08	1.59			3.24	3.23	3.26
wind	-0.1 m/s	velocity	5.60	8.31	8.46	8.62	8.70	8.54	8.23	8.39	8.39	8.46	8.82	7.99		8.46	8.49	8.41
FINAL - 2022 European Athletics Championships (Munich, GER) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*																		
date	17-Aug-22	time	2.58	3.64	4.70	5.72	6.74	7.78	8.82	9.86	10.94	12.02		13.50	2 / 5			
reaction time	0.172	interval	7 steps	1.06	1.06	1.02	1.02	1.04	1.04	1.04	1.08	1.08	1.48			3.14	3.10	3.20
wind	-0.2 m/s	velocity	5.32	8.62	8.62	8.96	8.96	8.79	8.79	8.79	8.46	8.46	9.47	8.15		8.73	8.85	8.57
FINAL - 2021 Weltklasse (Zürich, SUI) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*																		
date	09-Sep-21	time	2.56	3.64	4.70	5.74	6.82	7.88	8.96	10.02	11.12	12.22		13.72	8 / 6			
reaction time	0.135	interval	7 steps	1.08	1.06	1.04	1.08	1.06	1.08	1.06	1.10	1.10	1.50			3.18	3.22	3.26
wind	0.6 m/s	velocity	5.36	8.46	8.62	8.79	8.46	8.62	8.46	8.62	8.31	8.31	9.35	8.02		8.62	8.52	8.41

Gao Shunyang (CHN) (2001)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
U20 Heat 3 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*																		
date	14-Aug-19	time	2.75	3.85	4.95	6.02	7.11	8.19	9.28	10.38	11.49	12.64		14.21	2 / 5			
reaction time	0.184	interval		1.10	1.10	1.07	1.09	1.08	1.09	1.10	1.11	1.15	1.57			3.27	3.26	3.36
wind	0.6 m/s	velocity	4.99	8.31	8.31	8.54	8.39	8.46	8.39	8.31	8.23	7.95	8.93	7.74		8.39	8.41	8.16

García, Anier (CUB) (1976)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2004 Olympic Games (Athens, GRE) *Ruiz (2004) - las carreras con vallas de juegos olimpicos de atenas '04*																		
date	27-Aug-04	time	2.47	3.51	4.53	5.55	6.55	7.55	8.57	9.61	10.65	11.69		13.20	7 / 3			
reaction time	0.169	interval		1.04	1.02	1.02	1.00	1.00	1.02	1.04	1.04	1.04	1.51			3.08	3.02	3.12
wind	0.3 m/s	velocity	5.55	8.79	8.96	8.96	9.14	9.14	8.96	8.79	8.79	8.79	9.28	8.33		8.90	9.08	8.79
FINAL - 2002 IAAF World Cup (Madrid, ESP) *Sanchez (2002) - copa del mundo de Madrid '02: análisis de la carreras con villas*																		
date	21-Sep-02	time	2.47	3.49	4.50	5.50	6.50	7.51	8.52	9.52	10.56	11.61		13.10	9 / 1			

reaction time	0.136	interval		1.02	1.01	1.00	1.00	1.01	1.01	1.00	1.04	1.05	1.49			3.03	3.02	3.09
wind	-2.2 m/s	velocity	5.55	8.96	9.05	9.14	9.14	9.05	9.05	9.14	8.79	8.70	9.41	8.40		9.05	9.08	8.87

FINAL - 2001 ISTAF (Berlin, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	31-Aug-09	time	2.57	3.60	4.61	5.60	6.61	7.64	8.66	9.68	10.69	11.76		13.15	5 / 2			
reaction time	0.168	interval		1.03	1.01	0.99	1.01	1.03	1.02	1.02	1.01	1.07	1.39			3.03	3.06	3.10
wind	1.0 m/s	velocity	5.34	8.87	9.05	9.23	9.05	8.87	8.96	8.96	9.05	8.54	10.09	8.37		9.05	8.96	8.85

FINAL - 1999 IAAF World Championships (Sevilla, ESP) *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	25-Aug-99	time	2.52	3.53	4.54	5.53	6.53	7.52	8.51	9.53	10.59	11.65		13.07	3 / 2			
reaction time	0.158	interval		1.01	1.01	0.99	1.00	0.99	0.99	1.02	1.06	1.06	1.42	AR		3.01	2.98	3.14
wind	1.0 m/s	velocity	5.44	9.05	9.05	9.23	9.14	9.23	9.23	8.96	8.62	8.62	9.87	8.42		9.11	9.20	8.73

Semi-Final 2 - 1999 IAAF World Championships (Sevilla, ESP) *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	24-Aug-99	time	2.51	3.55	4.55	5.55	6.55	7.54	8.56	9.60	10.64	11.72		13.18	5 / 1			
reaction time	0.139	interval		1.04	1.00	1.00	1.00	0.99	1.02	1.04	1.04	1.08	1.46			3.04	3.01	3.16
wind	0.0 m/s	velocity	5.47	8.79	9.14	9.14	9.14	9.23	8.96	8.79	8.79	8.46	9.60	8.35		9.02	9.11	8.68

Quarter-Final 1 - 1999 IAAF World Championships (Sevilla, ESP) *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	23-Aug-99	time	2.54	3.57	4.58	5.58	6.58	7.58	8.59	9.62	10.68	11.74		13.20	3 / 2			
reaction time	0.169	interval		1.03	1.01	1.00	1.00	1.00	1.01	1.03	1.06	1.06	1.46			3.04	3.01	3.15
wind	-0.4 m/s	velocity	5.40	8.87	9.05	9.14	9.14	9.14	9.05	8.87	8.62	8.62	9.60	8.33		9.02	9.11	8.70

Heat 6 - 1999 IAAF World Championships (Sevilla, ESP) *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	23-Aug-99	time	2.53	3.54	4.54	5.55	6.55	7.56	8.59	9.63	10.71	11.80		13.40	1 / 1			
reaction time	0.155	interval		1.01	1.00	1.01	1.00	1.01	1.03	1.04	1.08	1.09	1.60			3.02	3.04	3.21
wind	0.0 m/s	velocity	5.42	9.05	9.14	9.05	9.14	9.05	8.87	8.79	8.46	8.39	8.76	8.21		9.08	9.02	8.54

Garcia, Yordanis (CUB) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.61	3.69	4.78	5.89	6.99	8.11	9.21	10.30	11.45	12.59		14.08	4 / 2			
reaction time	0.156	interval		1.08	1.09	1.11	1.10	1.12	1.10	1.09	1.15	1.14	1.49			3.28	3.32	3.38
wind	0.3 m/s	velocity	5.26	8.46	8.39	8.23	8.31	8.16	8.31	8.39	7.95	8.02	9.41	7.81		8.36	8.26	8.11

Garland, Kyle (USA) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 3 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2024) - Athlete First: 2023 year end hurdle report*

date	26-Aug-23	time	2.62	3.68	4.78	5.86	6.96	8.03	9.10	10.22	11.28	12.42		13.93	5 / 3			
reaction time	0.137	interval	7 steps	1.06	1.10	1.08	1.10	1.07	1.07	1.12	1.06	1.14	1.51			3.24	3.24	3.32
wind	0.2 m/s	velocity	5.24	8.62	8.31	8.46	8.31	8.54	8.54	8.16	8.62	8.02	9.28	7.90		8.46	8.46	8.26

Decathlon - Heat 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2022 year end hurdle report*

date	24-Jul-22	time	2.60	3.73	4.78	5.86	6.98	8.06	9.20	10.32	11.42	12.58		14.18	2 / 5			
reaction time	0.141	interval		1.13	1.05	1.08	1.12	1.08	1.14	1.12	1.10	1.16	1.60			3.26	3.34	3.38
wind	1.1 m/s	velocity	5.28	8.09	8.70	8.46	8.16	8.46	8.02	8.16	8.31	7.88	8.76	7.76		8.41	8.21	8.11

Gault, Willie (USA) (1960)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1983 IAAF World Championships (Helsinki, FIN) *Knoke (1984) - the hurdles*

date	12-Aug-83	time	2.54	3.57	4.64	5.69	6.72	7.74	8.78	9.83	10.97	12.05		13.48	8 / 3			
reaction time	0.161	interval		1.03	1.07	1.05	1.03	1.02	1.04	1.05	1.14	1.08	1.43			3.15	3.09	3.27
wind	1.3 m/s	velocity	5.40	8.87	8.54	8.70	8.87	8.96	8.79	8.70	8.02	8.46	9.80	8.16		8.70	8.87	8.39

Geerds, Job (NED) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2025 European Athletics Indoor Championships (Apeldoorn, NED) *European Athletics (2025) - european athletics indoor championships results book*

date	07-Mar-25	time	2.43	3.49	4.52	5.53	6.54							7.61	2 / 5			
reaction time	0.171	interval	7 steps	1.06	1.03	1.01	1.01						1.07			3.10		
		velocity	5.65	8.62	8.87	9.05	9.05						9.08	7.88		8.85		

Semi-Final 1 - 2025 European Athletics Indoor Championships (Apeldoorn, NED) *European Athletics (2025) - european athletics indoor championships results book*

date	07-Mar-25	time	2.43	3.49	4.51	5.51	6.51							7.54	2 / 3			
reaction time	0.157	interval	7 steps	1.06	1.02	1.00	1.00						1.03	PB		3.08		
		velocity	5.65	8.62	8.96	9.14	9.14						9.44	7.96		8.90		

FINAL - 2024 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	10-Feb-24	time	2.48	3.52	4.58	5.60	6.58							7.65	8 / 7			
reaction time	0.185	interval	7 steps	1.04	1.06	1.02	0.98						1.07			3.12		
		velocity	5.53	8.79	8.62	8.96	9.33						9.08	7.84		8.79		

Giaconi, Andrea (ITA) (1974)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2002 European Championships (Munich, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	09-Aug-02	time	2.61	3.69	4.75	5.79	6.81	7.87	8.91	9.97	11.02	12.11		13.55	/ 1			
reaction time	0.116	interval		1.08	1.06	1.04	1.02	1.06	1.04	1.06	1.05	1.09	1.44			3.18	3.12	3.20
wind	2.0 m/s	velocity	5.26	8.46	8.62	8.79	8.96	8.62	8.79	8.62	8.70	8.39	9.74	8.12		8.62	8.79	8.57

Gilbert, Tre'Bien (USA) (1999)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 2 - 2022 USATF National Championships (Eugene, OR)															*USATF (2022) - Results powered by Karmarush.com*			
date	26-Jun-22	time	2.54	3.58	4.62	5.65	6.66	7.68	8.71	9.77	10.85	11.95		13.51	8 / 5			
reaction time		interval		1.04	1.04	1.03	1.01	1.02	1.03	1.06	1.08	1.10	1.56			3.11	3.06	3.24
wind	0.1 m/s	velocity	5.40	8.79	8.79	8.87	9.05	8.96	8.87	8.62	8.46	8.31	8.99	8.14		8.82	8.96	8.46
Semi-Final 1 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis)															*Henson (2021) - Athlete First: 2021 year end hurdle report*			
date	26-Jun-21	time	2.50	3.58	4.60	5.61	6.63	7.64	8.71	9.76	10.80	11.92		13.41	8 / 5			
reaction time	0.191	interval	7 steps	1.08	1.02	1.01	1.02	1.01	1.07	1.05	1.04	1.12	1.49	PB		3.11	3.10	3.21
wind	1.8 m/s	velocity	5.49	8.46	8.96	9.05	8.96	9.05	8.54	8.70	8.79	8.16	9.41	8.20		8.82	8.85	8.54

Gletty, Makenson (FRA) (1999)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 3 - 2024 Olympic Games (Paris, FRA)															*Paris 2024 Olympic Games - Results Book (2024)*			
date	03-Aug-24	time	2.47	3.57	4.65	5.71	6.76	7.84	8.93	10.02	11.14	12.27		13.96	2 / 3			
reaction time	0.144	interval	7 steps	1.10	1.08	1.06	1.05	1.08	1.09	1.09	1.12	1.13	1.69			3.24	3.22	3.34
wind	0.7 m/s	velocity	5.55	8.31	8.46	8.62	8.70	8.46	8.39	8.39	8.16	8.09	8.30	7.88		8.46	8.52	8.21

Golaube, Kamal (USA)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude)															*CAA Hurdle Development (2020)*			
date	14-Feb-20	time	2.63	3.75	4.89	6.00	7.12							8.16	5 / 7			
reaction time	0.130	interval		1.12	1.14	1.11	1.12						1.04			3.37		
		velocity	5.22	8.16	8.02	8.23	8.16						9.35	7.35		8.14		

Golubovic, Daniel (AUS) (1993)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 2 - 2024 Olympic Games (Paris, FRA)															*Paris 2024 Olympic Games - Results Book (2024)*			
date	03-Aug-24	time	2.60	3.80	4.98	6.15	7.30	8.46	9.64	10.84	12.04	13.25		15.15	4 / 7			
reaction time	0.166	interval		1.20	1.18	1.17	1.15	1.16	1.18	1.20	1.20	1.21	1.90			3.55	3.49	3.61
wind	0.2 m/s	velocity	5.28	7.62	7.75	7.81	7.95	7.88	7.75	7.62	7.62	7.55	7.38	7.26		7.72	7.86	7.60
Decathlon - Heat 2 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis)															*Henson (2024) - Athlete First: 2023 year end hurdle report*			
date	26-Aug-23	time	2.76	3.92	5.00	6.06	7.18	8.23	9.34	10.41	11.51	12.61		14.18	6 / 2			
reaction time	0.178	interval		1.16	1.08	1.06	1.12	1.05	1.11	1.07	1.10	1.10	1.57			3.30	3.28	3.27
wind	0.1 m/s	velocity	4.97	7.88	8.46	8.62	8.16	8.70	8.23	8.54	8.31	8.31	8.93	7.76		8.31	8.36	8.39
Decathlon - Heat 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis)															*Henson (2024) - Athlete First: 2022 year end hurdle report*			
date	24-Jul-22	time	2.66	3.76	4.83	5.93	6.96	8.03	9.12	10.20	11.26	12.40		13.92	6 / 3			
reaction time	0.150	interval		1.10	1.07	1.10	1.03	1.07	1.09	1.08	1.06	1.14	1.52	PB		3.27	3.19	3.28
wind	1.1 m/s	velocity	5.16	8.31	8.54	8.31	8.87	8.54	8.39	8.46	8.62	8.02	9.22	7.90		8.39	8.60	8.36

Gong Kewei (CHN) (1994)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 3 - 2021 Chinese National Championships (Chongqing, CHN)															*CAA Hurdle Development (2021)*			
date	27-Jun-21	time	2.71	3.89	5.05	6.19	7.32	8.46	9.62	10.81	12.01	13.21		14.76	2 / 1			
reaction time	0.177	interval		1.18	1.16	1.14	1.13	1.14	1.16	1.19	1.20	1.20	1.55			3.48	3.43	3.59
wind	-0.2 m/s	velocity	5.06	7.75	7.88	8.02	8.09	8.02	7.88	7.68	7.62	7.62	9.05	7.45		7.88	7.99	7.64

Gonigam, Philippe (FRA) (1963)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat ? - 1986 French National Indoor Championships (Lievin, FRA)															*Aubert (1986) - indoor - video - haies, etude des performances*			
date	25-Jan-86	time	2.72	3.84	4.96	6.07	7.20							8.18	/ 5			
reaction time		interval		1.12	1.12	1.11	1.13						0.98			3.35		
		velocity	5.04	8.16	8.16	8.23	8.09						9.92	7.33		8.19		

Graham, Javon (USA)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 2 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude)															*CAA Hurdle Development (2020)*			
date	15-Feb-20	time	2.60	3.70	4.77	5.83	6.91							7.84	2 / 5			
reaction time	0.158	interval		1.10	1.07	1.06	1.08						0.93	PB		3.23		
		velocity	5.28	8.31	8.54	8.62	8.46						10.45	7.65		8.49		
Heat 3 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude)															*CAA Hurdle Development (2020)*			
date	14-Feb-20	time	2.65	3.77	4.82	5.92	6.97							7.92	8 / 4			
reaction time	0.166	interval		1.12	1.05	1.10	1.05						0.95			3.27		
		velocity	5.18	8.16	8.70	8.31	8.70						10.23	7.58		8.39		

Greff, Ronan (FRA) (1998)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2020 Meeting Pro Athlé Tour de Marseille (Marseille, FRA) (TV Analysis)															*Henson (2020) - Athlete First: 2020 year end hurdle report*			
date	03-Sep-20	time	2.69	3.80	4.88	5.89	7.03	8.08	9.15	10.30	11.41	12.49		14.16	1 / 8			
reaction time	0.247	interval		1.11	1.08	1.01	1.14	1.05	1.07	1.15	1.11	1.08	1.67			3.20	3.26	3.34
wind	-0.3 m/s	velocity	5.10	8.23	8.46	9.05	8.02	8.70	8.54	7.95	8.23	8.46	8.40	7.77		8.57	8.41	8.21

Gu Yihe (CHN) (2000)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 2 - 2021 Chinese National Championships (Chongqing, CHN)															*CAA Hurdle Development (2021)*			
date	27-Jun-21	time	2.87	4.07	5.34	6.57	7.82	9.07	10.33	11.58	12.86	14.16		15.89	2 / 5			
reaction time	0.208	interval		1.20	1.27	1.23	1.25	1.25	1.26	1.25	1.28	1.30	1.73			3.70	3.76	3.83
wind	-0.2 m/s	velocity	4.78	7.62	7.20	7.43	7.31	7.31	7.25	7.31	7.14	7.03	8.10	6.92		7.41	7.29	7.16

Gundersen, Gaute (NOR) (1972)			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1997 European Cup (Munich, GER)															*Jung (2003) - http://www.fgs.uni-halle.de*			
date	22-Jun-97	time	2.66	3.74	4.78	5.82	6.86	7.91	8.98	10.04	11.14	12.26		13.70	/ 5			
reaction time		interval		1.08	1.04	1.04	1.04	1.05	1.07	1.06	1.10	1.12	1.44			3.16	3.16	3.28
wind	0.2 m/s	velocity	5.16	8.46	8.79	8.79	8.79	8.70	8.54	8.62	8.31	8.16	9.74	8.03		8.68	8.68	8.36

Guo Qi (CHN) (1990)			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 1 - 2021 Chinese National Championships (Chongqing, CHN)															*CAA Hurdle Development (2021)*			
date	27-Jun-21	time	2.78	3.99	5.17	6.35	7.52	8.71	9.89	11.08	12.28	13.53		15.18	5 / 4			
reaction time	0.188	interval	7 steps	1.21	1.18	1.18	1.17	1.19	1.18	1.19	1.20	1.25	1.65			3.57	3.54	3.64
wind	-0.2 m/s	velocity	4.94	7.55	7.75	7.75	7.81	7.68	7.75	7.68	7.62	7.31	8.50	7.25		7.68	7.75	7.53
Decathlon - Heat 1 - 2019 Chinese National Championships (Shenyang, CHN)															*CAA Hurdle Development (2019)*			
date	11-Jul-19	time	2.75	3.91	5.05	6.19	7.32	8.47	9.62	10.77	11.98	13.16		14.75	6 / 2			
reaction time	0.169	interval	7 steps	1.16	1.14	1.14	1.13	1.15	1.15	1.15	1.21	1.18	1.59			3.44	3.43	3.54
wind	-0.6 m/s	velocity	4.99	7.88	8.02	8.02	8.09	7.95	7.95	7.95	7.55	7.75	8.82	7.46		7.97	7.99	7.75

Guo Zhongjie (CHN) (2001)			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2021 Chinese National Games (Xi'an, CHN)															*Huo (2022) - research on the technical characteristics of elite chinese 110m hurdlers*			
date	22-Sep-21	time	2.64	3.72	4.77	5.81	6.87	7.93	9.02	10.11	11.28	12.45		13.96	/ 7			
reaction time	0.181	interval		1.08	1.05	1.04	1.06	1.06	1.09	1.09	1.17	1.17	1.51			3.17	3.21	3.43
wind	0.0 m/s	velocity	5.20	8.46	8.70	8.79	8.62	8.62	8.39	8.39	7.81	7.81	9.28	7.88		8.65	8.54	7.99
FINAL - 2021 Chinese National Championships (Chongqing, CHN)															*CAA Hurdle Development (2021)*			
date	25-Jun-21	time	2.70	3.78	4.85	5.89	6.97	8.04	9.12	10.21	11.31	12.44		13.91	6 / 5			
reaction time	0.182	interval		1.08	1.07	1.04	1.08	1.07	1.08	1.09	1.10	1.13	1.47	PB		3.19	3.23	3.32
wind	1.6 m/s	velocity	5.08	8.46	8.54	8.79	8.46	8.54	8.46	8.39	8.31	8.09	9.54	7.91		8.60	8.49	8.26
Heat 3 - 2021 Chinese National Championships (Chongqing, CHN)															*CAA Hurdle Development (2021)*			
date	25-Jun-21	time	2.66	3.72	4.79	5.84	6.90	7.96	9.06	10.15	11.29	12.45		13.94	4 / 2			
reaction time	0.178	interval		1.06	1.07	1.05	1.06	1.06	1.10	1.09	1.14	1.16	1.49	PB		3.18	3.22	3.39
wind	0.5 m/s	velocity	5.16	8.62	8.54	8.70	8.62	8.62	8.31	8.39	8.02	7.88	9.41	7.89		8.62	8.52	8.09
FINAL - 2020 Chinese Olympic Trials (Shaoxing, CHN)															*CAA Hurdle Development (2021)*			
date	12-Jun-21	time	2.71	3.77	4.85	5.95	7.10							dnf	8 / --			
reaction time		interval		1.06	1.08	1.10	1.15									3.24		
wind	0.9 m/s	velocity	5.06	8.62	8.46	8.31	7.95									8.46		
Heat 2 - 2020 Chinese Olympic Trials (Shaoxing, CHN)															*CAA Hurdle Development (2021)*			
date	12-Jun-21	time	2.61	3.70	4.77	5.85	6.93	8.02	9.14	10.26	11.36	12.54		14.15	6 / 3			
reaction time	0.177	interval		1.09	1.07	1.08	1.08	1.09	1.12	1.12	1.10	1.18	1.61			3.24	3.29	3.40
wind	-0.8 m/s	velocity	5.26	8.39	8.54	8.46	8.46	8.39	8.16	8.16	8.31	7.75	8.71	7.77		8.46	8.33	8.06
FINAL - 2020 Chinese National Championships (Shaoxing, CHN)															*CAA Hurdle Development (2020)*			
date	16-Sep-20	time	2.74	3.81	4.89	5.96	7.05	8.14	9.24	10.36	11.51	12.67		14.22	2 / 8			
reaction time	0.185	interval		1.07	1.08	1.07	1.09	1.09	1.10	1.12	1.15	1.16	1.55			3.22	3.28	3.43
wind	0.4 m/s	velocity	5.01	8.54	8.46	8.54	8.39	8.39	8.31	8.16	7.95	7.88	9.05	7.74		8.52	8.36	7.99
Heat 1 - 2020 Chinese National Championships (Shaoxing, CHN)															*CAA Hurdle Development (2020)*			
date	16-Sep-20	time	2.71	3.79	4.87	5.95	7.05	8.16	9.26	10.37	11.52	12.68		14.22	7 / 5			
reaction time	0.179	interval		1.08	1.08	1.08	1.10	1.11	1.10	1.11	1.15	1.16	1.54			3.24	3.31	3.42
wind	0.3 m/s	velocity	5.06	8.46	8.46	8.46	8.31	8.23	8.31	8.23	7.95	7.88	9.10	7.74		8.46	8.28	8.02
FINAL - 2019 Chinese National Grand Prix Final (Daqing, CHN)															*CAA Hurdle Development (2019)*			
date	24-Aug-19	time	2.73	3.80	4.90	6.00	7.11	8.24	9.37	10.52	11.68	12.88		14.46	8 / 7			
reaction time	0.226	interval		1.07	1.10	1.10	1.11	1.13	1.13	1.15	1.16	1.20	1.58			3.27	3.37	3.51
wind	-0.1 m/s	velocity	5.03	8.54	8.31	8.31	8.23	8.09	8.09	7.95	7.88	7.62	8.87	7.61		8.39	8.14	7.81
Heat 1 - 2019 Chinese National Grand Prix Final (Daqing, CHN)															*CAA Hurdle Development (2019)*			
date	23-Aug-19	time	2.73	3.84	4.92	6.01	7.12	8.22	9.36	10.51	11.66	12.85		14.42	5 / 5			
reaction time	0.193	interval		1.11	1.08	1.09	1.11	1.10	1.14	1.15	1.15	1.19	1.57			3.28	3.35	3.49
wind	-0.2 m/s	velocity	5.03	8.23	8.46	8.39	8.23	8.31	8.02	7.95	7.95	7.68	8.93	7.63		8.36	8.19	7.86
U20 FINAL - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm)															*CAA Hurdle Development (2019)*			
date	14-Aug-19	time	2.64	3.70	4.75	5.77	6.79	7.82	8.87	9.93	11.03	12.14		13.68	9 / 5			
reaction time	0.162	interval		1.06	1.05	1.02	1.02	1.03	1.05	1.06	1.10	1.11	1.54	PB		3.13	3.10	3.27
wind	-0.3 m/s	velocity	5.20	8.62	8.70	8.96	8.96	8.87	8.70	8.62	8.31	8.23	9.10	8.04		8.76	8.85	8.39
U20 Heat 1 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm)															*CAA Hurdle Development (2019)*			
date	14-Aug-19	time	2.60	3.68	4.75	5.77	6.81	7.86	8.92	10.03	11.11	12.26		13.90	4 / 2			
reaction time	0.211	interval		1.08	1.07	1.02	1.04	1.05	1.06	1.11	1.08	1.15	1.64			3.17	3.15	3.34
wind	0.5 m/s	velocity	5.28	8.46	8.54	8.96	8.79	8.70	8.62	8.23	8.46	7.95	8.55	7.91		8.65	8.70	8.21

Heat 1 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.70	3.80	4.92	6.00	7.11	8.19	9.32	10.43	11.58	12.73		14.30	8 / 5		
reaction time	0.190	interval		1.10	1.12	1.08	1.11	1.08	1.13	1.11	1.15	1.15	1.57			3.30	3.32	3.41
wind	0.1 m/s	velocity	5.08	8.31	8.16	8.46	8.23	8.46	8.09	8.23	7.95	7.95	8.93	7.69		8.31	8.26	8.04

FINAL - 2019 Chinese National Grand Prix 4 (Luoyang, CHN) *CAA Hurdle Development (2019)*

date	30-May-19	time	2.68	3.77	4.87	5.96	7.05	8.12	9.24	10.36	11.53	12.68		14.22	1 / 7		
reaction time	0.192	interval		1.09	1.10	1.09	1.09	1.07	1.12	1.12	1.17	1.15	1.54			3.28	3.28	3.44
wind	0.0 m/s	velocity	5.12	8.39	8.31	8.39	8.39	8.54	8.16	8.16	7.81	7.95	9.10	7.74		8.36	8.36	7.97

FINAL - 2019 Chinese National Grand Prix 3 (Jinhau, CHN) *CAA Hurdle Development (2019)*

date	23-May-19	time	2.74	3.82	4.88	5.94	7.02	8.12	9.22	10.32	11.46	12.66		14.25	3 / 8		
reaction time	0.219	interval		1.08	1.06	1.06	1.08	1.10	1.10	1.10	1.14	1.20	1.59			3.20	3.28	3.44
wind	2.5 m/s	velocity	5.01	8.46	8.62	8.62	8.46	8.31	8.31	8.31	8.02	7.62	8.82	7.72		8.57	8.36	7.97

B-FINAL - 2019 Chinese Indoor National Grand Prix 2 (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	24-Feb-19	time	2.70	3.82	4.90	5.97	7.10							8.04	4 / 1		
reaction time		interval		1.12	1.08	1.07	1.13						0.94			3.27		
		velocity	5.08	8.16	8.46	8.54	8.09						10.34	7.46		8.39		

A-FINAL - 2019 Chinese Indoor National Grand Prix 1 (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	20-Feb-19	time	2.73	3.82	4.90	6.00	7.09							8.03	2 / 3		
reaction time		interval		1.09	1.08	1.10	1.09						0.94	PB		3.27		
		velocity	5.03	8.39	8.46	8.31	8.39						10.34	7.47		8.39		

FINAL - 2018 Chinese National Sports School Championships (Jinjiang (2019) - *Zhang (2019) - comparative analysis of characteristics of Chinese elite men's 110m hurdles in different age groups*

date	??	time	2.72	3.80	4.85	5.91	6.96	8.01	9.06	10.11	11.23	12.35		13.93	7 / ??		
reaction time		interval		1.08	1.05	1.06	1.05	1.05	1.05	1.05	1.12	1.12	1.58			3.19	3.15	3.29
wind	??	velocity	5.04	8.46	8.70	8.62	8.70	8.70	8.70	8.70	8.16	8.16	8.87	7.90		8.60	8.70	8.33

Heat 2 - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	15-Sep-18	time	2.70	3.80	4.92	6.00	7.15	8.31	9.46	10.61	11.78	13.00		14.59	4 / 7		
reaction time		interval		1.10	1.12	1.08	1.15	1.16	1.15	1.15	1.17	1.22	1.59			3.30	3.46	3.54
wind	0.7 m/s	velocity	5.08	8.31	8.16	8.46	7.95	7.88	7.95	7.95	7.81	7.49	8.82	7.54		8.31	7.92	7.75

FINAL - 2018 Chinese National U18 Championships (Jinzhou, CHN) (91cm) *Zhang (2019) - comparative analysis of characteristics of Chinese elite men's 110m hurdles in different age groups*

date	17-May-18	time	2.67	3.76	4.79	5.83	6.86	7.92	8.97	10.05	11.16	12.31		13.94	8 / 6		
reaction time		interval		1.09	1.03	1.04	1.03	1.06	1.05	1.08	1.11	1.15	1.63			3.16	3.14	3.34
wind	??	velocity	5.14	8.39	8.87	8.79	8.87	8.62	8.70	8.46	8.23	7.95	8.60	7.89		8.68	8.73	8.21

Gustafsson, Josua (SWE) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2010 Swedish National Championships (Falun, SWE) *Blomkvist (2010) - www.sub13.se*

date	22-Aug-10	time	2.80	3.97	5.17	6.33	7.49	8.69	9.89	11.10	12.31	13.54		15.17	/ 7		
reaction time		interval		1.17	1.20	1.16	1.16	1.20	1.20	1.21	1.21	1.23	1.63			3.53	3.56	3.65
wind	-0.7 m/s	velocity	4.90	7.81	7.62	7.88	7.88	7.62	7.62	7.55	7.55	7.43	8.60	7.25		7.77	7.70	7.51

Gustafsson, Petter (SWE) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL 2 - 2017 Windsprint (Sundsvall, SWE) *(2017) - www.windsprint/Splittider/*

date	30-Jul-17	time	2.65	3.77	4.90	6.05	7.18	8.37	9.52	10.66	11.85	13.05		14.56	/ 3		
reaction time		interval		1.12	1.13	1.15	1.13	1.19	1.15	1.14	1.19	1.20	1.51			3.40	3.47	3.53
wind	1.0 m/s	velocity	5.18	8.16	8.09	7.95	8.09	7.68	7.95	8.02	7.68	7.62	9.28	7.55		8.06	7.90	7.77

FINAL - 2017 Windsprint (Sundsvall, SWE) *(2017) - www.windsprint/Splittider/*

date	30-Jul-17	time	2.68	3.81	4.94	6.07	7.22	8.36	9.51	10.69	11.86	13.00		14.54	/ 3		
reaction time		interval		1.13	1.13	1.13	1.15	1.14	1.15	1.18	1.17	1.14	1.54			3.39	3.44	3.49
wind	1.0 m/s	velocity	5.12	8.09	8.09	8.09	7.95	8.02	7.95	7.75	7.81	8.02	9.10	7.57		8.09	7.97	7.86

Guzik, Vojtech (CZE) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.83	4.04	5.23	6.41	7.60	8.80	10.01	11.21	12.50	13.79		15.54	6 / 6		
reaction time	0.170	interval		1.21	1.19	1.18	1.19	1.20	1.21	1.20	1.29	1.29	1.75			3.58	3.60	3.78
wind	-1.6 m/s	velocity	4.85	7.55	7.68	7.75	7.68	7.62	7.55	7.62	7.09	7.09	8.01	7.08		7.66	7.62	7.25

Hairston, Max (USA) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 4 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.62	3.69	4.75	5.83	6.86	7.95	9.00						6 / --		
reaction time		interval	7 steps	1.07	1.06	1.08	1.03	1.09	1.05					DQ		3.21	3.17	
wind	1.2 m/s	velocity	5.24	8.54	8.62	8.46	8.87	8.39	8.70							8.54	8.65	

FINAL - 2020 Millrose Games (New York, NY) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	08-Feb-20	time	2.57	3.67	4.77	5.81	6.87							7.87	2 / 7		
reaction time	0.206	interval	7 steps	1.10	1.10	1.04	1.06						1.00			3.24		

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

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FINAL - 2018 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	02-Jul-18	time	2.56	3.60	4.64	5.68	6.72	7.74	8.78	9.84	10.88	11.96		13.43	7 / 5			
reaction time	0.163	interval		1.04	1.04	1.04	1.04	1.02	1.04	1.06	1.04	1.08	1.47			3.12	3.10	3.18
wind	0.6 m/s	velocity	5.36	8.79	8.79	8.79	8.79	8.96	8.79	8.62	8.79	8.46	9.54	8.19		8.79	8.85	8.62

FINAL - 2018 USATF Championships (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	24-Jun-18	time	2.57	3.63	4.70	5.77	6.80	7.85	8.90	10.01	11.11	12.21		13.76	6 / 7			
reaction time		interval		1.06	1.07	1.07	1.03	1.05	1.05	1.11	1.10	1.10	1.55			3.20	3.13	3.31
wind	-1.8 m/s	velocity	5.34	8.62	8.54	8.54	8.87	8.70	8.70	8.23	8.31	8.31	9.05	7.99		8.57	8.76	8.28

FINAL - 2018 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	26-May-18	time	2.58	3.64	4.68	5.72	6.76	7.84	8.88	9.92	10.98	12.06		13.52	1 / 8			
reaction time	0.170	interval		1.06	1.04	1.04	1.04	1.08	1.04	1.04	1.06	1.08	1.46			3.14	3.16	3.18
wind	3.0 m/s	velocity	5.32	8.62	8.79	8.79	8.79	8.46	8.79	8.79	8.62	8.46	9.60	8.14		8.73	8.68	8.62

Semi-Final 1 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.41	3.49	4.53	5.56	6.60	7.62	8.66	9.70	10.75	11.82		13.40	8 / 6			
reaction time	0.140	interval		1.08	1.04	1.03	1.04	1.02	1.04	1.04	1.05	1.07	1.58			3.15	3.10	3.16
wind	0.2 m/s	velocity	5.69	8.46	8.79	8.87	8.79	8.96	8.79	8.79	8.70	8.54	8.87	8.21		8.70	8.85	8.68

FINAL - 2017 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	27-May-17	time	2.52	3.58	4.62	5.62	6.62	7.64	8.68	9.74	10.78	11.82		13.30	8 / 6			
reaction time	0.165	interval		1.06	1.04	1.00	1.00	1.02	1.04	1.06	1.04	1.04	1.48			3.10	3.06	3.14
wind	0.9 m/s	velocity	5.44	8.62	8.79	9.14	9.14	8.96	8.79	8.62	8.79	8.79	9.47	8.27		8.85	8.96	8.73

FINAL - 2017 Drake Relays (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	29-Apr-17	time	2.56	3.60	4.64	5.68	6.70	7.73	8.76	9.80	10.86	11.90		13.37	1 / 3			
reaction time		interval		1.04	1.04	1.04	1.02	1.03	1.03	1.04	1.06	1.04	1.47			3.12	3.08	3.14
wind	1.8 m/s	velocity	5.36	8.79	8.79	8.79	8.96	8.87	8.87	8.79	8.62	8.79	9.54	8.23		8.79	8.90	8.73

FINAL - 2016 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	09-Jul-16	time	2.53	3.60	4.64	5.67	6.70	7.74	8.81	9.84	10.91	12.00		13.56	8 / 7			
reaction time	0.186	interval		1.07	1.04	1.03	1.03	1.04	1.07	1.03	1.07	1.09	1.56			3.14	3.14	3.19
wind	1.0 m/s	velocity	5.42	8.54	8.79	8.87	8.87	8.79	8.54	8.87	8.54	8.39	8.99	8.11		8.73	8.73	8.60

Harrold, Daniel (USA) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	27-Jun-24	time	2.54	3.60	4.64	5.67	6.71	7.77	8.81	9.88	10.96	12.05		13.76	9 / 8			
reaction time		interval	7 steps	1.06	1.04	1.03	1.04	1.06	1.04	1.07	1.08	1.09	1.71			3.13	3.14	3.24
wind	0.3 m/s	velocity	5.40	8.62	8.79	8.87	8.79	8.62	8.79	8.54	8.46	8.39	8.20	7.99		8.76	8.73	8.46

Heat 3 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.53	3.57	4.61	5.65	6.63	7.66	8.70	9.76	10.83	12.00		13.41	8 / 5			
reaction time		interval	7 steps	1.04	1.04	1.04	0.98	1.03	1.04	1.06	1.07	1.17	1.41	PB		3.12	3.05	3.30
wind	1.8 m/s	velocity	5.42	8.79	8.79	8.79	9.33	8.87	8.79	8.62	8.54	7.81	9.94	8.20		8.79	8.99	8.31

Haruka, Eda (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2019 Shimane High School Championships (Izumo, JPN) *Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*

date	26-May-19	time	2.85	4.09	5.29	6.54	7.77	9.00	10.22	11.46	12.71	13.99		15.53	6 / 2			
reaction time		interval		1.24	1.20	1.25	1.23	1.23	1.22	1.24	1.25	1.28	1.54			3.69	3.68	3.77
wind	2.3 m/s	velocity	4.81	7.37	7.62	7.31	7.43	7.43	7.49	7.37	7.31	7.14	9.10	7.08		7.43	7.45	7.27

FINAL - 2018 Shimane High School Championships (Izumo, JPN) *Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*

date	27-May-18	time	2.87	4.13	5.43	6.73	8.05	9.35	10.65	11.97	13.30	14.65		16.32	7 / 6			
reaction time		interval		1.26	1.30	1.30	1.32	1.30	1.30	1.32	1.33	1.35	1.67			3.86	3.92	4.00
wind	1.2 m/s	velocity	4.78	7.25	7.03	7.03	6.92	7.03	7.03	6.92	6.87	6.77	8.40	6.74		7.10	6.99	6.86

Hashimoto, Takumi (JPN) (2004)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 Shimane High School Championships (Izumo, JPN) *Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis*

date	30-May-21	time	2.83	4.08	5.40	6.68	8.03	9.37	10.75	12.07	13.48	14.85		16.57	2 / 5			
reaction time		interval		1.25	1.32	1.28	1.35	1.34	1.38	1.32	1.41	1.37	1.72			3.85	4.07	4.10
wind	1.7 m/s	velocity	4.85	7.31	6.92	7.14	6.77	6.82	6.62	6.92	6.48	6.67	8.15	6.64		7.12	6.74	6.69

Hashimoto, Yu (JPN) (2006)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Japanese National U20 Championsips (Niigata, JPN) (99.1cm) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	30-Jun-24	time	2.60	3.66	4.71	5.75	6.78	7.82	8.86	9.93	10.98	12.08		13.53	2 / 3			
reaction time	0.149	interval	7 steps	1.06	1.05	1.04	1.03	1.04	1.04	1.07	1.05	1.10	1.45	PB		3.15	3.11	3.22
wind	0.1 m/s	velocity	5.28	8.62	8.70	8.79	8.87	8.79	8.79	8.54	8.70	8.31	9.67	8.13		8.70	8.82	8.52

FINAL - 2021 Japanese U16 National Championships (Matsuyama, JPN) (99cm) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	24-Oct-21	time	2.67	3.77	4.88	6.00	7.12	8.23	9.36	10.47	11.55	12.68		14.19	/ 1			
reaction time		interval		1.10	1.11	1.12	1.12	1.11	1.13	1.11	1.08	1.13	1.51			3.33	3.36	3.32
wind	1.0 m/s	velocity	5.14	8.31	8.23	8.16	8.16	8.23	8.09	8.23	8.46	8.09	9.28	7.75		8.23	8.16	8.26

Hashizume, Rento (JPN) (2006)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)													*Takashima (2024) - national high school sports festival - biomechanics data*			
date 01-Aug-24 time	2.69	3.78	4.88	5.99	7.08	8.18	9.29	10.43	11.56	12.72		14.18	3 / 5			
reaction time 0.143 interval		1.09	1.10	1.11	1.09	1.10	1.11	1.14	1.13	1.16	1.46	PB		3.30	3.30	3.43
wind -0.7 m/s velocity	5.10	8.39	8.31	8.23	8.39	8.31	8.23	8.02	8.09	7.88	9.60	7.76		8.31	8.31	7.99

Hata, Nobuyuki (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2020 Shimane High School Championships (Izumo, JPN)													*Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis*			
date 11-Jul-20 time	2.88	4.13	5.38	6.62	7.88	9.17	10.45	11.75	13.05	14.37		16.22	7 / 4			
reaction time interval		1.25	1.25	1.24	1.26	1.29	1.28	1.30	1.30	1.32	1.85			3.74	3.83	3.92
wind -0.1 m/s velocity	4.76	7.31	7.31	7.37	7.25	7.09	7.14	7.03	7.03	6.92	7.58	6.78		7.33	7.16	6.99
FINAL - 2019 Shimane High School Championships (Izumo, JPN)													*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*			
date 26-May-19 time	2.87	4.12	5.32	6.60	7.82	9.04	10.31	11.56	12.82	14.11		15.74	7 / 4			
reaction time interval		1.25	1.20	1.28	1.22	1.22	1.27	1.25	1.26	1.29	1.63			3.73	3.71	3.80
wind 2.3 m/s velocity	4.78	7.31	7.62	7.14	7.49	7.49	7.20	7.31	7.25	7.09	8.60	6.99		7.35	7.39	7.22

Hatanaka, Yushi (JPN) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2018 Kinami Michitaka Memorial (Osaka, JPN)													*Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*			
date 06-May-18 time	2.65	3.76	4.88	5.98	7.07	8.16	9.28	10.40	11.53	12.65		14.11	3 / 6			
reaction time interval		1.11	1.12	1.10	1.09	1.09	1.12	1.12	1.13	1.12	1.46			3.33	3.30	3.37
wind 1.6 m/s velocity	5.18	8.23	8.16	8.31	8.39	8.39	8.16	8.16	8.09	8.16	9.60	7.80		8.23	8.31	8.14
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)													*(2017) - tfdata-store.com/2017/05/13/post-441/*			
date 11-May-17 time	2.64	3.77	4.85	5.93	7.03	8.12	9.22	10.31	11.43	12.58		14.03	4 / 2			
reaction time interval		1.13	1.08	1.08	1.10	1.09	1.10	1.09	1.12	1.15	1.45	=PB		3.29	3.29	3.36
wind 1.6 m/s velocity	5.20	8.09	8.46	8.46	8.31	8.39	8.31	8.39	8.16	7.95	9.67	7.84		8.33	8.33	8.16
FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN)													*(2017) - tfdata-store.com/2017/04/07/post-249/*			
date 06-Apr-17 time	2.71	3.84	4.95	6.04	7.15	8.28	9.42	10.58	11.75	12.91		14.46	6 / 1			
reaction time interval	*7 steps*	1.13	1.11	1.09	1.11	1.13	1.14	1.16	1.17	1.16	1.55			3.33	3.38	3.49
wind -1.8 m/s velocity	5.06	8.09	8.23	8.39	8.23	8.09	8.02	7.88	7.81	7.88	9.05	7.61		8.23	8.11	7.86
FINAL - 2016 Kansai Student Athletics Championships (Osaka, JPN)													*(2016.10.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 19-Oct-16 time	2.71	3.83	4.92	6.04	7.13	8.23	9.34	10.46	11.60	12.73		14.19	5 / 1			
reaction time interval	*7 steps*	1.12	1.09	1.12	1.09	1.10	1.11	1.12	1.14	1.13	1.46			3.33	3.30	3.39
wind -1.0 m/s velocity	5.06	8.16	8.39	8.16	8.39	8.31	8.23	8.16	8.02	8.09	9.60	7.75		8.23	8.31	8.09
Semi-Final 1 - 2016 Japanese University Championships (Kumagaya, JPN)													*(2016.09.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 04-Sep-16 time	2.69	3.81	4.91	6.03	7.12	8.27	9.40	10.56	11.69	12.86		14.34	6 / 8			
reaction time 0.151 interval		1.12	1.10	1.12	1.09	1.15	1.13	1.16	1.13	1.17	1.48			3.34	3.37	3.46
wind 0.6 m/s velocity	5.10	8.16	8.31	8.16	8.39	7.95	8.09	7.88	8.09	7.81	9.47	7.67		8.21	8.14	7.92

Hayles, Jaheem (JAM) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2023 NCAA Championships (Austin, TX) (TV Analysis)													*Henson (2023) - Athlete First: 2023 year end hurdle report*			
date 09-Jun-23 time	2.57	3.62	4.66	5.70	6.71	7.72	8.74	9.77	10.79	11.84		13.28	9 / 3			
reaction time interval		1.05	1.04	1.04	1.01	1.01	1.02	1.03	1.02	1.05	1.44	PB		3.13	3.04	3.10
wind 1.8 m/s velocity	5.34	8.70	8.79	8.79	9.05	9.05	8.96	8.87	8.96	8.70	9.74	8.28		8.76	9.02	8.85
FINAL - 2022 NCAA Championships (Eugene, OR) (TV Analysis)													*Henson (2022) - Athlete First: 2022 year end hurdle report*			
date 10-Jun-22 time	2.55	3.65	4.72	5.77	6.82	7.86	8.89	9.96	11.06	12.19		13.73	4 / 9			
reaction time interval		1.10	1.07	1.05	1.05	1.04	1.03	1.07	1.10	1.13	1.54			3.22	3.12	3.30
wind 0.0 m/s velocity	5.38	8.31	8.54	8.70	8.70	8.79	8.87	8.54	8.31	8.09	9.10	8.01		8.52	8.79	8.31

Hedvičák, Jaroslav (CZE) (1990)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2012 Czech Republic National Indoor Championships (Praha, CZE)													*Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*			
date 25-Feb-12 time	2.74	3.90	5.05	6.18	7.33							8.32	6 / 4			
reaction time 0.149 interval		1.16	1.15	1.13	1.15						0.99			3.44		
velocity	5.01	7.88	7.95	8.09	7.95						9.82	7.21		7.97		

Heinä, Joona-Ville (FIN) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2011 Landskamp FIN-SWE-NOR (Tampere, FIN)													*Blomkvist (2011) - www.sub13.se*			
date 05-Feb-11 time	2.56	3.64	4.68	5.76	6.84							7.87	7 / 1			
reaction time interval		1.08	1.04	1.08	1.08						1.03			3.20		
velocity	5.36	8.46	8.79	8.46	8.46						9.44	7.62		8.57		

Helcelet, Adam Sebastian (CZE) (199

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date 05-Aug-21 time	2.65	3.80	4.85	5.95	7.08	8.19	9.31	10.45	11.58	12.78		14.35	4 / 1			
reaction time 0.140 interval	7 steps	1.15	1.05	1.10	1.13	1.11	1.12	1.14	1.13	1.20	1.57			3.30	3.36	3.47
wind 0.0 m/s velocity	5.18	7.95	8.70	8.31	8.09	8.23	8.16	8.02	8.09	7.62	8.93	7.67		8.31	8.16	7.90

FINAL - 2012 Czech Republic National Indoor Championships (Praha, CZE) — *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

date	25-Feb-12	time	2.70	3.83	4.88	5.97	7.09							8.06	7 / 5			
reaction time	0.140	interval		1.13	1.05	1.09	1.12						0.97			3.27		
		velocity	5.08	8.09	8.70	8.39	8.16						10.02	7.44		8.39		

Heat 3 - 2012 Czech Republic National Indoor Championships (Praha, CZE) — *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

date	25-Feb-12	time	2.69	3.82	4.90	5.96	7.13							8.13	5 / 2			
reaction time	0.135	interval		1.13	1.08	1.06	1.17						1.00			3.27		
		velocity	5.10	8.09	8.46	8.62	7.81						9.72	7.38		8.39		

Hemery, David (GBR) (1944)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1970 Commonwealth Games (Edinburgh, GBR) — *LeMasurier (1972) - track speed- hurdles, sprints, and relays*

date	18-Jul-70	time	2.55	3.65	4.65	5.70	6.75	7.80	8.85	9.90	11.00	12.10	*(13.66)*	13.6	1 / 1			
reaction time		interval		1.10	1.00	1.05	1.05	1.05	1.05	1.05	1.10	1.10	1.50			3.15	3.15	3.25
wind	2.9 m/s	velocity	5.38	8.31	9.14	8.70	8.70	8.70	8.70	8.70	8.31	8.31	9.35	8.09		8.70	8.70	8.44

Hernández, Yoel (CUB) (1977)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1999 IAAF World Championships (Sevilla, ESP) — *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	25-Aug-99	time	2.57	3.61	4.63	5.66	6.65	7.65	8.68	9.71	10.73	11.83		13.30	7 / 6			
reaction time	0.129	interval		1.04	1.02	1.03	0.99	1.00	1.03	1.03	1.02	1.10	1.47			3.09	3.02	3.15
wind	1.0 m/s	velocity	5.34	8.79	8.96	8.87	9.23	9.14	8.87	8.87	8.96	8.31	9.54	8.27		8.87	9.08	8.70

Semi-Final 1 - 1999 IAAF World Championships (Sevilla, ESP) — *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	24-Aug-99	time	2.60	3.61	4.64	5.64	6.66	7.65	8.68	9.71	10.77	11.83		13.32	4 / 3			
reaction time	0.143	interval		1.01	1.03	1.00	1.02	0.99	1.03	1.03	1.06	1.06	1.49			3.04	3.04	3.15
wind	0.0 m/s	velocity	5.28	9.05	8.87	9.14	8.96	9.23	8.87	8.87	8.62	8.62	9.41	8.26		9.02	9.02	8.70

Herring, Aubrey (USA) (1978)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2010 Windsprint (Sundsvall, SWE) — *Blomkvist (2010) - www.sub13.se*

date	08-Aug-10	time	2.68	3.75	4.84	5.90	6.96	8.04	9.13	10.23	11.36	12.49		14.07	/ 5			
reaction time		interval		1.07	1.09	1.06	1.06	1.08	1.09	1.10	1.13	1.13	1.58			3.22	3.23	3.36
wind	1.1 m/s	velocity	5.12	8.54	8.39	8.62	8.62	8.46	8.39	8.31	8.09	8.09	8.87	7.82		8.52	8.49	8.16

FINAL - 2008 Seiko Super Grand Prix (Kawasaki, JPN) — *Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles*

date	23-Sep-08	time	2.45	3.54	4.60	5.64	6.66	7.74	8.81	9.89	10.98	12.12		13.77	/ 2			
reaction time		interval		1.09	1.06	1.04	1.02	1.08	1.07	1.08	1.09	1.14	1.65			3.19	3.17	3.31
wind	-0.7 m/s	velocity	5.60	8.39	8.62	8.79	8.96	8.46	8.54	8.46	8.39	8.02	8.50	7.99		8.60	8.65	8.28

Heat 4 - 2007 USATF National Championships (Indianapolis, IN) — *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.64	3.79	4.89	5.99	7.07	8.17	9.29	10.41	11.51	12.66		14.27	8 / 8			
reaction time		interval		1.15	1.10	1.10	1.08	1.10	1.12	1.12	1.10	1.15	1.61			3.35	3.30	3.37
wind	-2.8 m/s	velocity	5.20	7.95	8.31	8.31	8.46	8.31	8.16	8.16	8.31	7.95	8.71	7.71		8.19	8.31	8.14

FINAL - 2006 USATF National Championships (Indianapolis, IN) — *USATF Men's Hurdle Development (2006)*

date	25-Jun-06	time	2.60	3.65	4.69	5.74	6.77	7.81	8.83	9.86	10.93	12.00		13.45	/ 7			
reaction time		interval		1.05	1.04	1.05	1.03	1.04	1.02	1.03	1.07	1.07	1.45			3.14	3.09	3.17
wind	-0.4 m/s	velocity	5.28	8.70	8.79	8.70	8.87	8.79	8.96	8.87	8.54	8.54	9.67	8.18		8.73	8.87	8.65

Hicks, Antwon (USA) (1983)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2012 AVIVA London Grand Prix (London, GBR) (TV Analysis) — *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	13-Jul-12	time	2.48	3.54	4.60	5.60	6.62	7.66	8.72	9.78	10.84	11.92		13.46	1 / 6			
reaction time	0.165	interval	*7 steps*	1.06	1.06	1.00	1.02	1.04	1.06	1.06	1.06	1.08	1.54			3.12	3.12	3.20
wind	0.6 m/s	velocity	5.53	8.62	8.62	9.14	8.96	8.79	8.62	8.62	8.62	8.46	9.10	8.17		8.79	8.79	8.57

FINAL - 2012 USA Olympic Trials (Eugene, OR) — *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	30-Jun-12	time	2.37	3.44	4.44	5.44	6.44	7.44	8.46	9.47	10.51	11.56		13.14	2 / 4			
reaction time	0.158	interval	*7 steps*	1.07	1.00	1.00	1.00	1.00	1.02	1.01	1.04	1.05	1.58			3.07	3.02	3.10
wind	1.2 m/s	velocity	5.79	8.54	9.14	9.14	9.14	9.14	8.96	9.05	8.79	8.70	8.87	8.37		8.93	9.08	8.85

FINAL - 2008 USA Olympic Trials (Eugene, OR) — *USATF Hurdle Development (2008)*

date	06-Jul-08	time	2.57	3.64	4.69	5.74	6.76	7.76	8.78	9.81	10.85	11.91		13.33	3 / 5			
reaction time	0.170	interval	*7 steps*	1.07	1.05	1.05	1.02	1.00	1.02	1.03	1.04	1.06	1.42			3.17	3.04	3.13
wind	3.5 m/s	velocity	5.34	8.54	8.70	8.70	8.96	9.14	8.96	8.87	8.79	8.62	9.87	8.25		8.65	9.02	8.76

Semi-Final 1 - 2007 USATF National Championships (Indianapolis, IN) — *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.59	3.69	4.79	5.86	6.89	7.96	8.99	10.08	11.14	12.25		13.75	6 / 7			
reaction time		interval		1.10	1.10	1.07	1.03	1.07	1.03	1.09	1.06	1.11	1.50			3.27	3.13	3.26
wind	-0.6 m/s	velocity	5.30	8.31	8.31	8.54	8.87	8.54	8.87	8.39	8.62	8.23	9.35	8.00		8.39	8.76	8.41

Heat 1 - 2007 USATF National Championships (Indianapolis, IN) — *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.57	3.64	4.70	5.77	6.81	7.82	8.88	9.91	10.96	12.05		13.49	7 / 2			
reaction time		interval		1.07	1.06	1.07	1.04	1.01	1.06	1.03	1.05	1.09	1.44			3.20	3.11	3.17
wind	0.1 m/s	velocity	5.34	8.54	8.62	8.54	8.79	9.05	8.62	8.87	8.70	8.39	9.74	8.15		8.57	8.82	8.65

FINAL - 2006 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2006)*

date	25-Jun-06	time	2.65	3.74	4.79	5.84	6.89	7.93	8.98	10.08	11.13	12.23		13.71	/ 8			
reaction time		interval		1.09	1.05	1.05	1.05	1.04	1.05	1.10	1.05	1.10	1.48			3.19	3.14	3.25
wind	-0.4 m/s	velocity	5.18	8.39	8.70	8.70	8.70	8.79	8.70	8.31	8.70	8.31	9.47	8.02		8.60	8.73	8.44

FINAL - 2005 USATF National Championships (Carson, CA) *USATF Women's Sprint Development (2005)*

date	24-Jun-05	time	2.61	3.67	4.71	5.71	6.76	7.78	8.83	9.84	10.89	11.95		13.35	1 / 6			
reaction time		interval		1.06	1.04	1.00	1.05	1.02	1.05	1.01	1.05	1.06	1.40	PB		3.10	3.12	3.12
wind	0.2 m/s	velocity	5.26	8.62	8.79	9.14	8.70	8.96	8.70	9.05	8.70	8.62	10.01	8.24		8.85	8.79	8.79

Higuchi, Hayato (JPN) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 Japanese High School National Championships (Fukui, JPN) *Shibayama (2021) - national high school and U20 national championhsips*

date	01-Aug-21	time	2.62	3.70	4.80	5.88	6.97	8.06	9.18	10.30	11.40	12.53		13.95	6 / 3			
reaction time	0.121	interval		1.08	1.10	1.08	1.09	1.09	1.12	1.12	1.10	1.13	1.42	PB		3.26	3.30	3.35
wind	1.4 m/s	velocity	5.24	8.46	8.31	8.46	8.39	8.39	8.16	8.16	8.31	8.09	9.87	7.89		8.41	8.31	8.19

Higuchi, Rikuto (JPN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2022 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	01-May-22	time	2.59	3.70	4.76	5.85	6.91	7.98	9.04	10.13	11.23	12.35		13.81	5 / 6			
reaction time	0.153	interval	7 steps	1.11	1.06	1.09	1.06	1.07	1.06	1.09	1.10	1.12	1.46			3.26	3.19	3.31
wind	0.8 m/s	velocity	5.30	8.23	8.62	8.39	8.62	8.54	8.62	8.39	8.31	8.16	9.60	7.97		8.41	8.60	8.28

FINAL - 2018 Japanese National Indoor U20 Championships (Osaka, JPN) (99cm) *(2018.03.04) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	03-Feb-18	time	2.62	3.71	4.75	5.77	6.81							7.71	4 / 1			
reaction time		interval		1.09	1.04	1.02	1.04						0.90	NJR		3.15		
		velocity	5.24	8.39	8.79	8.96	8.79						10.80	7.78		8.70		

U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN) (99cm) *(2017.10.10) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	08-Oct-17	time	2.62	3.68	4.70	5.74	6.77	7.81	8.84	9.87	10.93	11.99		13.40	5 / 1			
reaction time	0.172	interval		1.06	1.02	1.04	1.03	1.04	1.03	1.03	1.06	1.06	1.41	PB		3.12	3.10	3.15
wind	-0.1 m/s	velocity	5.24	8.62	8.96	8.79	8.87	8.79	8.87	8.87	8.62	8.62	9.94	8.21		8.79	8.85	8.70

FINAL - 2017 Japanese National High School Championships (Yamagata, JPN) (99cm) *Kota (2017) - 70th high school championships: JAF scientific committee- biomechanics data*

date	02-Aug-17	time	2.70	3.82	4.95	6.08	7.22	8.35	9.48	10.61	11.76	12.92		14.34	6 / 3			
reaction time	0.169	interval		1.12	1.13	1.13	1.14	1.13	1.13	1.13	1.15	1.16	1.42			3.38	3.40	3.44
wind	-0.7 m/s	velocity	5.08	8.16	8.09	8.09	8.02	8.09	8.09	8.09	7.95	7.88	9.87	7.67		8.11	8.06	7.97

FINAL - 2017 Japanese National Indoor Junior Championships (Osaka, JPN) (99cm) *(2017.02.04) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Feb-17	time	2.70	3.80	4.89	5.99	7.09							7.98	3 / 1			
reaction time		interval		1.10	1.09	1.10	1.10						0.89	PB		3.29		
		velocity	5.08	8.31	8.39	8.31	8.31						10.92	7.52		8.33		

FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.10.21) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.63	3.70	4.75	5.81	6.87	7.92	8.98	10.06	11.12	12.23		13.64	3 / 1			
reaction time		interval		1.07	1.05	1.06	1.06	1.05	1.06	1.08	1.06	1.11	1.41	NYR		3.18	3.17	3.25
wind	-0.1 m/s	velocity	5.22	8.54	8.70	8.62	8.62	8.70	8.62	8.46	8.62	8.23	9.94	8.06		8.62	8.65	8.44

Semi-Final 3 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.11) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.60	3.66	4.71	5.76	6.81	7.87	8.94	10.02	11.10	12.22		13.70	4 / 1			
reaction time		interval		1.06	1.05	1.05	1.05	1.06	1.07	1.08	1.08	1.12	1.48			3.16	3.18	3.28
wind	-0.2 m/s	velocity	5.28	8.62	8.70	8.70	8.70	8.62	8.54	8.46	8.46	8.16	9.47	8.03		8.68	8.62	8.36

Heat 6 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.08) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.63	3.69	4.75	5.79	6.86	7.92	9.00	10.10	11.21	12.36		13.98	4 / 1			
reaction time		interval		1.06	1.06	1.04	1.07	1.06	1.08	1.10	1.11	1.15	1.62			3.16	3.21	3.36
wind	1.2 m/s	velocity	5.22	8.62	8.62	8.79	8.54	8.62	8.46	8.31	8.23	7.95	8.65	7.87		8.68	8.54	8.16

FINAL - 2016 Japanese National High School Championships (Okayama, JPN) (99cm) *Kota (2016) - 69th high school championships: JAF scientific committee- biomechanics data*

date	02-Aug-16	time	2.68	3.78	4.86	5.96	7.07	8.21	9.35	10.47	11.60	12.77		14.25	2 / 5			
reaction time	0.168	interval		1.10	1.08	1.10	1.11	1.14	1.14	1.12	1.13	1.17	1.48	PB		3.28	3.39	3.42
wind	1.2 m/s	velocity	5.12	8.31	8.46	8.31	8.23	8.02	8.02	8.16	8.09	7.81	9.47	7.72		8.36	8.09	8.02

Hill, Thomas (USA) (1949)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1972 Olympic Games (Munich, FRG) *Kay (1972) - BAAB Munich Technical Report*

date	07-Sep-72	time	2.5	3.5	4.6	5.6	6.6	7.6	8.7	9.8	10.9	12.0		13.48	7 / 3			
reaction time		interval		1.00	1.10	1.00	1.00	1.00	1.10	1.10	1.10	1.10	1.48			3.10	3.10	3.30
wind	0.3 m/s	velocity	5.49	9.14	8.31	9.14	9.14	9.14	8.31	8.31	8.31	8.31	9.47	8.16		8.85	8.85	8.31

Hiraga, Kentaro (JPN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2018 IAAF World Junior Championships (Tampere, FIN) (99cm) *Koyama (2018) - research on athlete performance and technique- 2018 data book*

date	11-Jul-18	time	2.63	3.72	4.80	5.86	6.92	8.02	9.10	10.19	11.29	12.38		13.80	5 / 4			
reaction time	0.147	interval		1.09	1.08	1.06	1.06	1.10	1.08	1.09	1.10	1.09	1.42			3.23	3.24	3.28

wind	0.7 m/s	velocity	5.22	8.39	8.46	8.62	8.62	8.31	8.46	8.39	8.31	8.39	9.87	7.97		8.49	8.46	8.36

FINAL - 2017 Japanese National High School Championships (Yamagata, JPN) (99cm) *Kota (2017) - 70th high school championships: JAF scientific committee- biomechanics data*

date	02-Aug-17	time	2.70	3.83	4.96	6.09	7.25	8.35	9.49	10.67	11.83	13.03		14.54	2 / 7			
reaction time	0.156	interval		1.13	1.13	1.13	1.16	1.10	1.14	1.18	1.16	1.20	1.51			3.39	3.40	3.54
wind	-0.7 m/s	velocity	5.08	8.09	8.09	8.09	7.88	8.31	8.02	7.75	7.88	7.62	9.28	7.57		8.09	8.06	7.75

Heat 1 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.07) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.68	3.82	4.92	6.04	7.14	8.24	9.36	10.49	11.63	12.79		14.28	6 / 2			
reaction time		interval		1.14	1.10	1.12	1.10	1.10	1.12	1.13	1.14	1.16	1.49			3.36	3.32	3.43
wind	1.7 m/s	velocity	5.12	8.02	8.31	8.16	8.31	8.31	8.16	8.09	8.02	7.88	9.41	7.70		8.16	8.26	7.99

Hiramatsu, Papdemba (JPN) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.63	3.72	4.81	5.86	6.93	8.01	9.10	10.19	11.30	12.44		13.93	2 / 7			
reaction time	0.168	interval	*7 steps*	1.09	1.09	1.05	1.07	1.08	1.09	1.09	1.11	1.14	1.49			3.23	3.24	3.34
wind	1.3 m/s	velocity	5.22	8.39	8.39	8.70	8.54	8.46	8.39	8.39	8.23	8.02	9.41	7.90		8.49	8.46	8.21

FINAL - 2017 Mito Invitational (Mito, JPN) *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.63	3.76	4.87	5.96	7.07	8.19	9.30	10.41	11.55	12.69		14.21	9 / 5			
reaction time		interval	*7 steps*	1.13	1.11	1.09	1.11	1.12	1.11	1.11	1.14	1.14	1.52			3.33	3.34	3.39
wind	-2.3 m/s	velocity	5.22	8.09	8.23	8.39	8.23	8.16	8.23	8.23	8.02	8.02	9.22	7.74		8.23	8.21	8.09

Heat 2 - 2017 Mito Invitational (Mito, JPN) *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.59	3.70	4.80	5.88	6.98	8.06	9.16	10.29	11.41	12.56		14.05	2 / 2			
reaction time		interval	*7 steps*	1.11	1.10	1.08	1.10	1.08	1.10	1.13	1.12	1.15	1.49			3.29	3.28	3.40
wind	0.6 m/s	velocity	5.30	8.23	8.31	8.46	8.31	8.46	8.31	8.09	8.16	7.95	9.41	7.83		8.33	8.36	8.06

FINAL - 2016 Kanto Student Championships (Sagamihara, JPN) *(2016.09.17) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	17-Sep-16	time	2.64	3.74	4.84	5.90	6.95	8.04	9.13	10.20	11.30	12.42		13.90	6 / 2			
reaction time		interval	*7 steps*	1.10	1.10	1.06	1.05	1.09	1.09	1.07	1.10	1.12	1.48			3.26	3.23	3.29
wind	3.2 m/s	velocity	5.20	8.31	8.31	8.62	8.70	8.39	8.39	8.54	8.31	8.16	9.47	7.91		8.41	8.49	8.33

FINAL - 2015 Japanese National High School Championships (Wakayama, JPN) (99cm) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	02-Aug-15	time	2.64	3.73	4.82	5.91	6.99	8.09	9.22	10.36	11.49	12.64		14.19	5 / 3			
reaction time		interval		1.09	1.09	1.09	1.08	1.10	1.13	1.14	1.13	1.15	1.55	**PB**		3.27	3.31	3.42
wind	1.4 m/s	velocity	5.20	8.39	8.39	8.39	8.46	8.31	8.09	8.02	8.09	7.95	9.05	7.75		8.39	8.28	8.02

Hirotomi, Ato (JPN) (2004)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (99cm) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	22-Oct-21	time	2.73	3.83	4.91	5.99	7.07	8.14	8.25	10.33	11.45	12.56		14.06	4 / 3			
reaction time	0.160	interval		1.10	1.08	1.08	1.08	1.07	0.11	2.08	1.12	1.11	1.50			3.26	2.26	4.31
wind	-0.6 m/s	velocity	5.03	8.31	8.46	8.46	8.46	8.54	83.09	4.39	8.16	8.23	9.35	7.82		8.41	12.13	6.36

FINAL - 2021 Japanese High School National Championships (Fukui, JPN) *Shibayama (2021) - national high school and U20 national championhsips*

date	01-Aug-21	time	2.73	3.80	4.92	5.99	7.10	8.22	9.33	10.45	11.58	12.70		14.17	2 / 5			
reaction time	0.136	interval		1.07	1.12	1.07	1.11	1.12	1.11	1.12	1.13	1.12	1.47	**PB**		3.26	3.34	3.37
wind	1.4 m/s	velocity	5.03	8.54	8.16	8.54	8.23	8.16	8.23	8.16	8.09	8.16	9.54	7.76		8.41	8.21	8.14

Hoffmann, Marek (CZE) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.93	4.11	5.29	6.49	7.70	8.95	10.21	11.58	12.93	14.45		16.54	8 / 7			
reaction time	0.215	interval		1.18	1.18	1.20	1.21	1.25	1.26	1.37	1.35	1.52	2.09			3.56	3.72	4.24
wind	-4.1 m/s	velocity	4.68	7.75	7.75	7.62	7.55	7.31	7.25	6.67	6.77	6.01	6.71	6.65		7.70	7.37	6.47

Hojo, Yuki (JPN) (2005)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Japanese National U20 Championsips (Niigata, JPN) (99.1cm) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	30-Jun-24	time	2.65	3.73	4.78	5.81	6.86	7.90	8.94	10.00	11.05	12.14		13.59	6 / 4			
reaction time	0.158	interval	7 steps	1.08	1.05	1.03	1.05	1.04	1.04	1.06	1.05	1.09	1.45	**PB**		3.16	3.13	3.20
wind	0.1 m/s	velocity	5.18	8.46	8.70	8.87	8.70	8.79	8.79	8.62	8.70	8.39	9.67	8.09		8.68	8.76	8.57

FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN) *Takashima (2023) - national high school sports festival - biomechanics data*

date	06-Aug-23	time	2.73	3.82	4.93	6.02	7.12	8.20	9.30	10.45	11.59	12.73		14.29	8 / 4			
reaction time	0.188	interval		1.09	1.11	1.09	1.10	1.08	1.10	1.15	1.14	1.14	1.56			3.29	3.28	3.43
wind	0.8 m/s	velocity	5.03	8.39	8.23	8.39	8.31	8.46	8.31	7.95	8.02	8.02	8.99	7.70		8.33	8.36	7.99

Holloway, Grant (USA) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2025 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2025) - diamond league race analysis*

date	26-Apr-25	time	2.37	3.40	4.38	5.38	6.36	7.37	8.38	9.43	10.53	11.70		13.72	6 / 10			
reaction time	0.153	interval	7 steps	1.03	0.98	1.00	0.98	1.01	1.01	1.05	1.10	1.17	2.02			3.01	3.00	3.32
wind	0.3 m/s	velocity	5.79	8.87	9.33	9.14	9.33	9.05	9.05	8.70	8.31	7.81	6.94	8.02		9.11	9.14	8.26

FINAL - 2024 Weltklasse (Zürich, SUI) *Omega Timing (2024) - diamond league race analysis*

date	05-Sep-24	time	2.36	3.37	4.35	5.31	6.30	7.29	8.30	9.31	10.35	11.41		12.99	6 / 1				
reaction time	0.144	interval	7 steps	1.01	0.98	0.96	0.99	0.99	1.01	1.01	1.04	1.06	1.58			2.95	2.99	3.11	
wind	-0.3 m/s	velocity	5.81	9.05	9.33	9.52	9.23	9.23	9.05	9.05	8.79	8.62	8.87	8.47		9.29	9.17	8.82	

FINAL - 2024 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2024) - diamond league race analysis*

date	25-Aug-24	time	2.35	3.34	4.34	5.31	6.30	7.30	8.30	9.33	10.37	11.44		13.04	6 / 1				
reaction time	0.157	interval	7 steps	0.99	1.00	0.97	0.99	1.00	1.00	1.03	1.04	1.07	1.60			2.96	2.99	3.14	
wind	1.1 m/s	velocity	5.84	9.23	9.14	9.42	9.23	9.14	9.14	8.87	8.79	8.54	8.76	8.44		9.26	9.17	8.73	

FINAL - 2024 Athletissima (Lausanne, SUI) *Omega Timing (2024) - diamond league race analysis*

date	22-Aug-24	time	2.32	3.35	4.34	5.32	6.31	7.30	8.31	9.34	10.41	11.51		13.14	6 / 2				
reaction time	0.146	interval	7 steps	1.03	0.99	0.98	0.99	0.99	1.01	1.03	1.07	1.10	1.63			3.00	2.99	3.20	
wind	-0.1 m/s	velocity	5.91	8.87	9.23	9.33	9.23	9.23	9.05	8.87	8.54	8.31	8.60	8.37		9.14	9.17	8.57	

FINAL - 2024 Olympic Games (Paris, FRA) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	08-Aug-24	time	2.46	3.45	4.43	5.39	6.35	7.35	8.35	9.35	10.41	11.51		12.99	6 / 1				
reaction time	0.104	interval	7 steps	0.99	0.98	0.96	0.96	1.00	1.00	1.00	1.06	1.10	1.48			2.93	2.96	3.16	
wind	-0.1 m/s	velocity	5.58	9.23	9.33	9.52	9.52	9.14	9.14	9.14	8.62	8.31	9.47	8.47		9.36	9.26	8.68	

Semi-Final 1 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	2.31	3.32	4.29	5.27	6.24	7.22	8.22	9.24	10.29	11.37		12.98	6 / 1				
reaction time	0.149	interval	7 steps	1.01	0.97	0.98	0.97	0.98	1.00	1.02	1.05	1.08	1.61			2.96	2.95	3.15	
wind	0.1 m/s	velocity	5.94	9.05	9.42	9.33	9.42	9.33	9.14	8.96	8.70	8.46	8.71	8.47		9.26	9.29	8.70	

Heat 5 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.31	3.34	4.32	5.29	6.26	7.24	8.23	9.25	10.31	11.39		13.01	6 / 1				
reaction time	0.136	interval	7 steps	1.03	0.98	0.97	0.97	0.98	0.99	1.02	1.06	1.08	1.62			2.98	2.94	3.16	
wind	0.7 m/s	velocity	5.94	8.87	9.33	9.42	9.42	9.33	9.23	8.96	8.62	8.46	8.65	8.46		9.20	9.33	8.68	

FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON) *Omega Timing (2024) - diamond league race analysis*

date	12-Jul-24	time	2.37	3.39	4.35	5.33	6.31	7.30	8.30	9.33	10.37	11.45		13.01	6 / 1				
reaction time	0.132	interval	7 steps	1.02	0.96	0.98	0.98	0.99	1.00	1.03	1.04	1.08	1.56			2.96	2.97	3.15	
wind	-0.7 m/s	velocity	5.79	8.96	9.52	9.33	9.33	9.23	9.14	8.87	8.79	8.46	8.99	8.46		9.26	9.23	8.70	

FINAL - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	28-Jun-24	time	2.44	3.42	4.40	5.37	6.34	7.32	8.31	9.32	10.36	11.42		12.86	6 / 1				
reaction time		interval	7 steps	0.98	0.98	0.97	0.97	0.98	0.99	1.01	1.04	1.06	1.44			2.93	2.94	3.11	
wind	2.0 m/s	velocity	5.62	9.33	9.33	9.42	9.42	9.33	9.23	9.05	8.79	8.62	9.74	8.55		9.36	9.33	8.82	

Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	27-Jun-24	time	2.44	3.42	4.41	5.37	6.35	7.34	8.34	9.34	10.41	11.48		12.96	7 / 1				
reaction time		interval	7 steps	0.98	0.99	0.96	0.98	0.99	1.00	1.00	1.07	1.07	1.48			2.93	2.97	3.14	
wind	0.3 m/s	velocity	5.62	9.33	9.23	9.52	9.33	9.23	9.14	9.14	8.54	8.54	9.47	8.49		9.36	9.23	8.73	

Heat 1 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.43	3.48	4.43	5.41	6.38	7.35	8.35	9.38	10.40	11.46		12.92	4 / 1				
reaction time		interval	7 steps	1.05	0.95	0.98	0.97	0.97	1.00	1.03	1.02	1.06	1.46			2.98	2.94	3.11	
wind	0.8 m/s	velocity	5.65	8.70	9.62	9.33	9.42	9.42	9.14	8.87	8.96	8.62	9.60	8.51		9.20	9.33	8.82	

FINAL - 2024 Prefontaine Classic (Eugene, OR) *Omega Timing (2024) - diamond league race analysis*

date	25-May-24	time	2.35	3.35	4.33	5.30	6.28	7.28	8.28	9.32	10.36	11.44		13.03	5 / 1				
reaction time	0.132	interval	7 steps	1.00	0.98	0.97	0.98	1.00	1.00	1.04	1.04	1.08	1.59			2.95	2.98	3.16	
wind	-0.1 m/s	velocity	5.84	9.14	9.33	9.42	9.33	9.14	9.14	8.79	8.79	8.46	8.82	8.44		9.29	9.20	8.68	

FINAL - 2024 Atlanta City Cames (Atlanta, GA) (Street Race) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	18-May-24	time	2.45	3.45	4.44	5.42	6.42	7.42	8.42	9.44	10.48	11.58		13.07	3 / 1				
reaction time		interval	7 steps	1.00	0.99	0.98	1.00	1.00	1.00	1.02	1.04	1.10	1.49			2.97	3.00	3.16	
wind	-0.7 m/s	velocity	5.60	9.14	9.23	9.33	9.14	9.14	9.14	8.96	8.79	8.31	9.41	8.42		9.23	9.14	8.68	

FINAL - 2024 World Athletics Indoor Championships (Glasgow, GBR) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	02-Mar-24	time	2.48	3.50	4.47	5.42	6.40							7.29	5 / 1				
reaction time	0.153	interval	7 steps	1.02	0.97	0.95	0.98						0.89	=CR		2.94			
		velocity	5.53	8.96	9.42	9.62	9.33						10.92	8.23		9.33			

Heat 1 - 2024 World Athletics Indoor Championships (Glasgow, GBR) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	02-Mar-24	time	2.48	3.50	4.45	5.45	6.47							7.43	3 / 1				
reaction time	0.155	interval	7 steps	1.02	0.95	1.00	1.02						0.96			2.97			
		velocity	5.53	8.96	9.62	9.14	8.96						10.13	8.08		9.23			

Heat 1 - 2024 USATF National Indoor Championships (Albuquerque, NM) (Altitude) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	16-Feb-24	time	2.44	3.46	4.42	5.38	6.37							7.27	6 / 1				
reaction time	0.141	interval	7 steps	1.02	0.96	0.96	0.99						0.90	WR		2.94			
		velocity	5.62	8.96	9.52	9.52	9.23						10.80	8.25		9.33			

FINAL - 2024 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	10-Feb-24	time	2.40	3.38	4.36	5.36	6.32							7.32	5 / 1				
reaction time	0.169	interval	7 steps	0.98	0.98	1.00	0.96						1.00			2.96			
		velocity	5.72	9.33	9.33	9.14	9.52						9.72	8.20		9.26			

Heat 2 - 2024 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	10-Feb-24	time	2.46	3.48	4.48	5.44	6.44							7.39	5 / 1				
reaction time	0.168	interval	7 steps	1.02	1.00	0.96	1.00						0.95			2.98			
		velocity	5.58	8.96	9.14	9.52	9.14						10.23	8.12		9.20			

FINAL - 2024 New Balance Indoor Grand Prix (Boston, MA) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	04-Feb-24	time	2.50	3.50	4.48	5.43	6.43							7.35	4 / 1				
reaction time	0.166	interval	7 steps	1.00	0.98	0.95	1.00						0.92			2.93			
		velocity	5.49	9.14	9.33	9.62	9.14						10.57	8.16		9.36			

FINAL - 2023 Prefontaine Classic (Eugene, OR) *Omega Timing (2023) - diamond league race analysis*

date	17-Sep-23	time	2.33	3.35	4.34	5.34	6.34	7.34	8.35	9.38	10.41	11.47		13.06	6 / 2				
reaction time	0.153	interval	7 steps	1.02	0.99	1.00	1.00	1.00	1.01	1.03	1.03	1.06	1.59			3.01	3.01	3.12	
wind	0.9 m/s	velocity	5.89	8.96	9.23	9.14	9.14	9.14	9.05	8.87	8.87	8.62	8.82	8.42		9.11	9.11	8.79	

FINAL - 2023 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2023) - diamond league race analysis*

date	02-Sep-23	time	2.32	3.34	4.32	5.30	6.29	7.28	8.28	9.31	10.36	11.43		13.12	6 / 3				
reaction time	0.141	interval	7 steps	1.02	0.98	0.98	0.99	0.99	1.00	1.03	1.05	1.07	1.69			2.98	2.98	3.15	
wind	0.0 m/s	velocity	5.91	8.96	9.33	9.33	9.23	9.23	9.14	8.87	8.70	8.54	8.30	8.38		9.20	9.20	8.70	

FINAL - 2023 World Athletics Championships (Budapest, HUN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	21-Aug-23	time	2.45	3.45	4.42	5.38	6.37	7.36	8.37	9.39	10.43	11.53		12.96	5 / 1				
reaction time	0.135	interval	7 steps	1.00	0.97	0.96	0.99	0.99	1.01	1.02	1.04	1.10	1.43			2.93	2.99	3.16	
wind	0.0 m/s	velocity	5.60	9.14	9.42	9.52	9.23	9.23	9.05	8.96	8.79	8.31	9.80	8.49		9.36	9.17	8.68	

Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.44	3.44	4.42	5.40	6.38	7.38	8.40	9.42	10.46	11.53		13.02	5 / 1				
reaction time	0.137	interval	7 steps	1.00	0.98	0.98	0.98	1.00	1.02	1.02	1.04	1.07	1.49			2.96	3.00	3.13	
wind	-0.2 m/s	velocity	5.62	9.14	9.33	9.33	9.33	9.14	8.96	8.96	8.79	8.54	9.41	8.45		9.26	9.14	8.76	

Heat 4 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.45	3.47	4.47	5.47	6.47	7.47	8.50	9.57	10.63	11.68		13.18	5 / 1				
reaction time	0.153	interval	7 steps	1.02	1.00	1.00	1.00	1.00	1.03	1.07	1.06	1.05	1.50			3.02	3.03	3.18	
wind	-0.6 m/s	velocity	5.60	8.96	9.14	9.14	9.14	9.14	8.87	8.54	8.62	8.70	9.35	8.35		9.08	9.05	8.62	

FINAL - 2023 London Athletics Meet (London, GBR) *Omega Timing (2023) - diamond league race analysis*

date	23-Jul-23	time	2.36	3.35	4.33	5.30	6.29	7.28	8.29	9.32	10.37	11.43		13.01	5 / 1				
reaction time	0.165	interval	7 steps	0.99	0.98	0.97	0.99	0.99	1.01	1.03	1.05	1.06	1.58			2.94	2.99	3.14	
wind	1.3 m/s	velocity	5.81	9.23	9.33	9.42	9.23	9.23	9.05	8.87	8.70	8.62	8.87	8.46		9.33	9.17	8.73	

FINAL - 2023 Meeting de Paris (Paris, FRA) *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.30	3.30	4.28	5.25	6.24	7.23	8.24	9.26	10.30	11.36		12.98	6 / 1				
reaction time	0.157	interval	7 steps	1.00	0.98	0.97	0.99	0.99	1.01	1.02	1.04	1.06	1.62			2.95	2.99	3.12	
wind	-0.5 m/s	velocity	5.97	9.14	9.33	9.42	9.23	9.23	9.05	8.96	8.79	8.62	8.65	8.47		9.29	9.17	8.79	

Heat 2 - 2023 Meeting de Paris (Paris, FRA) *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.30	3.30	4.30	5.30	6.30	7.30	8.30	9.40	10.40	11.50		13.20	6 / 1				
reaction time	0.147	interval	7 steps	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.10	1.70			3.00	3.00	3.20	
wind	-0.6 m/s	velocity	5.97	9.14	9.14	9.14	9.14	9.14	9.14	8.31	9.14	8.31	8.25	8.33		9.14	9.14	8.57	

FINAL - 2023 FBK Games (Hengelo, NED) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	04-Jun-23	time	2.53	3.53	4.51	5.49	6.45	7.43	8.45	9.47	10.53	11.60		13.03	6 / 1				
reaction time	0.187	interval	7 steps	1.00	0.98	0.98	0.96	0.98	1.02	1.02	1.06	1.07	1.43			2.96	2.96	3.15	
wind	0.4 m/s	velocity	5.42	9.14	9.33	9.33	9.52	9.33	8.96	8.96	8.62	8.54	9.80	8.44		9.26	9.26	8.70	

FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	02-Jun-23	time	2.45	3.46	4.44	5.42	6.40	7.41	8.42	9.45	10.51	11.59		13.04	6 / 1				
reaction time	0.152	interval	7 steps	1.01	0.98	0.98	0.98	1.01	1.01	1.03	1.06	1.08	1.45			2.97	3.00	3.17	
wind	-0.2 m/s	velocity	5.60	9.05	9.33	9.33	9.33	9.05	9.05	8.87	8.62	8.46	9.67	8.44		9.23	9.14	8.65	

FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) *Omega Timing (2023) - diamond league race analysis*

date	28-May-23	time	2.35	3.36	4.34	5.33	6.32	7.34	8.36	9.40	10.45	11.52		13.12	6 / 2				
reaction time	0.177	interval	7 steps	1.01	0.98	0.99	0.99	1.02	1.02	1.04	1.05	1.07	1.60			2.98	3.03	3.16	
wind	-1.3 m/s	velocity	5.84	9.05	9.33	9.23	9.23	8.96	8.96	8.79	8.70	8.54	8.76	8.38		9.20	9.05	8.68	

FINAL - 2023 Adidas Atlanta City Games (Atlanta, GA) (street) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	05-May-23	time	2.50	3.48	4.48	5.48	6.45	7.45	8.47	9.50	10.53	11.60		13.01	3 / 1				

reaction time	0.181	interval	7 steps	0.98	1.00	1.00	0.97	1.00	1.02	1.03	1.03	1.07	1.41			2.98	2.99	3.13
wind	0.0 m/s	velocity	5.49	9.33	9.14	9.14	9.42	9.14	8.96	8.87	8.87	8.54	9.94	8.46		9.20	9.17	8.76

FINAL - 2022 Weltklasse (Zürich, SUI) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	08-Sep-22	time	2.44	3.44	4.41	5.37	6.34	7.34	8.34	9.38	10.44	11.51		13.02	6 / 1			
reaction time	0.140	interval	7 steps	1.00	0.97	0.96	0.97	1.00	1.00	1.04	1.06	1.07	1.51			2.93	2.97	3.17
wind	-1.0 m/s	velocity	5.62	9.14	9.42	9.52	9.42	9.14	9.14	8.79	8.62	8.54	9.28	8.45		9.36	9.23	8.65

FINAL - 2022 ISTAF (Berlin, GER) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	04-Sep-22	time	2.42	3.44	4.40	5.36	6.34	7.34	8.36	9.40	10.44	11.56		13.05	4 / 1			
reaction time	0.140	interval	7 steps	1.02	0.96	0.96	0.98	1.00	1.02	1.04	1.04	1.12	1.49			2.94	3.00	3.20
wind	0.6 m/s	velocity	5.67	8.96	9.52	9.52	9.33	9.14	8.96	8.79	8.79	8.16	9.41	8.43		9.33	9.14	8.57

FINAL - 2022 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	26-Aug-22	time	2.50	3.54	4.54	5.54	6.52	7.54	8.58	9.61	10.64	11.69		13.11	6 / 3			
reaction time	0.122	interval	7 steps	1.04	1.00	1.00	0.98	1.02	1.04	1.03	1.03	1.05	1.42			3.04	3.04	3.11
wind	0.0 m/s	velocity	5.49	8.79	9.14	9.14	9.33	8.96	8.79	8.87	8.87	8.70	9.87	8.39		9.02	9.02	8.82

FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	10-Aug-22	time	2.40	3.40	4.36	5.33	6.30	7.30	8.30	9.30	10.36	11.43		12.99	6 / 1			
reaction time	0.148	interval	7 steps	1.00	0.96	0.97	0.97	1.00	1.00	1.00	1.06	1.07	1.56			2.93	2.97	3.13
wind	0.6 m/s	velocity	5.72	9.14	9.52	9.42	9.42	9.14	9.14	9.14	8.62	8.54	8.99	8.47		9.36	9.23	8.76

FINAL - 2022 World Athletics Championships (Eugene, OR) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	17-Jul-22	time	2.44	3.43	4.41	5.38	6.38	7.38	8.38	9.38	10.44	11.54		13.03	4 / 1			
reaction time	0.124	interval	7 steps	0.99	0.98	0.97	1.00	1.00	1.00	1.00	1.06	1.10	1.49			2.94	3.00	3.16
wind	1.2 m/s	velocity	5.62	9.23	9.33	9.42	9.14	9.14	9.14	9.14	8.62	8.31	9.41	8.44		9.33	9.14	8.68

Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.43	3.40	4.40	5.37	6.37	7.37	8.37	9.40	10.43	11.48		13.01	6 / 1			
reaction time	0.128	interval	7 steps	0.97	1.00	0.97	1.00	1.00	1.00	1.03	1.03	1.05	1.53			2.94	3.00	3.11
wind	-0.6 m/s	velocity	5.65	9.42	9.14	9.42	9.14	9.14	9.14	8.87	8.87	8.70	9.16	8.46		9.33	9.14	8.82

Heat 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.43	3.46	4.46	5.43	6.43	7.43	8.46	9.50	10.53	11.63		13.14	1 / 1			
reaction time	0.147	interval	7 steps	1.03	1.00	0.97	1.00	1.00	1.03	1.04	1.03	1.10	1.51			3.00	3.03	3.17
wind	0.4 m/s	velocity	5.65	8.87	9.14	9.42	9.14	9.14	8.87	8.79	8.87	8.31	9.28	8.37		9.14	9.05	8.65

Semi-Final 1 - 2022 USATF National Championships (Eugene, OR) *USATF (2022) - Results powered by Karmarush.com*

date	26-Jun-22	time	2.41	3.41	4.38	5.35	6.34	7.36	8.36	9.40	10.45	11.53		13.03	4 / 1			
reaction time		interval	7 steps	1.00	0.97	0.97	0.99	1.02	1.00	1.04	1.05	1.08	1.50			2.94	3.01	3.17
wind	0.4 m/s	velocity	5.69	9.14	9.42	9.42	9.23	8.96	9.14	8.79	8.70	8.46	9.35	8.44		9.33	9.11	8.65

FINAL - 2022 New York Grand Prix (New York, NY) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	12-Jun-22	time	2.35	3.35	4.33	5.33	6.30	7.28	8.30	9.35	10.38	11.52		13.06	6 / 2			
reaction time	0.116	interval	7 steps	1.00	0.98	1.00	0.97	0.98	1.02	1.05	1.03	1.14	1.54			2.98	2.97	3.22
wind	1.6 m/s	velocity	5.84	9.14	9.33	9.14	9.42	9.33	8.96	8.70	8.87	8.02	9.10	8.42		9.20	9.23	8.52

FINAL - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.36	3.40	4.38	5.38	6.38							7.39	4 / 1			
reaction time	0.151	interval	7 steps	1.04	0.98	1.00	1.00						1.01			3.02		
		velocity	5.81	8.79	9.33	9.14	9.14						9.62	8.12		9.08		

Semi-Final 2 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.36	3.36	4.34	5.32	6.32							7.29	6 / 1			
reaction time	0.130	interval	7 steps	1.00	0.98	0.98	1.00						0.97	**=WR**		2.96		
		velocity	5.81	9.14	9.33	9.33	9.14						10.02	8.23		9.26		

Heat 5 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.50	3.50	4.48	5.46	6.48							7.40	3 / 1			
reaction time	0.140	interval	7 steps	1.00	0.98	0.98	1.02						0.92			2.96		
		velocity	5.49	9.14	9.33	9.33	8.96						10.57	8.11		9.26		

FINAL - 2022 Müller Indoor Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	19-Feb-22	time	2.37	3.38	4.39	5.39	6.39							7.41	3 / 1			
reaction time	0.149	interval	7 steps	1.01	1.01	1.00	1.00						1.02			3.02		
		velocity	5.79	9.05	9.05	9.14	9.14						9.53	8.10		9.08		

FINAL - 2022 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	17-Feb-22	time	2.39	3.40	4.38	5.36	6.36							7.35	4 / 1			
reaction time	0.167	interval	7 steps	1.01	0.98	0.98	1.00						0.99			2.97		
		velocity	5.74	9.05	9.33	9.33	9.14						9.82	8.16		9.23		

Heat 2 - 2022 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	17-Feb-22	time	2.35	3.38	4.37	5.37	6.38							7.40	4 / 1				
reaction time	0.153	interval	7 steps	1.03	0.99	1.00	1.01						1.02			3.02			
		velocity	5.84	8.87	9.23	9.14	9.05						9.53	8.11		9.08			

FINAL - 2022 New Balance Indoor Grand Prix (Staten Island, NY) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	06-Feb-22	time	2.45	3.44	4.45	5.44	6.42							7.37	3 / 1				
reaction time	0.181	interval	7 steps	0.99	1.01	0.99	0.98						0.95			2.99			
		velocity	5.60	9.23	9.05	9.23	9.33						10.23	8.14		9.17			

FINAL - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	06-Aug-21	time	2.40	3.40	4.40	5.40	6.40	7.38	8.40	9.44	10.50	11.58		13.09	4 / 2				
reaction time	0.136	interval	7 steps	1.00	1.00	1.00	1.00	0.98	1.02	1.04	1.06	1.08	1.51			3.00	3.00	3.18	
wind	-0.5 m/s	velocity	5.72	9.14	9.14	9.14	9.14	9.33	8.96	8.79	8.62	8.46	9.28	8.40		9.14	9.14	8.62	

Semi-Final 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.44	3.45	4.44	5.44	6.44	7.44	8.49	9.52	10.57	11.64		13.13	4 / 1				
reaction time	0.130	interval	7 steps	1.01	0.99	1.00	1.00	1.00	1.05	1.03	1.05	1.07	1.49			3.00	3.05	3.15	
wind	-0.1 m/s	velocity	5.62	9.05	9.23	9.14	9.14	9.14	8.70	8.87	8.70	8.54	9.41	8.38		9.14	8.99	8.70	

Heat 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.37	3.37	4.35	5.34	6.31	7.31	8.31	9.34	10.41	11.47		13.02	9 / 1				
reaction time	0.127	interval	7 steps	1.00	0.98	0.99	0.97	1.00	1.00	1.03	1.07	1.06	1.55			2.97	2.97	3.16	
wind	-0.1 m/s	velocity	5.79	9.14	9.33	9.23	9.42	9.14	9.14	8.87	8.54	8.62	9.05	8.45		9.23	9.23	8.68	

FINAL - 2021 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	06-Jul-21	time	2.36	3.37	4.37	5.35	6.34	7.34	8.36	9.40	10.47	11.56		13.08	4 / 1				
reaction time	0.145	interval	7 steps	1.01	1.00	0.98	0.99	1.00	1.02	1.04	1.07	1.09	1.52			2.99	3.01	3.20	
wind	-0.1 m/s	velocity	5.81	9.05	9.14	9.33	9.23	9.14	8.96	8.79	8.54	8.39	9.22	8.41		9.17	9.11	8.57	

FINAL - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.40	3.37	4.34	5.30	6.27	7.24	8.26	9.27	10.33	11.42		12.96	4 / 1				
reaction time	0.146	interval	7 steps	0.97	0.97	0.96	0.97	0.97	1.02	1.01	1.06	1.09	1.54			2.90	2.96	3.16	
wind	0.4 m/s	velocity	5.72	9.42	9.42	9.52	9.42	9.42	8.96	9.05	8.62	8.39	9.10	8.49		9.46	9.26	8.68	

Semi-Final 1 - 2020 USA Olympic Trials (Eugene, OR) *Vazel (2021) - https://twitter.com/pjvazel/status/1409323602432999426?s=21*

date	26-Jun-21	time	2.49	3.49	4.45	5.40	6.36	7.36	8.35	9.36	10.38	11.42		12.81	5 / 1				
reaction time	0.169	interval	7 steps	1.00	0.96	0.95	0.96	1.00	0.99	1.01	1.02	1.04	1.39	**PB**		2.91	2.95	3.07	
wind	1.8 m/s	velocity	5.51	9.14	9.52	9.62	9.52	9.14	9.23	9.05	8.96	8.79	10.09	8.59		9.42	9.29	8.93	

Heat 1 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	25-Jun-21	time	2.43	3.43	4.43	5.40	6.42	7.43	8.46	9.49	10.51	11.55		13.11	4 / 1				
reaction time	0.175	interval	7 steps	1.00	1.00	0.97	1.02	1.01	1.03	1.03	1.02	1.04	1.56			2.97	3.06	3.09	
wind	0.7 m/s	velocity	5.65	9.14	9.14	9.42	8.96	9.05	8.87	8.87	8.96	8.79	8.99	8.39		9.23	8.96	8.87	

FINAL - 2021 Tom Jones Invitational (Gainesville, FL) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	17-Apr-21	time	2.50	3.52	4.49	5.47	6.45	7.44	8.42	9.47	10.53	11.59		13.07	6 / 1				
reaction time		interval	7 steps	1.02	0.97	0.98	0.98	0.99	0.98	1.05	1.06	1.06	1.48			2.97	2.95	3.17	
wind	1.3 m/s	velocity	5.49	8.96	9.42	9.33	9.33	9.23	9.33	8.70	8.62	8.62	9.47	8.42		9.23	9.29	8.65	

FINAL - 2021 Villa de Madrid (Madrid, ESP) *Vazel (2021) - https://twitter.com/pjvazel/status/1364677209525485569*

date	24-Feb-21	time	2.48	3.47	4.46	5.45	6.44							7.29	6 / 1				
reaction time		interval	7 steps	0.99	0.99	0.99	0.99						0.85	**WR**		2.97			
		velocity	5.53	9.23	9.23	9.23	9.23						11.44	8.23		9.23			

Heat 1 - 2021 Villa de Madrid (Madrid, ESP) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Feb-21	time	2.36	3.36	4.34	5.34	6.33							7.32	5 / 1				
reaction time	0.164	interval	7 steps	1.00	0.98	1.00	0.99						0.99	**=AR**		2.98			
		velocity	5.81	9.14	9.33	9.14	9.23						9.82	8.20		9.20			

FINAL - 2021 Copernicus Cup (Toruń, POL) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	17-Feb-21	time	2.44	3.45	4.43	5.42	6.45							7.38	4 / 1				
reaction time	0.122	interval	7 steps	1.01	0.98	0.99	1.03						0.93			2.98			
		velocity	5.62	9.05	9.33	9.23	8.87						10.45	8.13		9.20			

FINAL - 2021 Meeting Elite en Salle de L'Eure (Val-de-Reuil, FRA) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	14-Feb-21	time	2.40	3.40	4.40	5.42	6.42							7.41	5 / 1				
reaction time	0.161	interval	7 steps	1.00	1.00	1.02	1.00						0.99			3.02			
		velocity	5.72	9.14	9.14	8.96	9.14						9.82	8.10		9.08			

Heat 1 - 2021 Meeting Elite en Salle de L'Eure (Val-de-Reuil, FRA) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	14-Feb-21	time	2.42	3.42	4.42	5.42	6.42							7.47	4 / 1				
reaction time	0.142	interval	7 steps	1.00	1.00	1.00	1.00						1.05			3.00			

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

		velocity	5.67	9.14	9.14	9.14	9.14							9.26	8.03			9.14			

FINAL - 2021 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) *Vazel (2021) - https://twitter.com/pjvazel/status/1359286403834724356*

date	09-Feb-21	time	2.50	3.49	4.48	5.47	6.45								7.32	5 / 1					
reaction time	0.150	interval	7 steps	0.99	0.99	0.99	0.98							0.87	AR			2.97			
		velocity	5.49	9.23	9.23	9.23	9.33							11.17	8.20			9.23			

Heat 2 - 2021 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	09-Feb-21	time	2.38	3.38	4.38	5.36	6.34								7.38	4 / 1					
reaction time	0.194	interval	7 steps	1.00	1.00	0.98	0.98							1.04				2.98			
		velocity	5.76	9.14	9.14	9.33	9.33							9.35	8.13			9.20			

FINAL - 2021 American Track League 1 (Fayetteville, AR) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Jan-21	time	2.42	3.43	4.43	5.42	6.39								7.35	4 / 1					
reaction time	0.174	interval	7 steps	1.01	1.00	0.99	0.97							0.96	=AR =PB			3.00			
		velocity	5.67	9.05	9.14	9.23	9.42							10.13	8.16			9.14			

FINAL - 2020 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	19-Aug-20	time	2.36	3.37	4.34	5.34	6.31	7.34	8.34	9.44	10.51	11.64			13.22	3 / 2					
reaction time	0.141	interval	7 steps	1.01	0.97	1.00	0.97	1.03	1.00	1.10	1.07	1.13		1.58				2.98	3.00	3.30	
wind	0.3 m/s	velocity	5.81	9.05	9.42	9.14	9.42	8.87	9.14	8.31	8.54	8.09		8.87	8.32			9.20	9.14	8.31	

FINAL - 2020 Herculis Meeting International d'Athletisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	14-Aug-20	time	2.50	3.50	4.50	5.50	6.50	7.50	8.54	9.57	10.64	11.74			13.19	3 / 4					
reaction time	0.163	interval	7 steps	1.00	1.00	1.00	1.00	1.00	1.04	1.03	1.07	1.10		1.45				3.00	3.04	3.20	
wind	0.8 m/s	velocity	5.49	9.14	9.14	9.14	9.14	9.14	8.79	8.87	8.54	8.31		9.67	8.34			9.14	9.02	8.57	

FINAL - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.46	3.46	4.44	5.41	6.41	7.40	8.42	9.44	10.50	11.60			13.10	6 / 1					
reaction time	0.158	interval	7 steps	1.00	0.98	0.97	1.00	0.99	1.02	1.02	1.06	1.10		1.50				2.95	3.01	3.18	
wind	0.6 m/s	velocity	5.58	9.14	9.33	9.42	9.14	9.23	8.96	8.96	8.62	8.31		9.35	8.40			9.29	9.11	8.62	

Semi-Final 1 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.50	3.50	4.46	5.43	6.40	7.39	8.40	9.42	10.48	11.62			13.10	5 / 1					
reaction time	0.166	interval	7 steps	1.00	0.96	0.97	0.97	0.99	1.01	1.02	1.06	1.14		1.48				2.93	2.97	3.22	
wind	1.1 m/s	velocity	5.49	9.14	9.52	9.42	9.42	9.23	9.05	8.96	8.62	8.02		9.47	8.40			9.36	9.23	8.52	

Heat 4 - 2019 IAAF World Championships (Doha, QAT) (TV Analysis) *Henson (2021) - Athlete First: 2019 year end hurdle report*

date	30-Sep-19	time	2.38	3.38	4.34	5.32	6.32	7.30	8.32	9.36	10.42	11.56			13.22	8 / 1					
reaction time	0.160	interval	7 steps	1.00	0.96	0.98	1.00	0.98	1.02	1.04	1.06	1.14		1.66				2.94	3.00	3.24	
wind	0.4 m/s	velocity	5.76	9.14	9.52	9.33	9.14	9.33	8.96	8.79	8.62	8.02		8.45	8.32			9.33	9.14	8.46	

FINAL - 2019 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	24-Aug-19	time	2.44	3.44	4.44	5.44	6.42	7.44	8.44	9.50	10.58	11.66			13.25	5 / 6					
reaction time	0.162	interval	7 steps	1.00	1.00	1.00	0.98	1.02	1.00	1.06	1.08	1.08		1.59				3.00	3.00	3.22	
wind	0.8 m/s	velocity	5.62	9.14	9.14	9.14	9.33	8.96	9.14	8.62	8.46	8.46		8.82	8.30			9.14	9.14	8.52	

FINAL - 2019 USATF National Championships (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	28-Jul-19	time	2.46	3.50	4.48	5.47	6.47	7.48	8.54	9.58	10.67	11.77			13.36	7 / 2					
reaction time		interval	7 steps	1.04	0.98	0.99	1.00	1.01	1.06	1.04	1.09	1.10		1.59				3.01	3.07	3.23	
wind	-0.8 m/s	velocity	5.58	8.79	9.33	9.23	9.14	9.05	8.62	8.79	8.39	8.31		8.82	8.23			9.11	8.93	8.49	

FINAL - 2019 NCAA National Championships (Austin, TX) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	07-Jun-19	time	2.47	3.47	4.47	5.44	6.41	7.40	8.40	9.43	10.47	11.54			12.98	5 / 1					
reaction time	0.180	interval	7 steps	1.00	1.00	0.97	0.97	0.99	1.00	1.03	1.04	1.07		1.44	PB			2.97	2.96	3.14	
wind	0.8 m/s	velocity	5.55	9.14	9.14	9.42	9.42	9.23	9.14	8.87	8.79	8.54		9.74	8.47			9.23	9.26	8.73	

Quarter-Final 1 - 2019 NCAA Championships - East Preliminary Round (Jacksonville, FL) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	25-May-19	time	2.36	3.36	4.36	5.36	6.36	7.36	8.38	9.40	10.44	11.50			13.10	6 / 1					
reaction time		interval	7 steps	1.00	1.00	1.00	1.00	1.00	1.02	1.02	1.04	1.06		1.60				3.00	3.02	3.12	
wind	1.3 m/s	velocity	5.81	9.14	9.14	9.14	9.14	9.14	8.96	8.96	8.79	8.62		8.76	8.40			9.14	9.08	8.79	

FINAL - 2019 South Eastern Conference Championships (Fayetteville, AR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	11-May-19	time	2.53	3.53	4.53	5.53	6.50	7.50	8.50	9.53	10.58	11.68			13.12	5 / 2					
reaction time		interval	7 steps	1.00	1.00	1.00	0.97	1.00	1.00	1.03	1.05	1.10		1.44				3.00	2.97	3.18	
wind	1.0 m/s	velocity	5.42	9.14	9.14	9.14	9.42	9.14	9.14	8.87	8.70	8.31		9.74	8.38			9.14	9.23	8.62	

FINAL - 2019 NCAA National Indoor Championships (Birmingham, AL) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	9-Mar-19	time	2.51	3.52	4.53	5.51	6.48								7.35	4 / 1					
reaction time	0.170	interval	7 steps	1.01	1.01	0.98	0.97							0.87	AR PB			3.00			
		velocity	5.47	9.05	9.05	9.33	9.42							11.17	8.16			9.14			

FINAL - 2019 South Eastern Conference Indoor Championships (Fayetteville, AR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	23-Feb-19	time	2.55	3.57	4.57	5.56	6.54							7.44	4 / 1			
reaction time		interval	7 steps	1.02	1.00	0.99	0.98					0.90				3.01		
		velocity	5.38	8.96	9.14	9.23	9.33					10.80	8.06			9.11		

FINAL - 2019 Tyson Indoor Invitaitional (Fayetteville, AR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	8-Feb-19	time	2.43	3.44	4.43	5.42	6.44							7.43	4 / 1			
reaction time		interval	7 steps	1.01	0.99	0.99	1.02					0.99				2.99		
		velocity	5.65	9.05	9.23	9.23	8.96					9.82	8.08			9.17		

FINAL - 2018 USATF Championships (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	24-Jun-18	time	2.43	3.44	4.46	5.48	6.50	7.52	8.57	9.65	10.74	11.88		13.46	5 / 2			
reaction time		interval	7 steps	1.01	1.02	1.02	1.02	1.02	1.05	1.08	1.09	1.14	1.58			3.05	3.09	3.31
wind	-1.8 m/s	velocity	5.65	9.05	8.96	8.96	8.96	8.96	8.70	8.46	8.39	8.02	8.87	8.17		8.99	8.87	8.28

FINAL - 2018 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	08-Jun-18	time	2.45	3.48	4.52	5.53	6.56	7.58	8.65	9.72	10.78	11.92		13.42	4 / 1			
reaction time		interval	7 steps	1.03	1.04	1.01	1.03	1.02	1.07	1.07	1.06	1.14	1.50			3.08	3.12	3.27
wind	-1.1 m/s	velocity	5.60	8.87	8.79	9.05	8.87	8.96	8.54	8.54	8.62	8.02	9.35	8.20		8.90	8.79	8.39

Holloway, Trey (USA) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 American Track League 1 (Fayetteville, AR) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Jan-21	time	2.57	3.76		5.97	7.03							8.10	1 / 7			
reaction time	0.166	interval	7 steps	1.19		2.21	1.06					1.07				3.40		
		velocity	5.34	7.68		8.27	8.62					9.08	7.41			8.06		

Holm, Jonatan (SWE) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL 2 - 2017 Windsprint (Sundsvall, SWE) *(2017) - www.windsprint/Splittider/*

date	30-Jul-17	time	2.69	3.79	4.89	5.98	7.07	8.19	9.28	10.38	11.64	12.91		14.49	/ 2			
reaction time		interval		1.10	1.10	1.09	1.09	1.12	1.09	1.10	1.26	1.27	1.58			3.29	3.30	3.63
wind	1.0 m/s	velocity	5.10	8.31	8.31	8.39	8.39	8.16	8.39	8.31	7.25	7.20	8.87	7.59		8.33	8.31	7.55

FINAL - 2017 Windsprint (Sundsvall, SWE) *(2017) - www.windsprint/Splittider/*

date	30-Jul-17	time	2.69	3.80	4.88	5.99	7.11	8.23	9.35	10.50	11.63	12.81		14.34	/ 2			
reaction time		interval		1.11	1.08	1.11	1.12	1.12	1.12	1.15	1.13	1.18	1.53			3.30	3.36	3.46
wind	1.0 m/s	velocity	5.10	8.23	8.46	8.23	8.16	8.16	8.16	7.95	8.09	7.75	9.16	7.67		8.31	8.16	7.92

Holek, Jakub (CZE) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.99	4.26	5.52	6.77	7.98	9.20	10.44	11.66	12.91	14.18		15.89	3 / 5			
reaction time	0.287	interval		1.27	1.26	1.25	1.21	1.22	1.24	1.22	1.25	1.27	1.71			3.78	3.67	3.74
wind	-1.6 m/s	velocity	4.59	7.20	7.25	7.31	7.55	7.49	7.37	7.49	7.31	7.20	8.20	6.92		7.25	7.47	7.33

Homola, Tomáš (CZE) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.68	3.80	4.90	5.99	7.10	8.20	9.30	10.43	11.56	12.73		14.28	4 / 1			
reaction time	0.147	interval		1.12	1.10	1.09	1.11	1.10	1.10	1.13	1.13	1.17	1.55			3.31	3.31	3.43
wind	-2.2 m/s	velocity	5.12	8.16	8.31	8.39	8.23	8.31	8.31	8.09	8.09	7.81	9.05	7.70		8.28	8.28	7.99

Heat 1 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.65	3.78	4.89	5.99	7.11	8.23	9.34	10.50	11.67	12.84		14.43	4 / 1			
reaction time	0.176	interval		1.13	1.11	1.10	1.12	1.12	1.11	1.16	1.17	1.17	1.59			3.34	3.35	3.50
wind	-1.6 m/s	velocity	5.18	8.09	8.23	8.31	8.16	8.16	8.23	7.88	7.83	7.79	8.82	7.62		8.21	8.19	7.83

Hon, Brandon (USA) (1979)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.74	3.85	4.95	6.06	7.14	8.22	9.32	10.46	11.64	12.90		14.49	7 / 8			
reaction time		interval		1.11	1.10	1.11	1.08	1.08	1.10	1.14	1.18	1.26	1.59			3.32	3.26	3.58
wind	-1.9 m/s	velocity	5.01	8.23	8.31	8.23	8.46	8.46	8.31	8.02	7.75	7.25	8.82	7.59		8.26	8.41	7.66

Hori, Shion (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2020 Shimane High School Championships (Izumo, JPN) *Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis*

date	11-Jul-20	time	2.73	3.92	5.10	6.27	7.47	8.68	9.92	11.18	12.50	13.80		15.47	4 / 1			
reaction time		interval		1.19	1.18	1.17	1.20	1.21	1.24	1.26	1.32	1.30	1.67			3.54	3.65	3.88
wind	-0.1 m/s	velocity	5.03	7.68	7.75	7.81	7.62	7.55	7.37	7.25	6.92	7.03	8.40	7.11		7.75	7.51	7.07

FINAL - 2019 Shimane High School Championships (Izumo, JPN) *Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*

date	26-May-19	time	2.80	3.99	5.25	6.50	7.72	8.97	10.27	11.56	12.89	14.24		15.90	2 / 5			
reaction time		interval		1.19	1.26	1.25	1.22	1.25	1.30	1.29	1.33	1.35	1.66			3.70	3.77	3.97
wind	2.3 m/s	velocity	4.90	7.68	7.25	7.31	7.49	7.31	7.03	7.09	6.87	6.77	8.45	6.92		7.41	7.27	6.91

Hough, Nicholas (AUS) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.63	3.70	4.73	5.76	6.76	7.80	8.83	9.86	10.90	11.96		13.42	1 / 7			

reaction time	0.131	interval	7 steps	1.07	1.03	1.03	1.00	1.04	1.03	1.03	1.04	1.06	1.46			3.13	3.07	3.13
wind	2.5 m/s	velocity	5.22	8.54	8.87	8.87	9.14	8.79	8.87	8.87	8.79	8.62	9.60	8.20		8.76	8.93	8.76

FINAL - 2022 Seiko Golden Grand Prix (Tokyo, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	08-May-22	time	2.66	3.77	4.82	5.85	6.87	7.89	8.90	9.94	10.98	12.05		13.49	9 / 3			
reaction time	0.155	interval	7 steps	1.11	1.05	1.03	1.02	1.02	1.01	1.04	1.04	1.07	1.44			3.19	3.05	3.15
wind	0.1 m/s	velocity	5.16	8.23	8.70	8.87	8.96	8.96	9.05	8.79	8.79	8.54	9.74	8.15		8.60	8.99	8.70

FINAL - 2022 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	01-May-22	time	2.70	3.76	4.80	5.82	6.86	7.90	8.92	9.95	11.00	12.05		13.50	3 / 1			
reaction time	0.168	interval	7 steps	1.06	1.04	1.02	1.04	1.04	1.02	1.03	1.05	1.05	1.45			3.12	3.10	3.13
wind	0.8 m/s	velocity	5.08	8.62	8.79	8.96	8.79	8.79	8.96	8.87	8.70	8.70	9.67	8.15		8.79	8.85	8.76

FINAL - 2022 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	29-Apr-22	time	2.69	3.79	4.85	5.91	6.95	8.00	9.05	10.08	11.14	12.23		13.73	1 / 2			
reaction time	0.154	interval	7 steps	1.10	1.06	1.06	1.04	1.05	1.05	1.03	1.06	1.09	1.50			3.22	3.14	3.18
wind	-1.5 m/s	velocity	5.10	8.31	8.62	8.62	8.79	8.70	8.70	8.87	8.62	8.39	9.35	8.01		8.52	8.73	8.62

Semi-Final 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.60	3.71	4.73	5.78	6.83	7.90	9.02	10.11	11.25	12.33		13.88	9 / 7			
reaction time	0.163	interval	7 steps	1.11	1.02	1.05	1.05	1.07	1.12	1.09	1.14	1.08	1.55			3.18	3.24	3.31
wind	0.3 m/s	velocity	5.28	8.23	8.96	8.70	8.70	8.54	8.16	8.39	8.02	8.46	9.05	7.93		8.62	8.46	8.28

Heat 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.61	3.65	4.68	5.73	6.73	7.75	8.81	9.91	10.97	12.04		13.57	3 / 3			
reaction time	0.162	interval	7 steps	1.04	1.03	1.05	1.00	1.02	1.06	1.10	1.06	1.07	1.53			3.12	3.08	3.23
wind	-0.1 m/s	velocity	5.26	8.79	8.87	8.70	9.14	8.96	8.62	8.31	8.62	8.54	9.16	8.11		8.79	8.90	8.49

Semi-Final 3 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.66	3.72	4.77	5.78	6.84	7.90	8.93	10.00	11.06	12.15		13.61	2 / 8			
reaction time	0.176	interval	7 steps	1.06	1.05	1.01	1.06	1.06	1.03	1.07	1.06	1.09	1.46			3.12	3.15	3.22
wind	0.6 m/s	velocity	5.16	8.62	8.70	9.05	8.62	8.62	8.87	8.54	8.62	8.39	9.60	8.08		8.79	8.70	8.52

FINAL - 2019 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	18-Aug-19	time	2.62	3.69	4.75	5.77	6.77	7.78	8.84	9.90	10.94	12.10		13.66	8 / 6			
reaction time	0.149	interval	7 steps	1.07	1.06	1.02	1.00	1.01	1.06	1.06	1.04	1.16	1.56			3.15	3.07	3.26
wind	-0.2 m/s	velocity	5.24	8.54	8.62	8.96	9.14	9.05	8.62	8.62	8.79	7.88	8.99	8.05		8.70	8.93	8.41

Hrelja, Max (SWE) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.63	3.70	4.80	5.85	6.88	7.93	9.00	10.03	11.07	12.15		13.60	8 / 6			
reaction time	0.162	interval	7 steps	1.07	1.10	1.05	1.03	1.05	1.07	1.03	1.04	1.08	1.45			3.22	3.15	3.15
wind	-0.2 m/s	velocity	5.22	8.54	8.31	8.70	8.87	8.70	8.54	8.87	8.79	8.46	9.67	8.09		8.52	8.70	8.70

Heat 5 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.63	3.71	4.74	5.76	6.78	7.81	8.86	9.91	10.95	12.05		13.42	7 / 4			
reaction time	0.138	interval	7 steps	1.08	1.03	1.02	1.02	1.03	1.05	1.05	1.04	1.10	1.37	PB		3.13	3.10	3.19
wind	-0.9 m/s	velocity	5.22	8.46	8.87	8.96	8.96	8.87	8.70	8.70	8.79	8.31	10.23	8.20		8.76	8.85	8.60

Hromek, Vít (CZE) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	3.01	4.25	5.55	6.84	8.09	9.37	10.65	11.90	13.15	14.48		16.31	3 / 7			
reaction time	0.356	interval		1.24	1.30	1.29	1.25	1.28	1.28	1.25	1.25	1.33	1.83			3.83	3.81	3.83
wind	-1.6 m/s	velocity	4.56	7.37	7.03	7.09	7.31	7.14	7.14	7.31	7.31	6.87	7.66	6.74		7.16	7.20	7.16

Hu Yufei (CHN) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	27-Jun-21	time	2.75	3.94	5.09	6.23	7.39	8.52	9.67	10.84	12.00	13.18		14.80	7 / 3			
reaction time	0.159	interval	7 steps	1.19	1.15	1.14	1.16	1.13	1.15	1.17	1.16	1.18	1.62			3.48	3.44	3.51
wind	-0.2 m/s	velocity	4.99	7.68	7.95	8.02	7.88	8.09	7.95	7.81	7.88	7.75	8.65	7.43		7.88	7.97	7.81

Decathlon - Heat 2 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	11-Jul-19	time	2.72	3.85	4.97	6.07	7.20	8.35	9.51	10.66	11.84	12.98		14.56	7 / 1			
reaction time	0.162	interval	7 steps	1.13	1.12	1.10	1.13	1.15	1.16	1.15	1.18	1.14	1.58			3.35	3.44	3.47
wind	-0.1 m/s	velocity	5.04	8.09	8.16	8.31	8.09	7.95	7.88	7.95	7.75	8.02	8.87	7.55		8.19	7.97	7.90

Hua Zihui (CHN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	27-Jun-21	time	2.78	3.97	5.17	6.37	7.59	8.82	10.04	11.29	12.53	13.82		15.45	8 / 4			
reaction time	0.164	interval		1.19	1.20	1.20	1.22	1.23	1.22	1.25	1.24	1.29	1.63			3.59	3.67	3.78
wind	-0.2 m/s	velocity	4.94	7.68	7.62	7.62	7.49	7.43	7.49	7.31	7.37	7.09	8.60	7.12		7.64	7.47	7.25

Decathlon - Heat 2 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.84	4.05	5.29	6.56	7.79	9.02	10.29	11.59	12.86	14.25		15.94	8 / 4				
reaction time	0.190	interval		1.21	1.24	1.27	1.23	1.23	1.27	1.30	1.27	1.39	1.69			3.72	3.73	3.96	
wind	?? m/s	velocity	4.83	7.55	7.37	7.20	7.43	7.43	7.20	7.03	7.20	6.58	8.30	6.90		7.37	7.35	6.92	

Huan Jiaxing (CHN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.69	3.82	4.95	6.09	7.22	8.34	9.48	10.64	11.80	12.96		14.54	9 / 8				
reaction time	0.172	interval		1.13	1.13	1.14	1.13	1.12	1.14	1.16	1.16	1.16	1.58			3.40	3.39	3.48	
wind	0.5 m/s	velocity	5.10	8.09	8.09	8.02	8.09	8.16	8.02	7.88	7.88	7.88	8.87	7.57		8.06	8.09	7.88	

FINAL - 2021 Yangtze River Delta Athletics Meeting (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	08-Apr-21	time	2.80	3.92	5.08	6.22	7.34	8.48	9.66	10.84	12.00	13.20		14.74	2 / 8				
reaction time		interval		1.12	1.16	1.14	1.12	1.14	1.18	1.18	1.16	1.20	1.54			3.42	3.44	3.54	
wind	-0.1 m/s	velocity	4.90	8.16	7.88	8.02	8.16	8.02	7.75	7.75	7.88	7.62	9.10	7.46		8.02	7.97	7.75	

U20 Heat 1 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.59	3.69	4.81	5.89	6.99	8.11	9.23	10.36	11.49	12.66		14.32	8 / 6				
reaction time	0.196	interval		1.10	1.12	1.08	1.10	1.12	1.12	1.13	1.13	1.17	1.66			3.30	3.34	3.43	
wind	0.5 m/s	velocity	5.30	8.31	8.16	8.46	8.31	8.16	8.16	8.09	8.09	7.81	8.45	7.68		8.31	8.21	7.99	

Hudec, Jiri (TCH) (1964)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 1988 Olympic Games (Seoul, KOR) *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.56	3.64	4.68	5.74	6.78	7.82	8.90	9.99	11.11	12.23		13.73	1 / 5				
reaction time	0.158	interval		1.08	1.04	1.06	1.04	1.04	1.08	1.09	1.12	1.12	1.50			3.18	3.16	3.33	
wind	-0.7 m/s	velocity	5.36	8.46	8.79	8.62	8.79	8.79	8.46	8.39	8.16	8.16	9.35	8.01		8.62	8.68	8.23	

Hudson, Matt (GBR) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2010 Windsprint (Sundsvall, SWE) *Blomkvist (2010) - www.sub13.se*

date	08-Aug-10	time	2.63	3.72	4.79	5.84	6.90	7.96	9.05	10.15	11.26	12.40		13.91	/ 4				
reaction time		interval		1.09	1.07	1.05	1.06	1.06	1.09	1.10	1.11	1.14	1.51			3.21	3.21	3.35	
wind	1.1 m/s	velocity	5.22	8.39	8.54	8.70	8.62	8.62	8.39	8.31	8.23	8.02	9.28	7.91		8.54	8.54	8.19	

Hughes, Robby (USA) (1978)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.60	3.75	4.85	5.94	7.02	8.09	9.19	10.28	11.38	12.50		13.96	6 / 4				
reaction time		interval		1.15	1.10	1.09	1.08	1.07	1.10	1.09	1.10	1.12	1.46			3.34	3.25	3.31	
wind	-3.2 m/s	velocity	5.28	7.95	8.31	8.39	8.46	8.54	8.31	8.39	8.31	8.16	9.60	7.88		8.21	8.44	8.28	

FINAL - 2006 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2006)*

date	25-Jun-06	time	2.62	3.64	4.66	5.71	6.69	7.74	8.78	9.81	10.86	11.93		13.30	/ 4				
reaction time		interval		1.02	1.02	1.05	0.98	1.05	1.04	1.03	1.05	1.07	1.37			3.09	3.07	3.15	
wind	-0.4 m/s	velocity	5.24	8.96	8.96	8.70	9.33	8.70	8.79	8.87	8.70	8.54	10.23	8.27		8.87	8.93	8.70	

Hunčovsky, Ondrej (CZE) (1990)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2012 Czech Republic National Indoor Championships (Praha, CZE) *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

date	25-Feb-12	time	2.80	4.01	5.22	6.42	7.62							8.67	7 / 5				
reaction time	0.141	interval		1.21	1.21	1.20	1.20						1.05			3.62			
		velocity	4.90	7.55	7.55	7.62	7.62						9.26	6.92		7.57			

Hunt, Riley (USA) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.67	3.76	4.83	5.90	6.97	8.03	9.16	10.23	11.36	12.48		13.98	4 / 9				
reaction time		interval		1.09	1.07	1.07	1.07	1.06	1.13	1.07	1.13	1.12	1.50			3.23	3.26	3.32	
wind	-0.3 m/s	velocity	5.14	8.39	8.54	8.54	8.54	8.62	8.09	8.54	8.09	8.16	9.35	7.87		8.49	8.41	8.26	

Hunter, Myles (USA) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.56	3.65	4.70	5.72	6.73	7.75	8.78	9.80	10.83	11.88		13.33	6 / 2				
reaction time		interval		1.09	1.05	1.02	1.01	1.02	1.03	1.02	1.03	1.05	1.45	PB		3.16	3.06	3.10	
wind	0.8 m/s	velocity	5.36	8.39	8.70	8.96	9.05	8.96	8.87	8.96	8.87	8.70	9.67	8.25		8.68	8.96	8.85	

FINAL - 2024 Atlanta City Cames (Atlanta, GA) (Street Race) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	18-May-24	time	2.55	3.64	4.71	5.75	6.80	7.84	8.88	9.92	10.96	12.05		13.60	5 / 5				
reaction time		interval		1.09	1.07	1.04	1.05	1.04	1.04	1.04	1.04	1.09	1.55			3.20	3.13	3.17	
wind	-0.7 m/s	velocity	5.38	8.39	8.54	8.79	8.70	8.79	8.79	8.79	8.79	8.39	9.05	8.09		8.57	8.76	8.65	

Ida, Masayuki (JPN) (1987)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2009 Japanese National Championships (Hiroshima, JPN) *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*

date	27-Jun-09	time	2.68	3.77	4.87	5.95	7.03	8.09	9.17	10.25	11.33	12.44		13.86	2 / 5				
reaction time		interval		1.09	1.10	1.08	1.08	1.06	1.08	1.08	1.08	1.11	1.42			3.27	3.22	3.27	
wind	1.6 m/s	velocity	5.12	8.39	8.31	8.46	8.46	8.62	8.46	8.46	8.46	8.23	9.87	7.94		8.39	8.52	8.39	

Igarashi, Rai (JPN) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2017 Mito Invitational (Mito, JPN) *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.76	3.91	5.06	6.23	7.38	8.54	9.70	10.86	12.05	13.24		14.84	3 / 6			
reaction time		interval		1.15	1.15	1.17	1.15	1.16	1.16	1.16	1.19	1.19	1.60			3.47	3.47	3.54
wind	0.3 m/s	velocity	4.97	7.95	7.95	7.81	7.95	7.88	7.88	7.88	7.68	7.68	8.76	7.41		7.90	7.90	7.75

FINAL - 2015 Japanese National High School Championships (Wakayama, JPN) (99cm) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	02-Aug-15	time	2.67	3.81	4.91	6.04	7.15	8.29	9.41	10.56	11.71	12.87		14.36	2 / 4			
reaction time		interval		1.14	1.10	1.13	1.11	1.14	1.12	1.15	1.15	1.16	1.49	PB		3.37	3.37	3.46
wind	1.4 m/s	velocity	5.14	8.02	8.31	8.09	8.23	8.02	8.16	7.95	7.95	7.88	9.41	7.66		8.14	8.14	7.92

Iizuka, Kaisei (JPN) (2001)

FINAL - 2018 Japanese National High School Championships (Nagoya, JPN) (99cm) *Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 06-Aug-18	time	2.71	3.82	4.94	6.03	7.13	8.21	9.31	10.42	11.52	12.62		14.12	5 / 2			
reaction time	interval		1.11	1.12	1.09	1.10	1.08	1.10	1.11	1.10	1.10	1.50	PB		3.32	3.28	3.31
wind 1.6 m/s	velocity	5.06	8.23	8.16	8.39	8.31	8.46	8.31	8.23	8.31	8.31	9.35	7.79		8.26	8.36	8.28

Ikeda, Daisuke (JPN) (1986)

Decathlon - Heat 2 - 2009 Japanese National Championships (Hiroshima, JPN) *Hisashi (2010) - the run performance analysis in the decathlon sprint events*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 26-Jun-09	time	2.50	3.64	4.79	5.91	7.04	8.18	9.32	10.48	11.64	12.82		14.53	4 / 1			
reaction time	interval		1.14	1.15	1.12	1.13	1.14	1.14	1.16	1.16	1.18	1.71			3.41	3.41	3.50
wind 1.6 m/s	velocity	5.49	8.02	7.95	8.16	8.09	8.02	8.02	7.88	7.88	7.75	8.20	7.57		8.04	8.04	7.83

Ikeda, Kai (JPN) (2002)

FINAL - 2023 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 07-May-23	time	2.67	3.89	5.05	6.15	7.25	8.33	9.43	10.53	11.62	12.74		14.23	8 / 8			
reaction time 0.164	interval	7 steps	1.22	1.16	1.10	1.10	1.08	1.10	1.10	1.09	1.12	1.49			3.48	3.28	3.31
wind -0.3 m/s	velocity	5.14	7.49	7.88	8.31	8.31	8.46	8.31	8.31	8.39	8.16	9.41	7.73		7.88	8.36	8.28

FINAL - 2021 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	01-Jun-21	time	2.76	3.88	4.95	6.03	7.10	8.16	9.24	10.32	11.39	12.50		13.97	4 / 6			
reaction time	0.185	interval	7 steps	1.12	1.07	1.08	1.07	1.06	1.08	1.08	1.07	1.11	1.47			3.27	3.21	3.26
wind	0.3 m/s	velocity	4.97	8.16	8.54	8.46	8.54	8.62	8.46	8.46	8.54	8.23	9.54	7.87		8.39	8.54	8.41

Imai, Junpei (JPN) (1998)

FINAL - 2016 Niigata Perfecture High School Meeting (Niigata, JPN) *(2016.05.30) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 29-May-16	time	2.69	3.82	4.94	6.07	7.19	8.32	9.46	10.60	11.76	12.90		14.43	/ 2			
reaction time	interval		1.13	1.12	1.13	1.12	1.13	1.14	1.14	1.16	1.14	1.53			3.38	3.39	3.44
wind -0.6 m/s	velocity	5.10	8.09	8.16	8.09	8.16	8.09	8.02	8.02	7.88	8.02	9.16	7.62		8.11	8.09	7.97

Imai, Rikkoshi (JPN)

Heat 5 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.08) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 21-Oct-16	time	2.66	3.79	4.91	6.02	7.16	8.28	9.42	10.56	11.76	12.93		14.43	7 / 3			
reaction time	interval		1.13	1.12	1.11	1.14	1.12	1.14	1.14	1.20	1.17	1.50			3.36	3.40	3.51
wind 1.3 m/s	velocity	5.16	8.09	8.16	8.23	8.02	8.16	8.02	8.02	7.62	7.81	9.35	7.62		8.16	8.06	7.81

Imanishi, Ryota (JPN) (2004)

FINAL - 2022 Japanese National High School Championships (Naruto, JPN) *Kishima (2022) - national high school championships biomechanics data collection*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 07-Aug-22	time	2.74	3.91	5.08	6.21	7.39	8.57	9.77	10.98	12.17	13.36		14.86	9 / 3			
reaction time 0.144	interval		1.17	1.17	1.13	1.18	1.18	1.20	1.21	1.19	1.19	1.50			3.47	3.56	3.59
wind -3.8 m/s	velocity	5.01	7.81	7.81	8.09	7.75	7.75	7.62	7.55	7.68	7.68	9.35	7.40		7.90	7.70	7.64

FINAL - 2021 Japanese High School National Championships (Fukui, JPN) *Shibayama (2021) - national high school and U20 national championhsips*

date	01-Aug-21	time	2.74	3.87	4.97	6.07	7.16	8.28	9.39	10.50	11.63	12.76		14.22	8 / 6			
reaction time	0.187	interval		1.13	1.10	1.10	1.09	1.12	1.11	1.11	1.13	1.13	1.46	PB		3.33	3.32	3.37
wind	1.4 m/s	velocity	5.01	8.09	8.31	8.31	8.39	8.16	8.23	8.23	8.09	8.09	9.60	7.74		8.23	8.26	8.14

Inocêncio, Mateus (BRA) (1981)

FINAL - 2010 Folksam GP (Sollentuna, SWE) *Blomkvist (2010) - www.sub13.se*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 01-Jul-10	time	2.53	3.62	4.69	5.73	6.78	7.85	8.93	10.03	11.14	12.28		13.94	2 / 5			
reaction time	interval		1.09	1.07	1.04	1.05	1.07	1.08	1.10	1.11	1.14	1.66			3.20	3.20	3.35
wind 0.4 m/s	velocity	5.42	8.39	8.54	8.79	8.70	8.54	8.46	8.31	8.23	8.02	8.45	7.89		8.57	8.57	8.19

FINAL - 2004 Olympic Games (Athens, GRE) *Ruiz (2004) - las carreras con vallas de juegos olimpicos de atenas '04*

date	27-Aug-04	time	2.50	3.58	4.63	5.67	6.69	7.72	8.75	9.81	10.89	11.95		13.49	7 / 7			
reaction time	0.169	interval		1.08	1.05	1.04	1.02	1.03	1.03	1.06	1.08	1.06	1.54			3.17	3.08	3.20
wind	0.3 m/s	velocity	5.49	8.46	8.70	8.79	8.96	8.87	8.87	8.62	8.46	8.62	9.10	8.15		8.65	8.90	8.57

Inoue, Tetsuya (JPN)

FINAL - 2023 Shimane High School Championships (Izumo, JPN) *Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 28-May-23	time	3.15	4.62	6.03	7.40	8.82	10.23	11.62	13.07	14.45	15.92		17.74	1 / 7			
reaction time	interval		1.47	1.41	1.37	1.42	1.41	1.39	1.45	1.38	1.47	1.82			4.25	4.22	4.30
wind -0.1 m/s	velocity	4.36	6.22	6.48	6.67	6.44	6.48	6.58	6.30	6.62	6.22	7.70	6.20		6.45	6.50	6.38

Inui, Daisuke (JPN) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
B FINAL - 2019 Mikio Oda Memorial (Hiroshima, JPN)													*Kobayashi (2019) - research on athlete performance and technique- 2019 data book*			
date 28-Apr-19	time	2.69	3.83	4.92	6.02	7.13	8.27	9.41	10.56	11.71	12.91		14.47	7 / 7			
reaction time	interval		1.14	1.09	1.10	1.11	1.14	1.14	1.15	1.15	1.20	1.56			3.33	3.39	3.50
wind 1.4 m/s	velocity	5.10	8.02	8.39	8.31	8.23	8.02	8.02	7.95	7.95	7.62	8.99	7.60		8.23	8.09	7.83

Iribarne, Roger (CUB) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2023 Kamila Skolimowska Memorial (Silesia, POL)													*Omega Timing (2023) - diamond league race analysis*			
date 16-Jul-23	time	2.37	3.42	4.45	5.46	6.47	7.49	8.52	9.56	10.61	11.68		13.25	4 / 1			
reaction time 0.147	interval	7 steps	1.05	1.03	1.01	1.01	1.02	1.03	1.04	1.05	1.07	1.57			3.09	3.06	3.16
wind 0.3 m/s	velocity	5.79	8.70	8.87	9.05	9.05	8.96	8.87	8.79	8.70	8.54	8.93	8.30		8.87	8.96	8.68
Heat 1 - 2023 Kamila Skolimowska Memorial (Silesia, POL)													*Omega Timing (2023) - diamond league race analysis*			
date 16-Jul-23	time	2.40	3.45	4.47	5.48	6.48	7.49	8.52	9.55	10.59	11.66		13.21	2 / 1			
reaction time 0.157	interval	7 steps	1.05	1.02	1.01	1.00	1.01	1.03	1.03	1.04	1.07	1.55	PB		3.08	3.04	3.14
wind 0.3 m/s	velocity	5.72	8.70	8.96	9.05	9.14	9.05	8.87	8.87	8.79	8.54	9.05	8.33		8.90	9.02	8.73
Heat 1 - 2023 Meeting de Paris (Paris, FRA)													*Omega Timing (2023) - diamond league race analysis*			
date 09-Jun-23	time	2.37	3.44	4.47	5.50	6.53	7.58	8.62	9.68	10.75	11.84		13.44	7 / 5			
reaction time 0.152	interval	7 steps	1.07	1.03	1.03	1.03	1.05	1.04	1.06	1.07	1.09	1.60			3.13	3.12	3.22
wind -2.0 m/s	velocity	5.79	8.54	8.87	8.87	8.87	8.70	8.79	8.62	8.54	8.39	8.76	8.18		8.76	8.79	8.52
FINAL - 2023 Seiko Golden Grand Prix (Yokohama, JPN)													*Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*			
date 21-May-23	time	2.53	3.57	4.60	5.60	6.62	7.64	8.68	9.76	10.84	11.93		13.37	4 / 4			
reaction time 0.151	interval	7 steps	1.04	1.03	1.00	1.02	1.02	1.04	1.08	1.08	1.09	1.44			3.07	3.08	3.25
wind 0.8 m/s	velocity	5.42	8.79	8.87	9.14	8.96	8.96	8.79	8.46	8.46	8.39	9.74	8.23		8.93	8.90	8.44
FINAL - 2018 IAAF World Indoor Championships (Birmingham, GBR)													*Walker (2019). Biomechanical Report for the IAAF World Indoor Championships 2018: 60 Metres Hurdles Men*			
date 04-Mar-18	time	2.52	3.58	4.68	5.77	6.83							7.77	8 / 7			
reaction time 0.172	interval	7 steps	1.06	1.10	1.09	1.06						0.94			3.25		
	velocity	5.44	8.62	8.31	8.39	8.62						10.34	7.72		8.44		
Semi-Final 2 - 2017 IAAF World Championships (London, GBR)													*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*			
date 06-Aug-17	time	2.39	3.44	4.46	5.49	6.51	7.58	8.62	9.67	10.73	11.83		13.43	3 / 6			
reaction time 0.175	interval	7 steps	1.05	1.02	1.03	1.02	1.07	1.04	1.05	1.06	1.10	1.60			3.10	3.13	3.21
wind 0.6 m/s	velocity	5.74	8.70	8.96	8.87	8.96	8.54	8.79	8.70	8.62	8.31	8.76	8.19		8.85	8.76	8.54

Irie, Yukito (JPN) (1983)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2009 Nambu Chuhei Memorial (Sapporo, JPN)													*Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*			
date 09-Jul-09	time	2.44	3.54	4.65	5.74	6.82	7.91	9.01	10.11	11.22	12.33		13.98	/ 6			
reaction time	interval		1.10	1.11	1.09	1.08	1.09	1.10	1.10	1.11	1.11	1.65			3.30	3.27	3.32
wind 1.2 m/s	velocity	5.62	8.31	8.23	8.39	8.46	8.39	8.31	8.31	8.23	8.23	8.50	7.87		8.31	8.39	8.26
FINAL - 2009 Mikio Oda Memorial (Hiroshima, JPN)													*Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*			
date 29-Apr-09	time	2.63	3.72	4.75	5.83	6.91	7.96	9.05	10.14	11.25	12.37		13.79	/ 6			
reaction time	interval		1.09	1.03	1.08	1.08	1.05	1.09	1.09	1.11	1.12	1.42	PB		3.20	3.22	3.32
wind 1.9 m/s	velocity	5.22	8.39	8.87	8.46	8.46	8.70	8.39	8.39	8.23	8.16	9.87	7.98		8.57	8.52	8.26

Ishida Thomas, Higashi (JPN) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2024 Michitaka Kinami Memorial (Osaka, JPN)													*Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*			
date 12-May-24	time	2.60	3.64	4.67	5.71	6.75	7.78	8.82	9.88	10.97	12.08		13.55	3 / 3			
reaction time 0.188	interval		1.04	1.03	1.04	1.04	1.03	1.04	1.06	1.09	1.11	1.47			3.11	3.11	3.26
wind 0.9 m/s	velocity	5.28	8.79	8.87	8.79	8.79	8.87	8.79	8.62	8.39	8.23	9.54	8.12		8.82	8.82	8.41
B FINAL - 2024 Mikio Oda Memorial (Hiroshima, JPN)													*Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*			
date 29-Apr-24	time	2.67	3.73	4.81	5.90	7.02	8.13	9.25	10.38	11.50	12.68		14.18	3 / 7			
reaction time 0.167	interval	7 steps	1.06	1.08	1.09	1.12	1.11	1.12	1.13	1.12	1.18	1.50			3.23	3.35	3.43
wind -0.7 m/s	velocity	5.14	8.62	8.46	8.39	8.16	8.23	8.16	8.09	8.16	7.75	9.35	7.76		8.49	8.19	7.99
FINAL - 2023 Fuse Sprint (Tottori, JPN)													*Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*			
date 25-Jun-23	time	2.60	3.65	4.69	5.73	6.78	7.84	8.89	9.95	11.05	12.17		13.64	6 / 4			
reaction time 0.152	interval	7 steps	1.05	1.04	1.04	1.05	1.06	1.05	1.06	1.10	1.12	1.47			3.13	3.16	3.28
wind 1.1 m/s	velocity	5.28	8.70	8.79	8.79	8.70	8.62	8.70	8.62	8.31	8.16	9.54	8.06		8.76	8.68	8.36
FINAL - 2023 Seiko Golden Grand Prix (Yokohama, JPN)													*Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*			
date 21-May-23	time	2.60	3.65	4.68	5.70	6.73	7.76	8.81	9.86	10.93	12.02		13.42	3 / 5			
reaction time 0.136	interval	7 steps	1.05	1.03	1.02	1.03	1.03	1.05	1.05	1.07	1.09	1.40	PB		3.10	3.11	3.21
wind 0.8 m/s	velocity	5.28	8.70	8.87	8.96	8.87	8.87	8.70	8.70	8.54	8.39	10.01	8.20		8.85	8.82	8.54
FINAL - 2023 Michitaka Kinami Memorial (Osaka, JPN)													*Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*			
date 07-May-23	time	2.59	3.63	4.67	5.69	6.72	7.75	8.81	9.86	10.94	12.02		13.46	2 / 3			
reaction time 0.142	interval	7 steps	1.04	1.04	1.02	1.03	1.03	1.06	1.05	1.08	1.08	1.44			3.10	3.12	3.21
wind -0.3 m/s	velocity	5.30	8.79	8.79	8.96	8.87	8.87	8.62	8.70	8.46	8.46	9.74	8.17		8.85	8.79	8.54

FINAL - 2023 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	29-Apr-23	time	2.59	3.64	4.70	5.73	6.79	7.84	8.92	9.97	11.07	12.17		13.62	3 / 5			
reaction time	0.146	interval	7 steps	1.05	1.06	1.03	1.06	1.05	1.08	1.05	1.10	1.10	1.45			3.14	3.19	3.25
wind	0.3 m/s	velocity	5.30	8.70	8.62	8.87	8.62	8.70	8.46	8.70	8.31	8.31	9.67	8.08		8.73	8.60	8.44

FINAL - 2022 Japanese National Championsips (Osaka, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	12-Jun-22	time	2.55	3.65	4.68	5.71	6.75	7.81	8.89	9.97	11.09	12.20		13.68	8 / 7			
reaction time	0.147	interval	7 steps	1.10	1.03	1.03	1.04	1.06	1.08	1.08	1.12	1.11	1.48			3.16	3.18	3.31
wind	-1.2 m/s	velocity	5.38	8.31	8.87	8.87	8.79	8.62	8.46	8.46	8.16	8.23	9.47	8.04		8.68	8.62	8.28

B FINAL - 2022 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	29-Apr-22	time	2.65	3.73	4.79	5.85	6.90	7.98	9.06	10.16	11.26	12.39		13.87	5 / 2			
reaction time	0.153	interval	7 steps	1.08	1.06	1.06	1.05	1.08	1.08	1.10	1.10	1.13	1.48			3.20	3.21	3.33
wind	-0.7 m/s	velocity	5.18	8.46	8.62	8.62	8.70	8.46	8.46	8.31	8.31	8.09	9.47	7.93		8.57	8.54	8.23

FINAL - 2021 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	01-Jun-21	time	2.70	3.78	4.85	5.92	6.98	8.05	9.13	10.22	11.32	12.43		13.87	2 / 5			
reaction time	0.208	interval	7 steps	1.08	1.07	1.07	1.06	1.07	1.08	1.09	1.10	1.11	1.44			3.22	3.21	3.30
wind	0.3 m/s	velocity	5.08	8.46	8.54	8.54	8.62	8.54	8.46	8.39	8.31	8.23	9.74	7.93		8.52	8.54	8.31

FINAL - 2020 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	24-Oct-20	time	2.62	3.71	4.76	5.83	6.89	7.95	9.01	10.14	11.24	12.38		13.90	9 / 7			
reaction time		interval	7 steps	1.09	1.05	1.07	1.06	1.06	1.06	1.13	1.10	1.14	1.52			3.21	3.18	3.37
wind	0.6 m/s	velocity	5.24	8.39	8.70	8.54	8.62	8.62	8.62	8.09	8.31	8.02	9.22	7.91		8.54	8.62	8.14

FINAL - 2020 Japanese National Championships (Niigata, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	03-Oct-20	time	2.64	3.71	4.75	5.79	6.83	7.88	8.94	10.00	11.08	12.21		13.67	9 / 6			
reaction time	0.153	interval	7 steps	1.07	1.04	1.04	1.04	1.05	1.06	1.06	1.08	1.13	1.46			3.15	3.15	3.27
wind	-0.1 m/s	velocity	5.20	8.54	8.79	8.79	8.79	8.70	8.62	8.62	8.46	8.09	9.60	8.05		8.70	8.70	8.39

Heat 2 - 2020 Japanese National Championships (Niigata, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	02-Oct-20	time	2.62	3.68	4.72	5.75	6.81	7.86	8.92	10.00	11.06	12.17		13.61	7 / 3			
reaction time	0.151	interval	7 steps	1.06	1.04	1.03	1.06	1.05	1.06	1.08	1.06	1.11	1.44			3.13	3.17	3.25
wind	0.4 m/s	velocity	5.24	8.62	8.79	8.87	8.62	8.70	8.62	8.46	8.62	8.23	9.74	8.08		8.76	8.65	8.44

FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	23-Aug-20	time	2.70	3.79	4.86	5.93	7.01	8.11	9.23	10.34	11.46	12.61		14.09	7 / 6			
reaction time	0.146	interval	7 steps	1.09	1.07	1.07	1.08	1.10	1.12	1.11	1.12	1.15	1.48			3.23	3.30	3.38
wind	-0.4 m/s	velocity	5.08	8.39	8.54	8.54	8.46	8.31	8.16	8.23	8.16	7.95	9.47	7.81		8.49	8.31	8.11

Ishikawa, Shuhei (JPN) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Japanese National Championsips (Niigata, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	30-Jun-24	time	2.55	3.60	4.63	5.67	6.71	7.74	8.79	9.85	10.92	12.02		13.47	3 / 6			
reaction time	0.132	interval	7 steps	1.05	1.03	1.04	1.04	1.03	1.05	1.06	1.07	1.10	1.45			3.12	3.12	3.23
wind	0.2 m/s	velocity	5.38	8.70	8.87	8.79	8.79	8.87	8.70	8.62	8.54	8.31	9.67	8.17		8.79	8.79	8.49

FINAL - 2024 Fuse Sprint (Tottori, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	02-Jun-24	time	2.57	3.63	4.66	5.69	6.73	7.78	8.83	9.89	10.96	12.05		13.48	3 / 4			
reaction time	0.138	interval	7 steps	1.06	1.03	1.03	1.04	1.05	1.05	1.06	1.07	1.09	1.43			3.12	3.14	3.22
wind	1.3 m/s	velocity	5.34	8.62	8.87	8.87	8.79	8.70	8.70	8.62	8.54	8.39	9.80	8.16		8.79	8.73	8.52

FINAL - 2024 Seiko Golden Grand Prix (Tokyo, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	19-May-24	time	2.62	3.68	4.74	5.80	6.87	7.92	8.99	10.06	11.16	12.26		13.71	3 / 8			
reaction time	0.169	interval	7 steps	1.06	1.06	1.06	1.07	1.05	1.07	1.07	1.10	1.10	1.45			3.18	3.19	3.27
wind	-0.6 m/s	velocity	5.24	8.62	8.62	8.62	8.54	8.70	8.54	8.54	8.31	8.31	9.67	8.02		8.62	8.60	8.39

FINAL - 2024 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	12-May-24	time	2.62	3.68	4.73	5.78	6.83	7.88	8.95	10.03	11.10	12.21		13.69	8 / 6			
reaction time	0.161	interval		1.06	1.05	1.05	1.05	1.05	1.07	1.08	1.07	1.11	1.48			3.16	3.17	3.26
wind	0.9 m/s	velocity	5.24	8.62	8.70	8.70	8.70	8.70	8.54	8.46	8.54	8.23	9.47	8.04		8.68	8.65	8.41

FINAL - 2024 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	29-Apr-24	time	2.63	3.71	4.75	5.80	6.85	7.90	8.95	10.03	11.09	12.18		13.62	7 / 4			
reaction time	0.177	interval	7 steps	1.08	1.04	1.05	1.05	1.05	1.05	1.08	1.06	1.09	1.44			3.17	3.15	3.23
wind	-0.6 m/s	velocity	4.94	7.87	8.17	8.10	8.10	8.10	8.10	7.87	8.02	7.80	9.74	8.08		8.65	8.70	8.49

Heat 2 - 2023 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2023) - diamond league race analysis*

date	16-Jul-23	time	2.41	3.48	4.53	5.58	6.62	7.67	8.74	9.82	10.91	12.00		13.64	2 / 8			
reaction time	0.133	interval	7 steps	1.07	1.05	1.05	1.04	1.05	1.07	1.08	1.09	1.09	1.64			3.17	3.16	3.26
wind	-0.2 m/s	velocity	5.69	8.54	8.70	8.70	8.79	8.70	8.54	8.46	8.39	8.39	8.55	8.06		8.65	8.68	8.41

FINAL - 2023 Japanese National Championsips (Osaka, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	04-Jun-23	time	2.60	3.66	4.69	5.73	6.77	7.81	8.85	9.90	10.99	12.10		13.60	6 / 4				
reaction time	0.172	interval	7 steps	1.06	1.03	1.04	1.04	1.04	1.04	1.05	1.09	1.11	1.50			3.13	3.12	3.25	
wind	-0.9 m/s	velocity	5.28	8.62	8.87	8.79	8.79	8.79	8.79	8.70	8.39	8.23	9.35	8.09		8.76	8.79	8.44	

FINAL - 2023 Seiko Golden Grand Prix (Yokohama, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	21-May-23	time	2.56	3.61	4.63	5.65	6.68	7.72	8.75	9.80	10.86	11.95		13.36	7 / 3				
reaction time	0.129	interval	7 steps	1.05	1.02	1.02	1.03	1.04	1.03	1.05	1.06	1.09	1.41	PB		3.09	3.10	3.20	
wind	0.8 m/s	velocity	5.36	8.70	8.96	8.96	8.87	8.79	8.87	8.70	8.62	8.39	9.94	8.23		8.87	8.85	8.57	

FINAL - 2023 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	07-May-23	time	2.58	3.63	4.67	5.70	6.73	7.77	8.81	9.85	10.91	11.99		13.44	7 / 2				
reaction time	0.149	interval	7 steps	1.05	1.04	1.03	1.03	1.04	1.04	1.04	1.06	1.08	1.45			3.12	3.11	3.18	
wind	-0.3 m/s	velocity	5.32	8.70	8.79	8.87	8.87	8.79	8.79	8.79	8.62	8.46	9.67	8.18		8.79	8.82	8.62	

FINAL - 2023 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	29-Apr-23	time	2.60	3.64	4.68	5.71	6.73	7.78	8.81	9.85	10.92	11.98		13.43	5 / 1				
reaction time	0.168	interval	7 steps	1.04	1.04	1.03	1.02	1.05	1.03	1.04	1.07	1.06	1.45			3.11	3.10	3.17	
wind	0.3 m/s	velocity	5.28	8.79	8.79	8.87	8.96	8.70	8.87	8.79	8.54	8.62	9.67	8.19		8.82	8.85	8.65	

Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	17-Jul-22	time	2.63	3.70	4.78	5.85	6.90	7.95	9.02	10.07	11.14	12.25		13.68	1 / 8				
reaction time	0.144	interval	7 steps	1.07	1.08	1.07	1.05	1.05	1.07	1.05	1.07	1.11	1.43			3.22	3.17	3.23	
wind	-0.6 m/s	velocity	5.22	8.54	8.46	8.54	8.70	8.70	8.54	8.70	8.54	8.23	9.80	8.04		8.52	8.65	8.49	

Heat 3 - 2022 World Athletics Championships (Eugene, OR) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	16-Jul-22	time	2.58	3.65	4.69	5.73	6.76	7.80	8.86	9.93	11.00	12.10		13.53	3 / 4				
reaction time	0.144	interval	7 steps	1.07	1.04	1.04	1.03	1.04	1.06	1.07	1.07	1.10	1.43			3.15	3.13	3.24	
wind	-0.3 m/s	velocity	5.32	8.54	8.79	8.79	8.87	8.79	8.62	8.54	8.54	8.31	9.80	8.13		8.70	8.76	8.46	

FINAL - 2022 Japanese National Championsips (Osaka, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	12-Jun-22	time	2.60	3.67	4.70	5.72	6.75	7.77	8.83	9.88	10.93	12.03		13.48	4 / 3				
reaction time	0.155	interval	7 steps	1.07	1.03	1.02	1.03	1.02	1.06	1.05	1.05	1.10	1.45			3.12	3.11	3.20	
wind	-1.2 m/s	velocity	5.28	8.54	8.87	8.96	8.87	8.96	8.62	8.70	8.70	8.31	9.67	8.16		8.79	8.82	8.57	

FINAL - 2022 Seiko Golden Grand Prix (Tokyo, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	08-May-22	time	2.62	3.70	4.76	5.81	6.89	7.95	9.03	10.12	11.23	12.35		13.85	6 / 8				
reaction time	0.162	interval	7 steps	1.08	1.06	1.05	1.08	1.06	1.08	1.09	1.11	1.12	1.50			3.19	3.22	3.32	
wind	0.1 m/s	velocity	5.24	8.46	8.62	8.70	8.46	8.62	8.46	8.39	8.23	8.16	9.35	7.94		8.60	8.52	8.26	

FINAL - 2022 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	01-May-22	time	2.60	3.65	4.70	5.75	6.80	7.83	8.89	9.95	11.02	12.12		13.58	6 / 3				
reaction time	0.157	interval	7 steps	1.05	1.05	1.05	1.05	1.03	1.06	1.06	1.07	1.10	1.46			3.15	3.14	3.23	
wind	0.8 m/s	velocity	5.28	8.70	8.70	8.70	8.70	8.87	8.62	8.62	8.54	8.31	9.60	8.10		8.70	8.73	8.49	

FINAL - 2022 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	29-Apr-22	time	2.63	3.73	4.80	5.89	6.95	8.06	9.15	10.25	11.35	12.46		13.94	5 / 5				
reaction time	0.140	interval	7 steps	1.10	1.07	1.09	1.06	1.11	1.09	1.10	1.10	1.11	1.48			3.26	3.26	3.31	
wind	-1.5 m/s	velocity	5.22	8.31	8.54	8.39	8.62	8.23	8.39	8.31	8.31	8.23	9.47	7.89		8.41	8.41	8.28	

FINAL - 2021 Fuse Sprint (Tottori, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	06-Jun-21	time	2.60	3.64	4.68	5.71	6.73	7.75	8.82	9.86	10.93	12.03		13.48	7 / 2				
reaction time	0.152	interval	7 steps	1.04	1.04	1.03	1.02	1.02	1.07	1.04	1.07	1.10	1.45			3.11	3.11	3.21	
wind	1.8 m/s	velocity	5.28	8.79	8.79	8.87	8.96	8.96	8.54	8.79	8.54	8.31	9.67	8.16		8.82	8.82	8.54	

FINAL - 2021 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	01-Jun-21	time	2.58	3.62	4.65	5.68	6.70	7.75	8.79	9.85	10.90	11.98		13.42	6 / 2				
reaction time	0.156	interval	7 steps	1.04	1.03	1.03	1.02	1.05	1.04	1.06	1.05	1.08	1.44			3.10	3.11	3.19	
wind	0.3 m/s	velocity	5.32	8.79	8.87	8.87	8.96	8.70	8.79	8.62	8.70	8.46	9.74	8.20		8.85	8.82	8.60	

FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	09-May-21	time	2.65	3.74	4.77	5.80	6.86	7.93	8.99	10.07	11.15	12.25		13.67	8 / 6				
reaction time	0.141	interval	7 steps	1.09	1.03	1.03	1.06	1.07	1.06	1.08	1.08	1.10	1.42			3.15	3.19	3.26	
wind	-0.8 m/s	velocity	5.18	8.39	8.87	8.87	8.62	8.54	8.62	8.46	8.46	8.31	9.87	8.05		8.70	8.60	8.41	

FINAL - 2021 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	29-Apr-21	time	2.58	3.65	4.66	5.69	6.73	7.77	8.80	9.86	10.91	11.98		13.44	5 / 3				
reaction time		interval	7 steps	1.07	1.01	1.03	1.04	1.04	1.03	1.06	1.05	1.07	1.46			3.11	3.11	3.18	
wind	1.7 m/s	velocity	5.32	8.54	9.05	8.87	8.79	8.79	8.87	8.62	8.70	8.54	9.60	8.18		8.82	8.82	8.62	

FINAL - 2020 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	24-Oct-20	time	2.60	3.66	4.71	5.75	6.82	7.87	8.94	10.00	11.10	12.20		13.69	6 / 4				
reaction time		interval	7 steps	1.06	1.05	1.04	1.07	1.05	1.07	1.06	1.10	1.10	1.49			3.15	3.19	3.26	
wind	0.6 m/s	velocity	5.28	8.62	8.70	8.79	8.54	8.70	8.54	8.62	8.31	8.31	9.41	8.04		8.70	8.60	8.41	

FINAL - 2020 Japanese National Championships (Niigata, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	03-Oct-20	time	2.61	3.68	4.75	5.81	6.87	7.94	9.00	10.07	11.15	12.25		13.71	2 / 7			
reaction time	0.159	interval	7 steps	1.07	1.07	1.06	1.06	1.07	1.06	1.07	1.08	1.10	1.46			3.20	3.19	3.25
wind	-0.1 m/s	velocity	5.26	8.54	8.54	8.62	8.62	8.54	8.62	8.54	8.46	8.31	9.60	8.02		8.57	8.60	8.44

FINAL - 2020 All Japan Corporate Championships (Kumagaya, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	20-Sep-20	time	2.58	3.63	4.68	5.73	6.78	7.83	8.88	9.97	11.06	12.19		13.69	4 / 2			
reaction time	0.151	interval		1.05	1.05	1.05	1.05	1.05	1.05	1.09	1.09	1.13	1.50			3.15	3.15	3.31
wind	0.1 m/s	velocity	5.32	8.70	8.70	8.70	8.70	8.70	8.70	8.39	8.39	8.09	9.35	8.04		8.70	8.70	8.28

FINAL - 2020 Athlete Night Games (Fukui, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	29-Aug-20	time	2.56	3.62	4.65	5.67	6.70	7.73	8.75	9.80	10.85	11.92		13.39	6 / 3			
reaction time		interval	7 steps	1.06	1.03	1.02	1.03	1.03	1.02	1.05	1.05	1.07	1.47	**PB**		3.11	3.08	3.17
wind	1.4 m/s	velocity	5.36	8.62	8.87	8.96	8.87	8.87	8.96	8.70	8.70	8.54	9.54	8.22		8.82	8.90	8.65

FINAL - 2019 Japanese World Championships Trials (Fujiyoshida, JPN) *Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*

date	01-Sep-19	time	2.56	3.64	4.69	5.75	6.82	7.89	8.95	10.02	11.12	12.23		13.67	3 / 7			
reaction time		interval	7 steps	1.08	1.05	1.06	1.07	1.07	1.06	1.07	1.10	1.11	1.44			3.19	3.20	3.28
wind	1.4 m/s	velocity	5.36	8.46	8.70	8.62	8.54	8.54	8.62	8.54	8.31	8.23	9.74	8.05		8.60	8.57	8.36

FINAL - 2019 Japanese National Championships (Fukuoka, JPN) *Yamanaka (2019) - research on athlete performance and technique- 2019 data book*

date	30-Jun-19	time	2.57	3.65	4.71	5.76	6.83	7.87	8.93	10.00	11.08	12.20		13.67	4 / 3			
reaction time	0.137	interval	7 steps	1.08	1.06	1.05	1.07	1.04	1.06	1.07	1.08	1.12	1.47			3.19	3.17	3.27
wind	-0.6 m/s	velocity	5.34	8.46	8.62	8.70	8.54	8.79	8.62	8.54	8.46	8.16	9.54	8.05		8.60	8.65	8.39

FINAL - 2019 Fuse Sprint (Tottori, JPN) *Kijima (2019) - research on athlete performance and technique- 2019 data book*

date	02-Jun-19	time	2.57	3.62	4.66	5.70	6.73	7.77	8.83	9.88	10.94	12.04		13.49	5 / 2			
reaction time	0.149	interval	7 steps	1.05	1.04	1.04	1.03	1.04	1.06	1.05	1.06	1.10	1.45	**PB**		3.13	3.13	3.21
wind	1.9 m/s	velocity	5.34	8.70	8.79	8.79	8.87	8.79	8.62	8.70	8.62	8.31	9.67	8.15		8.76	8.76	8.54

FINAL - 2019 Seiko Golden Grand Prix (Osaka, JPN) *Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*

date	19-May-19	time	2.60	3.68	4.76	5.83	6.88	7.92	8.99	10.03	11.10	12.20		13.63	9 / 5			
reaction time	0.172	interval	7 steps	1.08	1.08	1.07	1.05	1.04	1.07	1.04	1.07	1.10	1.43			3.23	3.16	3.21
wind	2.9 m/s	velocity	5.28	8.46	8.46	8.54	8.70	8.79	8.54	8.79	8.54	8.31	9.80	8.07		8.49	8.68	8.54

FINAL - 2019 Kinami Memorial (Osaka, JPN) *Matsubayashi (2019) - research on athlete performance and technique- 2019 data book*

date	06-May-19	time	2.57	3.61	4.66	5.72	6.77	7.81	8.85	9.91	10.96	12.06		13.50	6 / 2			
reaction time		interval	7 steps	1.04	1.05	1.06	1.05	1.04	1.04	1.06	1.05	1.10	1.44	**PB**		3.15	3.13	3.21
wind	0.3 m/s	velocity	5.34	8.79	8.70	8.62	8.70	8.79	8.79	8.62	8.70	8.31	9.74	8.15		8.70	8.76	8.54

A FINAL - 2019 Mikio Oda Memorial (Hiroshima, JPN) *Kobayashi (2019) - research on athlete performance and technique- 2019 data book*

date	28-Apr-19	time	2.59	3.36	4.68	5.70	6.74	7.77	8.81	9.86	10.97	12.09		13.54	6 / 1			
reaction time		interval	7 steps	0.77	1.32	1.02	1.04	1.03	1.04	1.05	1.11	1.12	1.45	**PB**		3.11	3.11	3.28
wind	0.6 m/s	velocity	5.30	11.87	6.92	8.96	8.79	8.87	8.79	8.70	8.23	8.16	9.67	8.12		8.82	8.82	8.36

A FINAL - 2018 National Sports Festival (Fukui, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	08-Oct-18	time	2.59	3.67	4.74	5.80	6.87	7.93	8.99	10.07	11.15	12.27		13.74	3 / 4			
reaction time	0.139	interval		1.08	1.07	1.06	1.07	1.06	1.06	1.08	1.08	1.12	1.47			3.21	3.19	3.28
wind	1.2 m/s	velocity	5.30	8.46	8.54	8.62	8.54	8.62	8.62	8.46	8.46	8.16	9.54	8.01		8.54	8.60	8.36

FINAL - 2018 Japanese National Championships (Yamaguchi, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	24-Jun-18	time	2.60	3.69	4.76	5.81	6.89	7.97	9.04	10.12	11.22	12.34		13.81	8 / 6			
reaction time	0.155	interval	7 steps	1.09	1.07	1.05	1.08	1.08	1.07	1.08	1.10	1.12	1.47			3.21	3.23	3.30
wind	0.7 m/s	velocity	5.28	8.39	8.54	8.70	8.46	8.46	8.54	8.46	8.31	8.16	9.54	7.97		8.54	8.49	8.31

FINAL - 2018 Fuse Sprint (Tottori, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	03-Jun-18	time	2.61	3.68	4.77	5.83	6.90	7.96	9.05	10.14	11.24	12.35		13.86	/ 4			
reaction time		interval		1.07	1.09	1.06	1.07	1.06	1.09	1.09	1.10	1.11	1.51			3.22	3.22	3.30
wind	0.5 m/s	velocity	5.26	8.54	8.39	8.62	8.54	8.62	8.39	8.39	8.31	8.23	9.28	7.94		8.52	8.52	8.31

FINAL - 2018 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	29-Apr-18	time	2.69	3.77	4.81	5.87	6.93	8.00	9.08	10.18	11.29	12.41		13.85	1 / 7			
reaction time		interval		1.08	1.04	1.06	1.06	1.07	1.08	1.10	1.11	1.12	1.44			3.18	3.21	3.33
wind	2.6 m/s	velocity	5.10	8.46	8.79	8.62	8.62	8.54	8.46	8.31	8.23	8.16	9.74	7.94		8.62	8.54	8.23

FINAL - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	25-Jun-17	time	2.59	3.66	4.72	5.78	6.85	7.93	9.01	10.10	11.19	12.32		13.80	3 / 7			
reaction time	0.136	interval	*7 steps*	1.07	1.06	1.06	1.07	1.08	1.08	1.09	1.09	1.13	1.48			3.19	3.23	3.31
wind	-0.2 m/s	velocity	5.30	8.54	8.62	8.62	8.54	8.46	8.46	8.39	8.39	8.09	9.47	7.97		8.60	8.49	8.28

Semi-Final 2 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.58	3.67	4.74	5.81	6.87	7.94	9.02	10.11	11.22	12.32		13.78	5 / 4			

reaction time	0.124	interval	*7 steps*	1.09	1.07	1.07	1.06	1.07	1.08	1.09	1.11	1.10	1.46			3.23	3.21	3.30
wind	0.3 m/s	velocity	5.32	8.39	8.54	8.54	8.62	8.54	8.46	8.39	8.23	8.31	9.60	7.98		8.49	8.54	8.31

Heat 1 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.57	3.65	4.73	5.80	6.86	7.91	8.96	10.03	11.10	12.20		13.67	4 / 2			
reaction time	0.156	interval	*7 steps*	1.08	1.08	1.07	1.06	1.05	1.05	1.07	1.07	1.10	1.47	**PB**		3.23	3.16	3.24
wind	1.3 m/s	velocity	5.34	8.46	8.46	8.54	8.62	8.70	8.70	8.54	8.54	8.31	9.54	8.05		8.49	8.68	8.46

FINAL - 2016 West Japan Carnival (Kita-Kyushu, JPN) *(2016.11.07) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	03-Nov-16	time	2.58	3.67	4.74	5.84	6.93	8.01	9.09	10.19	11.28	12.41		13.88	/ 2			
reaction time		interval		1.09	1.07	1.10	1.09	1.08	1.08	1.10	1.09	1.13	1.47			3.26	3.25	3.32
wind	1.1 m/s	velocity	5.32	8.39	8.54	8.31	8.39	8.46	8.46	8.31	8.39	8.09	9.54	7.93		8.41	8.44	8.26

Semi-Final 2 - 2016 Japanese University Championships (Kumagaya, JPN) *(2016.09.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Sep-16	time	2.61	3.74	4.81	5.93	7.01	8.12	9.22	10.34	11.44	12.56		14.07	7 / 4			
reaction time	0.157	interval	*7 steps*	1.13	1.07	1.12	1.08	1.11	1.10	1.12	1.10	1.12	1.51			3.32	3.29	3.34
wind	0.7 m/s	velocity	5.26	8.09	8.54	8.16	8.46	8.23	8.31	8.16	8.31	8.16	9.28	7.82		8.26	8.33	8.21

Issei, Osaka (JPN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL B - 2016 Japanese Junior Olympics (Yokohama, JPN) (91cm) *(2016.10.28) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	30-Oct-16	time	2.76	3.91	5.06	6.21	7.33	8.49	9.63	10.82	12.00	13.21		14.87	4 / 1			
reaction time		interval		1.15	1.15	1.15	1.12	1.16	1.14	1.19	1.18	1.21	1.66			3.45	3.42	3.58
wind	-0.8 m/s	velocity	4.97	7.95	7.95	7.95	8.16	7.88	8.02	7.68	7.75	7.55	8.45	7.40		7.95	8.02	7.66

Iwafune, Yoichi (JPN) (1985)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Nambu Memorial (Sapporo, JPN) *(2017) - tfdata-store.com/2017/07/12/post-1025/*

date	09-Jul-17	time	2.68	3.78	4.85	5.93	7.00	8.06	9.15	10.26	11.37	12.52		14.01	5 / 3			
reaction time		interval		1.10	1.07	1.08	1.07	1.06	1.09	1.11	1.11	1.15	1.49			3.25	3.22	3.37
wind	2.7 m/s	velocity	5.12	8.31	8.54	8.46	8.54	8.62	8.39	8.23	8.23	7.95	9.41	7.85		8.44	8.52	8.14

Heat 4 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.71	3.81	4.88	5.97	7.05	8.15	9.24	10.37	11.50	12.63		14.14	7 / 6			
reaction time	0.151	interval		1.10	1.07	1.09	1.08	1.10	1.09	1.13	1.13	1.13	1.51			3.26	3.27	3.39
wind	0.0 m/s	velocity	5.06	8.31	8.54	8.39	8.46	8.31	8.39	8.09	8.09	8.09	9.28	7.78		8.41	8.39	8.09

FINAL - 2016 Fuse Sprint (Tottori, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	05-Jun-16	time	2.64	3.72	4.77	5.84	6.91	7.99	9.07	10.16	11.29	12.41		13.87	3 / 5			
reaction time		interval		1.08	1.05	1.07	1.07	1.08	1.08	1.09	1.13	1.12	1.46			3.20	3.23	3.34
wind	1.4 m/s	velocity	5.20	8.46	8.70	8.54	8.54	8.46	8.46	8.39	8.09	8.16	9.60	7.93		8.57	8.49	8.21

FINAL - 2009 Nambu Chuhei Memorial (Sapporo, JPN) *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*

date	09-Jul-09	time	2.65	3.74	4.82	5.87	6.93	8.00	9.06	10.14	11.25	12.38		13.87	/ 3			
reaction time		interval		1.09	1.08	1.05	1.06	1.07	1.06	1.08	1.11	1.13	1.49			3.22	3.19	3.32
wind	1.2 m/s	velocity	5.18	8.39	8.46	8.70	8.62	8.54	8.62	8.46	8.23	8.09	9.41	7.93		8.52	8.60	8.26

Iwakiri, Yuki (JPN) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2016 Japanese National High School Championships (Okayama, JPN) (99cm) *Kota (2016) - 69th high school championships: JAF scientific committee- biomechanics data*

date	02-Aug-16	time	2.77	3.88	5.00	6.13	7.24	8.39	9.53	10.70	11.87	13.06		14.67	8 / 7			
reaction time	0.160	interval		1.11	1.12	1.13	1.11	1.15	1.14	1.17	1.17	1.19	1.61			3.36	3.40	3.53
wind	1.2 m/s	velocity	4.95	8.23	8.16	8.09	8.23	7.95	8.02	7.81	7.81	7.68	8.71	7.50		8.16	8.06	7.77

FINAL - 2016 Kagoshima Perfecture High School Meeting (Kagoshima, JPN) *(2016.06.02) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	28-May-16	time	2.78	3.94	5.07	6.19	7.32	8.45	9.59	10.75	11.91	13.10		14.60	3 / 1			
reaction time		interval		1.16	1.13	1.12	1.13	1.13	1.14	1.16	1.16	1.19	1.50			3.41	3.40	3.51
wind	0.0 m/s	velocity	4.94	7.88	8.09	8.16	8.09	8.09	8.02	7.88	7.88	7.68	9.35	7.53		8.04	8.06	7.81

Izumiya, Shunsuke (JPN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2025 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2025) - diamond league race analysis*

date	26-Apr-25	time	2.42	3.48	4.51	5.53	6.54	7.60	8.65	9.68	10.72	11.79		13.39	10 / 8			
reaction time	0.152	interval	7 steps	1.06	1.03	1.02	1.01	1.06	1.05	1.03	1.04	1.07	1.60			3.11	3.12	3.14
wind	0.3 m/s	velocity	5.67	8.62	8.87	8.96	9.05	8.62	8.70	8.87	8.79	8.54	8.76	8.22		8.82	8.79	8.73

FINAL - 2024 Memorial van damme (Brussels, BEL) *Omega Timing (2024) - diamond league race analysis*

date	13-Sep-24	time	2.39	3.45	4.49	5.51	6.54	7.58	8.62	9.66	10.71	11.78		13.33	2 / 6			
reaction time	0.145	interval	7 steps	1.06	1.04	1.02	1.03	1.04	1.04	1.04	1.05	1.07	1.55			3.12	3.11	3.16
wind	0.4 m/s	velocity	5.74	8.62	8.79	8.96	8.87	8.79	8.79	8.79	8.70	8.54	9.05	8.25		8.79	8.82	8.68

Semi-Final 3 - 2024 Olympic Games (Paris, FRA) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	07-Aug-24	time	2.60	3.61	4.65	5.70	6.73	7.76	8.79	9.82	10.86	11.94		13.32	5 / 3			
reaction time	0.165	interval	7 steps	1.01	1.04	1.05	1.03	1.03	1.03	1.03	1.04	1.08	1.38			3.10	3.09	3.15
wind	0.6 m/s	velocity	5.28	9.05	8.79	8.70	8.87	8.87	8.87	8.87	8.79	8.46	10.16	8.26		8.85	8.87	8.70

Heat 4 - 2024 Olympic Games (Paris, FRA) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	04-Aug-24	time	2.58	3.63	4.67	5.69	6.72	7.74	8.75	9.80	10.83	11.91		13.27	9 / 3				
reaction time	0.150	interval	7 steps	1.05	1.04	1.02	1.03	1.02	1.01	1.05	1.03	1.08	1.36			3.11	3.06	3.16	
wind	0.3 m/s	velocity	5.32	8.70	8.79	8.96	8.87	8.96	9.05	8.70	8.87	8.46	10.31	8.29		8.82	8.96	8.68	

FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON) *Omega Timing (2024) - diamond league race analysis*

date	12-Jul-24	time	2.41	3.48	4.52	5.53	6.57	7.59	8.60	9.62				dnf	8 / --				
reaction time	0.156	interval	7 steps	1.07	1.04	1.01	1.04	1.02	1.01	1.02						3.12	3.07		
wind	-0.7 m/s	velocity	5.69	8.54	8.79	9.05	8.79	8.96	9.05	8.96						8.79	8.93		

FINAL - 2024 Meeting de Paris (Paris, FRA) *Omega Timing (2024) - diamond league race analysis*

date	07-Jul-24	time	2.32	3.37	4.40	5.44	6.47	7.48	8.49	9.50	10.53	11.59		13.16	6 / 3				
reaction time	0.145	interval	7 steps	1.05	1.03	1.04	1.03	1.01	1.01	1.01	1.03	1.06	1.57			3.12	3.05	3.10	
wind	-0.6 m/s	velocity	5.91	8.70	8.87	8.79	8.87	9.05	9.05	9.05	8.87	8.62	8.93	8.36		8.79	8.99	8.85	

Heat 2 - 2024 Meeting de Paris (Paris, FRA) *Omega Timing (2024) - diamond league race analysis*

date	07-Jul-24	time	2.36	3.43	4.45	5.46	6.47	7.50	8.52	9.54	10.58	11.61		13.16	7 / 1				
reaction time	0.137	interval	7 steps	1.07	1.02	1.01	1.01	1.03	1.02	1.02	1.04	1.03	1.55			3.10	3.06	3.09	
wind	0.4 m/s	velocity	5.81	8.54	8.96	9.05	9.05	8.87	8.96	8.96	8.79	8.87	9.05	8.36		8.85	8.96	8.87	

FINAL - 2024 Prefontaine Classic (Eugene, OR) *Omega Timing (2024) - diamond league race analysis*

date	25-May-24	time	2.36	3.41	4.41	5.43	6.45	7.48	8.52	9.56	10.62	11.72		13.33	7 / 7				
reaction time	0.131	interval	7 steps	1.05	1.00	1.02	1.02	1.03	1.04	1.04	1.06	1.10	1.61			3.07	3.09	3.20	
wind	-0.1 m/s	velocity	5.81	8.70	9.14	8.96	8.96	8.87	8.79	8.79	8.62	8.31	8.71	8.25		8.93	8.87	8.57	

FINAL - 2024 Yangtze River Delta Athletics Diamond Gala (Suzhou, CHN) (TV Analysis) *Omega Timing (2024) - diamond league race analysis*

date	27-Apr-24	time	2.57	3.62	4.65	5.67	6.65	7.65	8.72	9.76	10.81	11.87		13.23	3 / 2				
reaction time	0.146	interval	7 steps	1.05	1.03	1.02	0.98	1.00	1.07	1.04	1.05	1.06	1.36			3.10	3.05	3.15	
wind	0.8 m/s	velocity	5.34	8.70	8.87	8.96	9.33	9.14	8.54	8.79	8.70	8.62	10.31	8.31		8.85	8.99	8.70	

FINAL - 2024 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2024) - diamond league race analysis*

date	20-Apr-24	time	2.41	3.46	4.48	5.48	6.48	7.48	8.50	9.53	10.58	11.63		13.17	4 / 3				
reaction time	0.172	interval	7 steps	1.05	1.02	1.00	1.00	1.00	1.02	1.03	1.05	1.05	1.54			3.07	3.02	3.13	
wind	-0.3 m/s	velocity	5.69	8.70	8.96	9.14	9.14	9.14	8.96	8.87	8.70	8.70	9.10	8.35		8.93	9.08	8.76	

FINAL - 2023 Prefontaine Classic (Eugene, OR) *Omega Timing (2023) - diamond league race analysis*

date	17-Sep-23	time	2.34	3.38	4.38	5.40	6.41	7.41	8.44	9.48	10.51	11.55		13.10	7 / 4				
reaction time	0.136	interval	7 steps	1.04	1.00	1.02	1.01	1.00	1.03	1.04	1.03	1.04	1.55			3.06	3.04	3.11	
wind	0.9 m/s	velocity	5.86	8.79	9.14	8.96	9.05	9.14	8.87	8.79	8.87	8.79	9.05	8.40		8.96	9.02	8.82	

FINAL - 2023 World Athletics Championships (Budapest, HUN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	21-Aug-23	time	2.55	3.58	4.61	5.65	6.66	7.68	8.69	9.73	10.78	11.85		13.19	6 / 5				
reaction time	0.143	interval	7 steps	1.03	1.03	1.04	1.01	1.02	1.01	1.04	1.05	1.07	1.34			3.10	3.04	3.16	
wind	0.0 m/s	velocity	5.38	8.87	8.87	8.79	9.05	8.96	9.05	8.79	8.70	8.54	10.46	8.34		8.85	9.02	8.68	

Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	21-Aug-23	time	2.56	3.63	4.63	5.65	6.68	7.70	8.72	9.75	10.76	11.83		13.16	6 / 1				
reaction time	0.129	interval	7 steps	1.07	1.00	1.02	1.03	1.02	1.02	1.03	1.01	1.07	1.33			3.09	3.07	3.11	
wind	-0.2 m/s	velocity	5.36	8.54	9.14	8.96	8.87	8.96	8.96	8.87	9.05	8.54	10.54	8.36		8.87	8.93	8.82	

Heat 2 - 2023 World Athletics Championships (Budapest, HUN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	20-Aug-23	time	2.57	3.62	4.64	5.68	6.69	7.75	8.80	9.86	10.90	11.96		13.33	6 / 2				
reaction time	0.146	interval	7 steps	1.05	1.02	1.04	1.01	1.06	1.05	1.06	1.04	1.06	1.37			3.11	3.12	3.16	
wind	0.5 m/s	velocity	5.34	8.70	8.96	8.79	9.05	8.62	8.70	8.62	8.79	8.62	10.23	8.25		8.82	8.79	8.68	

FINAL - 2023 London Athletics Meet (London, GBR) *Omega Timing (2023) - diamond league race analysis*

date	23-Jul-23	time	2.35	3.39	4.41	5.42	6.41	7.41	8.42	9.45	10.49	11.54		13.06	3 / 2				
reaction time	0.138	interval	7 steps	1.04	1.02	1.01	0.99	1.00	1.01	1.03	1.04	1.05	1.52			3.07	3.00	3.12	
wind	1.3 m/s	velocity	5.84	8.79	8.96	9.05	9.23	9.14	9.05	8.87	8.79	8.70	9.22	8.42		8.93	9.14	8.79	

FINAL - 2023 Athletissima (Lausanne, SUI) *Omega Timing (2023) - diamond league race analysis*

date	30-Jun-23	time	2.33	3.40	4.42	5.45	6.46	7.47	8.50	9.55	10.60	11.67		13.22	4 / 1				
reaction time	0.101	interval	7 steps	1.07	1.02	1.03	1.01	1.01	1.03	1.05	1.05	1.07	1.55			3.12	3.05	3.17	
wind	-1.0 m/s	velocity	5.89	8.54	8.96	8.87	9.05	9.05	8.87	8.70	8.70	8.54	9.05	8.32		8.79	8.99	8.65	

FINAL - 2023 Japanese National Championsips (Osaka, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	04-Jun-23	time	2.56	3.59	4.62	5.61	6.61	7.63	8.62	9.63	10.66	11.68		13.04	5 / 1				
reaction time	0.132	interval	7 steps	1.03	1.03	0.99	1.00	1.02	0.99	1.01	1.03	1.02	1.36	**NR PB**		3.05	3.01	3.06	
wind	-0.9 m/s	velocity	5.36	8.87	8.87	9.23	9.14	8.96	9.23	9.05	8.87	8.96	10.31	8.44		8.99	9.11	8.96	

FINAL - 2023 Seiko Golden Grand Prix (Yokohama, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	21-May-23	time	2.53	3.58	4.58	5.58	6.60	7.61	8.63	9.64	10.67	11.72		13.07	6 / 1				
reaction time	0.125	interval	7 steps	1.05	1.00	1.00	1.02	1.01	1.02	1.01	1.03	1.05	1.35			3.05	3.05	3.09	
wind	0.8 m/s	velocity	5.42	8.70	9.14	9.14	8.96	9.05	8.96	9.05	8.87	8.70	10.39	8.42		8.99	8.99	8.87	

FINAL - 2023 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	07-May-23	time	2.61	3.65	4.68	5.70	6.71	7.71	8.77	9.78	10.84	11.91		13.25	6 / 1			
reaction time	0.138	interval	7 steps	1.04	1.03	1.02	1.01	1.00	1.06	1.01	1.06	1.07	1.34			3.09	3.07	3.14
wind	-0.3 m/s	velocity	5.26	8.79	8.87	8.96	9.05	9.14	8.62	9.05	8.62	8.54	10.46	8.30		8.87	8.93	8.73

FINAL - 2022 ISTAF (Berlin, GER) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	04-Sep-22	time	2.50	3.54	4.58	5.60	6.62	7.66	8.68	9.74	10.78	11.88		13.26	8 / 4			
reaction time	0.129	interval	7 steps	1.04	1.04	1.02	1.02	1.04	1.02	1.06	1.04	1.10	1.38			3.10	3.08	3.20
wind	0.6 m/s	velocity	5.49	8.79	8.79	8.96	8.96	8.79	8.96	8.62	8.79	8.31	10.16	8.30		8.85	8.90	8.57

Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	17-Jul-22	time	2.59	3.65	4.68	5.72	6.77	7.81	8.85	9.91	10.97	12.04		13.42	8 / 5			
reaction time	0.112	interval	7 steps	1.06	1.03	1.04	1.05	1.04	1.04	1.06	1.06	1.07	1.38			3.13	3.13	3.19
wind	0.3 m/s	velocity	5.30	8.62	8.87	8.79	8.70	8.79	8.79	8.62	8.62	8.54	10.16	8.20		8.76	8.76	8.60

Heat 5 - 2022 World Athletics Championships (Eugene, OR) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	16-Jul-22	time	2.62	3.67	4.73	5.77	6.81	7.85	8.93	9.98	11.07	12.17		13.56	1 / 3			
reaction time	0.128	interval	7 steps	1.05	1.06	1.04	1.04	1.04	1.08	1.05	1.09	1.10	1.39			3.15	3.16	3.24
wind	0.4 m/s	velocity	5.24	8.70	8.62	8.79	8.79	8.79	8.46	8.70	8.39	8.31	10.09	8.11		8.70	8.68	8.46

FINAL - 2022 Japanese National Championsips (Osaka, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	12-Jun-22	time	2.52	3.55	4.58	5.60	6.63	7.54	8.66	9.71	10.77	11.83		13.21	5 / 1			
reaction time	0.142	interval	7 steps	1.03	1.03	1.02	1.03	0.91	1.12	1.05	1.06	1.06	1.38			3.08	3.06	3.17
wind	-1.2 m/s	velocity	5.44	8.87	8.87	8.96	8.87	10.04	8.16	8.70	8.62	8.62	10.16	8.33		8.90	8.96	8.65

Semi-Final 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.53	3.62	4.65	5.65	6.69	7.73	8.77	9.77	10.84	11.95		13.35	7 / 3			
reaction time	0.141	interval	7 steps	1.09	1.03	1.00	1.04	1.04	1.04	1.00	1.07	1.11	1.40			3.12	3.12	3.18
wind	-0.1 m/s	velocity	5.42	8.39	8.87	9.14	8.79	8.79	8.79	9.14	8.54	8.23	10.01	8.24		8.79	8.79	8.62

Heat 4 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.49	3.52	4.55	5.57	6.63	7.69	8.69	9.72	10.82	11.86		13.28	6 / 2			
reaction time	0.122	interval	7 steps	1.03	1.03	1.02	1.06	1.06	1.00	1.03	1.10	1.04	1.42			3.08	3.12	3.17
wind	-0.2 m/s	velocity	5.51	8.87	8.87	8.96	8.62	8.62	9.14	8.87	8.31	8.79	9.87	8.28		8.90	8.79	8.65

FINAL - 2021 Japanese National Championships (Osaka, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	27-Jun-21	time	2.55	3.57	4.61	5.63	6.64	7.65	8.67	9.68	10.69	11.75		13.06	6 / 1			
reaction time	0.155	interval	7 steps	1.02	1.04	1.02	1.01	1.01	1.02	1.01	1.01	1.06	1.31	**NR PB**		3.08	3.04	3.08
wind	1.2 m/s	velocity	5.38	8.96	8.79	8.96	9.05	9.05	8.96	9.05	9.05	8.62	10.70	8.42		8.90	9.02	8.90

FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	09-May-21	time	2.51	3.60	4.63	5.71	6.76	7.83	8.90	9.94	11.01	12.06		13.43	7 / 2			
reaction time	0.132	interval	7 steps	1.09	1.03	1.08	1.05	1.07	1.07	1.04	1.07	1.05	1.37			3.20	3.19	3.16
wind	-0.8 m/s	velocity	5.47	8.39	8.87	8.46	8.70	8.54	8.54	8.79	8.54	8.70	10.23	8.19		8.57	8.60	8.68

FINAL - 2021 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	29-Apr-21	time	2.57	3.65	4.66	5.69	6.70	7.74	8.79	9.83	10.88	11.93		13.33	3 / 2			
reaction time		interval	7 steps	1.08	1.01	1.03	1.01	1.04	1.05	1.04	1.05	1.05	1.40	**PB**		3.12	3.10	3.14
wind	1.7 m/s	velocity	5.34	8.46	9.05	8.87	9.05	8.79	8.70	8.79	8.70	8.70	10.01	8.25		8.79	8.85	8.73

FINAL - 2020 Japanese National Championships (Niigata, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	03-Oct-20	time	2.59	3.65	4.69	5.71	6.74	7.81	8.85	9.92	10.97	12.07		13.48	5 / 3			
reaction time	0.130	interval		1.06	1.04	1.02	1.03	1.07	1.04	1.07	1.05	1.10	1.41			3.12	3.14	3.22
wind	-0.1 m/s	velocity	5.30	8.62	8.79	8.96	8.87	8.54	8.79	8.54	8.70	8.31	9.94	8.16		8.79	8.73	8.52

Heat 1 - 2020 Japanese National Championships (Niigata, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	02-Oct-20	time	2.58	3.62	4.67	5.70	6.73	7.79	8.81	9.87	10.92	11.99		13.45	4 / 2			
reaction time	0.128	interval		1.04	1.05	1.03	1.03	1.06	1.02	1.06	1.05	1.07	1.46			3.12	3.11	3.18
wind	0.8 m/s	velocity	5.32	8.79	8.70	8.87	8.87	8.62	8.96	8.62	8.70	8.54	9.60	8.18		8.79	8.82	8.62

FINAL - 2019 Japanese National Championships (Fukuoka, JPN) *Yamanaka (2019) - research on athlete performance and technique- 2019 data book*

date	30-Jun-19	time	2.55	3.59	4.63	5.65	6.68	7.72	8.75	9.80	10.89	11.97		13.36	6 / 2			
reaction time	0.144	interval		1.04	1.04	1.02	1.03	1.04	1.03	1.05	1.09	1.08	1.39	**=NR NJR PB**		3.10	3.10	3.22
wind	-0.6 m/s	velocity	5.38	8.79	8.79	8.96	8.87	8.79	8.87	8.70	8.39	8.46	10.09	8.23		8.85	8.85	8.52

FINAL - 2019 Seiko Golden Grand Prix (Osaka, JPN) *Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*

date	19-May-19	time	2.53	3.60	4.62	5.66	6.71	7.72	8.74	9.79	10.84	11.93		13.26	3 / 1			
reaction time	0.121	interval		1.07	1.02	1.04	1.05	1.01	1.02	1.05	1.05	1.09	1.33			3.13	3.08	3.19
wind	2.9 m/s	velocity	5.42	8.54	8.96	8.79	8.70	9.05	8.96	8.70	8.70	8.39	10.54	8.30		8.76	8.90	8.60

FINAL - 2019 Kinami Memorial (Osaka, JPN) *Matsubayashi (2019) - research on athlete performance and technique- 2019 data book*

date	06-May-19	time	2.59	3.63	4.71	5.76	6.78	7.87	8.96	10.01	11.07	12.20		13.58	7 / 3			

reaction time		interval		1.04	1.08	1.05	1.02	1.09	1.09	1.05	1.06	1.13	1.38			3.17	3.20	3.24
wind	0.3 m/s	velocity	5.30	8.79	8.46	8.70	8.96	8.39	8.39	8.70	8.62	8.09	10.16	8.10		8.65	8.57	8.46

A FINAL - 2019 Mikio Oda Memorial (Hiroshima, JPN) *Kobayashi (2019) - research on athlete performance and technique- 2019 data book*

date	28-Apr-19	time	2.56	3.62	4.68	5.72	6.77	7.82	8.88	9.95	11.04	12.13		13.56	4 / 2			
reaction time		interval		1.06	1.06	1.04	1.05	1.05	1.06	1.07	1.09	1.09	1.43	NJR PB		3.16	3.16	3.25
wind	0.6 m/s	velocity	5.36	8.62	8.62	8.79	8.70	8.70	8.62	8.54	8.39	8.39	9.80	8.11		8.68	8.68	8.44

FINAL - 2018 Japanese U20 National Championships (Nagoya, JPN) (99cm) *Shibayama (2021) race analysis of men's 110m hurdles in the 2021 season*

date	19-Oct-18	time	2.53	3.57	4.61	5.64	6.63	7.66	8.68	9.71	10.75	11.81		13.19	6 / 1			
reaction time	0.123	interval		1.04	1.04	1.03	0.99	1.03	1.02	1.03	1.04	1.06	1.38	NJR PB		3.11	3.04	3.13
wind	-0.6 m/s	velocity	5.42	8.79	8.79	8.87	9.23	8.87	8.96	8.87	8.79	8.62	10.16	8.34		8.82	9.02	8.76

FINAL - 2018 Japanese University National Championships (Nagoya, JPN) *Shibayama (2021) race analysis of men's 110m hurdles in the 2021 season*

date	09-Sep-18	time	2.60	3.65	4.69	5.77	6.80	7.88	8.94	10.04	11.15	12.28		13.75	/ 1			
reaction time		interval		1.05	1.04	1.08	1.03	1.08	1.06	1.10	1.11	1.13	1.47	PB		3.17	3.17	3.34
wind	-1.1 m/s	velocity	5.28	8.70	8.79	8.46	8.87	8.46	8.62	8.31	8.23	8.09	9.54	8.00		8.65	8.65	8.21

FINAL - 2018 IAAF World Junior Championships (Tampere, FIN) (99cm) *Koyama (2018) - research on athlete performance and technique- 2018 data book*

date	12-Jul-18	time	2.59	3.63	4.70	5.69	6.70	7.73	8.78	9.81	10.87	11.92		13.38	2 / 3			
reaction time	0.170	interval		1.04	1.07	0.99	1.01	1.03	1.05	1.03	1.06	1.05	1.46	PB		3.10	3.09	3.14
wind	0.3 m/s	velocity	5.30	8.79	8.54	9.23	9.05	8.87	8.70	8.87	8.62	8.70	9.60	8.22		8.85	8.87	8.73

Jackson, Colin (GBR) (1967)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

FINAL - 2002 European Championships (Munich, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	10-Aug-02	time	2.57	3.59	4.59	5.59	6.59	7.61	8.63	9.66	10.71	11.77		13.11	/ 1			
reaction time	0.117	interval		1.02	1.00	1.00	1.00	1.02	1.02	1.03	1.05	1.06	1.34			3.02	3.04	3.14
wind	0.4 m/s	velocity	5.34	8.96	9.14	9.14	9.14	8.96	8.96	8.87	8.70	8.62	10.46	8.39		9.08	9.02	8.73

Semi-Final 2 - 2002 European Championships (Munich, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	10-Aug-02	time	2.58	3.62	4.64	5.66	6.66	7.68	8.70	9.73	10.76	11.82		13.21	/ 1			
reaction time	0.112	interval		1.04	1.02	1.02	1.00	1.02	1.02	1.03	1.03	1.06	1.39			3.08	3.04	3.12
wind	0.8 m/s	velocity	5.32	8.79	8.96	8.96	9.14	8.96	8.96	8.87	8.87	8.62	10.09	8.33		8.90	9.02	8.79

Heat 1 - 2002 European Championships (Munich, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	09-Aug-02	time	2.59	3.63	4.66	5.67	6.69	7.72	8.75	9.79	10.85	11.95		13.41	/ 1			
reaction time	0.107	interval		1.04	1.03	1.01	1.02	1.03	1.03	1.04	1.06	1.10	1.46			3.08	3.08	3.20
wind	-0.9 m/s	velocity	5.30	8.79	8.87	9.05	8.96	8.87	8.87	8.79	8.62	8.31	9.60	8.20		8.90	8.90	8.57

FINAL - 1999 IAAF World Championships (Sevilla, ESP) *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	25-Aug-99	time	2.51	3.52	4.52	5.50	6.51	7.52	8.52	9.55	10.58	11.64		13.04	5 / 1			
reaction time	0.116	interval		1.01	1.00	0.98	1.01	1.01	1.00	1.03	1.03	1.06	1.40			2.99	3.02	3.12
wind	1.0 m/s	velocity	5.47	9.05	9.14	9.33	9.05	9.05	9.14	8.87	8.87	8.62	10.01	8.44		9.17	9.08	8.79

Semi-Final 2 - 1999 IAAF World Championships (Sevilla, ESP) *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	24-Aug-99	time	2.50	3.52	4.53	5.54	6.54	7.56	8.57	9.60	10.66	11.72		13.19	6 / 2			
reaction time	0.110	interval		1.02	1.01	1.01	1.00	1.02	1.01	1.03	1.06	1.06	1.47			3.04	3.03	3.15
wind	0.0 m/s	velocity	5.49	8.96	9.05	9.05	9.14	8.96	9.05	8.87	8.62	8.62	9.54	8.34		9.02	9.05	8.70

Quarter-Final 2 - 1999 IAAF World Championships (Sevilla, ESP) *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	23-Aug-99	time	2.50	3.52	4.53	5.53	6.52	7.53	8.54	9.57	10.63	11.71		13.21	6 / 1			
reaction time	0.117	interval		1.02	1.01	1.00	0.99	1.01	1.01	1.03	1.06	1.08	1.50			3.03	3.01	3.17
wind	-0.2 m/s	velocity	5.49	8.96	9.05	9.14	9.23	9.05	9.05	8.87	8.62	8.46	9.35	8.33		9.05	9.11	8.65

Heat 5 - 1999 IAAF World Championships (Sevilla, ESP) *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	23-Aug-99	time	2.49	3.50	4.50	5.50	6.51	7.52	8.55	9.57	10.61	11.67		13.19	1 / 1			
reaction time	0.115	interval		1.01	1.00	1.00	1.01	1.01	1.03	1.02	1.04	1.06	1.52			3.01	3.05	3.12
wind	-0.5 m/s	velocity	5.51	9.05	9.14	9.14	9.05	9.05	8.87	8.96	8.79	8.62	9.22	8.34		9.11	8.99	8.79

FINAL - 1999 Sydney Grand Prix (Sydney, AUS) *Arnold (2009) - UK Athletics - Hurdling Masterclass*

date	20-Feb-99	time	2.57	3.62	4.66	5.68	6.70	7.72	8.76	9.79	10.85	11.92		13.30	/ 1			
reaction time		interval		1.05	1.04	1.02	1.02	1.02	1.04	1.03	1.06	1.07	1.38			3.11	3.08	3.16
wind	0.6 m/s	velocity	5.34	8.70	8.79	8.96	8.96	8.96	8.79	8.87	8.62	8.54	10.16	8.27		8.82	8.90	8.68

FINAL - 1998 European Championships (Budapest, HUN) *Sanchez (1998) - Budapest '98: análisis de la carreras con villas*

date	22-Aug-98	time	2.56	3.58	4.60	5.58	6.59	7.59	8.57	9.59	10.63	11.69		13.02	3 / 1			
reaction time		interval		1.02	1.02	0.98	1.01	1.00	0.98	1.02	1.04	1.06	1.33	CR		3.02	2.99	3.12
wind	1.5 m/s	velocity	5.36	8.96	8.96	9.33	9.05	9.14	9.33	8.96	8.79	8.62	10.54	8.45		9.08	9.17	8.79

FINAL - 1997 IAAF World Championships (Athens, GRE) *Hommel (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*

date	07-Aug-97	time	2.58	3.62	4.62	5.62	6.62	7.62	8.62	9.64	10.68	11.72		13.05	5 / 2			
reaction time	0.118	interval		1.04	1.00	1.00	1.00	1.00	1.00	1.02	1.04	1.04	1.33			3.04	3.00	3.10
wind	0.0 m/s	velocity	5.32	8.79	9.14	9.14	9.14	9.14	9.14	8.96	8.79	8.79	10.54	8.43		9.02	9.14	8.85

FINAL - 1997 European Cup (Munich, GER) — *Jung (2003) - http://www.fgs.uni-halle.de*

date	22-Jun-97	time	2.57	3.60	4.62	5.62	6.62	7.64	8.68	9.72	10.77	11.85		13.28	/ 2			
reaction time		interval		1.03	1.02	1.00	1.00	1.02	1.04	1.04	1.05	1.08	1.43			3.05	3.06	3.17
wind	0.2 m/s	velocity	5.34	8.87	8.96	9.14	9.14	8.96	8.79	8.79	8.70	8.46	9.80	8.28		8.99	8.96	8.65

FINAL - 1996 Olympic Games (Atlanta, GA) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

date	26-Jul-96	time	2.36	3.42	4.42	5.48	6.43	7.40	8.48	9.54	10.56	11.62		13.19	5 / 4			
reaction time	0.133	interval		1.06	1.00	1.06	0.95	0.97	1.08	1.06	1.02	1.06	1.57			3.12	3.00	3.14
wind	0.8 m/s	velocity	5.81	8.62	9.14	8.62	9.62	9.42	8.46	8.62	8.96	8.62	8.93	8.34		8.79	9.14	8.73

FINAL - 1994 Hallensportfest (Sindelfingen, GER) — *Vazel (2020) - coaching observations*

date	6-Mar-94	time	2.51	3.53	4.52	5.51	6.49							7.30	2 / 1			
reaction time		interval		1.02	0.99	0.99	0.98						0.81	**WR**		3.00		
		velocity	5.47	8.96	9.23	9.23	9.33						12.00	8.22		9.14		

FINAL - 1993 IAAF World Championships (Stuttgart, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

date	20-Aug-93	time	2.53	3.54	4.53	5.51	6.49	7.47	8.47	9.48	10.51	11.55		12.91	3 / 1			
reaction time	0.122	interval		1.01	0.99	0.98	0.98	0.98	1.00	1.01	1.03	1.04	1.36	**WR**		2.98	2.96	3.08
wind	0.5 m/s	velocity	5.42	9.05	9.23	9.33	9.33	9.33	9.14	9.05	8.87	8.79	10.31	8.52		9.20	9.26	8.90

FINAL - 1992 Olympic Games (Barcelona, ESP) — *Knight (1992) - 1992 Olympic report: the hurdling events*

date	03-Aug-92	time	2.57	3.59	4.58	5.66	6.77	7.80	8.83	9.87	10.88	11.90		13.46	3 / 7			
reaction time	0.133	interval		1.02	0.99	1.08	1.11	1.03	1.03	1.04	1.01	1.02	1.56			3.09	3.17	3.07
wind	0.8 m/s	velocity	5.34	8.96	9.23	8.46	8.23	8.87	8.87	8.79	9.05	8.96	8.99	8.17		8.87	8.65	8.93

FINAL - 1991 European Cup (Frankfurt, GER) — *Federle (2003) - http://www.fgs.uni-halle.de*

date	30-Jun-91	time	2.55	3.61	4.64	5.66	6.69	7.72	8.75	9.79	10.83	11.89		13.31	/ 1			
reaction time		interval		1.06	1.03	1.02	1.03	1.03	1.03	1.04	1.04	1.06	1.42			3.11	3.09	3.14
wind	-0.9 m/s	velocity	5.38	8.62	8.87	8.96	8.87	8.87	8.87	8.79	8.79	8.62	9.87	8.26		8.82	8.87	8.73

FINAL - 1989 IAAF World Cup (Barcelona, ESP) — *Gill (1990) - atletismo (I) carreras y marcha*

date	10-Sep-89	time	2.55	3.59	4.60	5.61	6.61	7.60	8.61	9.62	10.63	11.67		12.95	4 / 2			
reaction time		interval		1.04	1.01	1.01	1.00	0.99	1.01	1.01	1.01	1.04	1.28			3.06	3.00	3.06
wind	2.6 m/s	velocity	5.38	8.79	9.05	9.05	9.14	9.23	9.05	9.05	9.05	8.79	10.95	8.49		8.96	9.14	8.96

FINAL - 1988 Olympic Games (Seoul, KOR) — *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.57	3.61	4.65	5.67	6.70	7.72	8.75	9.79	10.82	11.87		13.28	1 / 2			
reaction time	0.131	interval		1.04	1.04	1.02	1.03	1.02	1.03	1.04	1.03	1.05	1.41			3.10	3.08	3.12
wind	1.5 m/s	velocity	5.34	8.79	8.79	8.96	8.87	8.96	8.87	8.79	8.87	8.70	9.94	8.28		8.85	8.90	8.79

Semi-Final 1 - 1988 Olympic Games (Seoul, KOR) — *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.58	3.69	4.73	5.74	6.78	7.81	8.85	9.89	10.97	12.05		13.55	4 / 3			
reaction time	0.137	interval		1.11	1.04	1.01	1.04	1.03	1.04	1.04	1.08	1.08	1.50			3.16	3.11	3.20
wind	0.00 m/s	velocity	5.32	8.23	8.79	9.05	8.79	8.87	8.79	8.79	8.46	8.46	9.35	8.12		8.68	8.82	8.57

FINAL - 1987 IAAF World Championships (Rome, ITA) — *Susanka (1988) - time analysis of the sprint hurdle events at the II World Championships in Athletics*

date	03-Sep-87	time	2.60	3.65	4.71	5.75	6.76	7.80	8.83	9.88	10.94	11.99		13.38	2 / 3			
reaction time		interval		1.05	1.06	1.04	1.01	1.04	1.03	1.05	1.06	1.05	1.39			3.15	3.08	3.16
wind	0.5 m/s	velocity	5.28	8.70	8.62	8.79	9.05	8.79	8.87	8.70	8.62	8.70	10.09	8.22		8.70	8.90	8.68

Semi-Final 2 - 1987 IAAF World Championships (Rome, ITA) — *Susanka (1988) - time analysis of the sprint hurdle events at the II World Championships in Athletics*

date	01-Sep-87	time	2.64	3.68	4.77	5.80	6.84	7.88	8.92	10.00	11.08	12.17		13.58	6 / 4			
reaction time		interval		1.04	1.09	1.03	1.04	1.04	1.04	1.08	1.08	1.09	1.41			3.16	3.12	3.25
wind	-1.2 m//s	velocity	5.20	8.79	8.39	8.87	8.79	8.79	8.79	8.46	8.46	8.39	9.94	8.10		8.68	8.79	8.44

Heat 1 - 1987 IAAF World Championships (Rome, ITA) — *Susanka (1988) - time analysis of the sprint hurdle events at the II World Championships in Athletics*

date	01-Sep-87	time	2.61	3.67	4.70	5.71	6.73	7.73	8.75	9.79	10.87	11.95		13.37	7 / 2			
reaction time		interval		1.06	1.03	1.01	1.02	1.00	1.02	1.04	1.08	1.08	1.42	**PB**		3.10	3.04	3.20
wind	1.4 m/s	velocity	5.26	8.62	8.87	9.05	8.96	9.14	8.96	8.79	8.46	8.46	9.87	8.23		8.85	9.02	8.57

FINAL - 1986 IAAF World Junor Championships (Athens, GRE) (1.07m) — *Miskos (1986) - IAAF biomechanical research - Athens 1986 - hurdle races*

date	19-Jul-86	time	2.58	3.63	4.68	5.70	6.71	7.79	8.83	9.90	10.98	12.07		13.44	/ 1			
reaction time		interval		1.05	1.05	1.02	1.01	1.08	1.04	1.07	1.08	1.09	1.37	**CR / AJR**		3.12	3.13	3.24
wind	-0.8 m/s	velocity	5.32	8.70	8.70	8.96	9.05	8.46	8.79	8.54	8.46	8.39	10.23	8.18		8.79	8.76	8.46

FINAL - 1985 European Junior Championships (Cottbus, GDR) (99cm) — *Warburton (1985) - 1985 european junior championships - hurdles*

date	23-Aug-85	time	2.32	3.41	4.44	5.51	6.57	7.63	8.69	9.76	10.87	11.96		13.69	/ 2			
reaction time		interval		1.09	1.03	1.07	1.06	1.06	1.06	1.07	1.11	1.09	1.73			3.19	3.18	3.27
wind	1.8 m/s	velocity	5.91	8.39	8.87	8.54	8.62	8.62	8.62	8.54	8.23	8.39	8.10	8.04		8.60	8.62	8.39

Semi-Final 2 - 1985 European Junior Championships (Cottbus, GDR) (99cm) — *Warburton (1985) - 1985 european junior championships - hurdles*

date	23-Aug-85	time	2.42	3.51	4.57	5.64	6.70	7.73	8.86	9.91	11.00	12.13		14.05	/ 1			

reaction time		interval		1.09	1.06	1.07	1.06	1.03	1.13	1.05	1.09	1.13	1.92			3.22	3.22	3.27
wind	-0.8 m/s	velocity	5.67	8.39	8.62	8.54	8.62	8.87	8.09	8.70	8.39	8.09	7.30	7.83		8.52	8.52	8.39

Heat 2 - 1985 European Junior Championships (Cottbus, GDR) (99cm) *Warburton (1985) - 1985 european junior championships - hurdles*

date	23-Aug-85	time	2.32	3.40	4.47	5.51	6.62	7.74	8.82	9.88	10.94	12.08		13.97	/ 1			
reaction time		interval		1.08	1.07	1.04	1.11	1.12	1.08	1.06	1.06	1.14	1.89			3.19	3.31	3.26
wind	1.7 m/s	velocity	5.91	8.46	8.54	8.79	8.23	8.16	8.46	8.62	8.62	8.02	7.42	7.87		8.60	8.28	8.41

Jackson, Dashaun (USA) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2019 NCAA National Championships (Austin, TX) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	07-Jun-19	time	2.54	3.60	4.64	5.67	6.70	7.70	8.71	9.76	10.81	11.91		13.38	6 / 4			
reaction time	0.175	interval		1.06	1.04	1.03	1.03	1.00	1.01	1.05	1.05	1.10	1.47			3.13	3.04	3.20
wind	0.8 m/s	velocity	5.40	8.62	8.79	8.87	8.87	9.14	9.05	8.70	8.70	8.31	9.54	8.22		8.76	9.02	8.57

Semi-Final 1 - 2019 NCAA National Championships (Austin, TX) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	05-Jun-19	time	2.38	3.43	4.46	5.48	6.50	7.50	8.60	9.63	10.68	11.74		13.37	7 / 2			
reaction time	0.213	interval		1.05	1.03	1.02	1.02	1.00	1.10	1.03	1.05	1.06	1.63	PB		3.10	3.12	3.14
wind	0.9 m/s	velocity	5.76	8.70	8.87	8.96	8.96	9.14	8.31	8.87	8.70	8.62	8.60	8.23		8.85	8.79	8.73

Ján, Jan (CZE) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2012 Czech Republic National Indoor Championships (Praha, CZE) *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

date	25-Feb-12	time	2.75	3.92	5.04	6.21	7.34							8.39	2 / 5			
reaction time	0.141	interval		1.17	1.12	1.17	1.13						1.05			3.46		
		velocity	4.99	7.81	8.16	7.81	8.09						9.26	7.15		7.92		

Jarrett, Tony (GBR) (1968)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 4 - 2002 European Championships (Munich, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	09-Aug-02	time	2.66	3.72	4.78	5.80	6.86	7.90	8.96	10.01	11.09	12.19		13.63	/ 2			
reaction time	0.153	interval		1.06	1.06	1.02	1.06	1.04	1.06	1.05	1.08	1.10	1.44			3.14	3.16	3.23
wind	-0.1 m/s	velocity	5.16	8.62	8.62	8.96	8.62	8.79	8.62	8.70	8.46	8.31	9.74	8.07		8.73	8.68	8.49

FINAL - 2001 European Cup (Bremen, GER) *Graubner (2007) - http://www.fgs.uni-halle.de*

date	24-Jun-01	time	2.64	3.70	4.76	5.80	6.84	7.91	8.95	10.01	11.10	12.17		13.58	4 / 3			
reaction time	0.150	interval		1.06	1.06	1.04	1.04	1.07	1.04	1.06	1.09	1.07	1.41			3.16	3.15	3.22
wind	1.3 m/s	velocity	5.20	8.62	8.62	8.79	8.79	8.54	8.79	8.62	8.39	8.54	9.94	8.10		8.68	8.70	8.52

FINAL - 1998 European Championships (Budapest, HUN) *Sanchez (1998) - Budapest '98: análisis de la carreras con villas*

date	22-Aug-98	time	2.58	3.61	4.66	5.69	6.74	7.74	8.74	9.76	10.80	11.89		13.32	8 / 6			
reaction time		interval		1.03	1.05	1.03	1.05	1.00	1.00	1.02	1.04	1.09	1.43			3.11	3.05	3.15
wind	1.5 m/s	velocity	5.32	8.87	8.70	8.87	8.70	9.14	9.14	8.96	8.79	8.39	9.80	8.26		8.82	8.99	8.70

FINAL - 1992 Olympic Games (Barcelona, ESP) *Knight (1992) - 1992 Olympic report: the hurdling events*

date	03-Aug-92	time	2.63	3.69	4.71	5.72	6.75	7.78	8.79	9.82	10.88	11.93		13.26	8 / 4			
reaction time	0.163	interval		1.06	1.02	1.01	1.03	1.03	1.01	1.03	1.06	1.05	1.33			3.09	3.07	3.14
wind	0.8 m/s	velocity	5.22	8.62	8.96	9.05	8.87	8.87	9.05	8.87	8.62	8.70	10.54	8.30		8.87	8.93	8.73

FINAL - 1988 Olympic Games (Seoul, KOR) *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.58	3.65	4.73	5.77	6.84	7.89	8.93	9.99	11.05	12.15		13.54	2 / 6			
reaction time	0.164	interval		1.07	1.08	1.04	1.07	1.05	1.04	1.06	1.06	1.10	1.39			3.19	3.16	3.22
wind	1.5 m/s	velocity	5.32	8.54	8.46	8.79	8.54	8.70	8.79	8.62	8.62	8.31	10.09	8.12		8.60	8.68	8.52

Semi-Final 2 - 1988 Olympic Games (Seoul, KOR) *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.54	3.62	4.69	5.74	6.78	7.82	8.90	9.96	11.04	12.11		13.56	6 / 4			
reaction time	0.152	interval		1.08	1.07	1.05	1.04	1.04	1.08	1.06	1.08	1.07	1.45			3.20	3.16	3.21
wind	-0.7 m/s	velocity	5.40	8.46	8.54	8.70	8.79	8.79	8.46	8.62	8.46	8.54	9.67	8.11		8.57	8.68	8.54

Jelínek, Erik (CZE) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2015 Czech Republic National U18 Indoor Championships (Praha, CZE) (91cm) *Feher (2015) - Final report U18 & U20 Czech Republic indoor national champs*

date	14-Feb-15	time	2.78	3.94	5.06	6.19	7.31							8.33	1 / 8			
reaction time	0.153	interval		1.16	1.12	1.13	1.12						1.02			3.41		
		velocity	4.94	7.88	8.16	8.09	8.16						9.53	7.20		8.04		

Ji Haohao (CHN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2022 Chinese National Grand Prix (Huangshi, CHN) *Huo (2022) - research on the technical characteristics of elite chinese 110m hurdlers*

date	15-Jul-22	time	2.66	3.76	4.86	5.94	7.04	8.16	9.28	10.41	11.53	12.66		14.16	/ 2			
reaction time		interval		1.10	1.10	1.08	1.10	1.12	1.12	1.13	1.12	1.13	1.50			3.28	3.34	3.38
wind	-0.2 m/s	velocity	5.16	8.31	8.31	8.46	8.31	8.16	8.16	8.09	8.16	8.09	9.35	7.77		8.36	8.21	8.11

Heat 3 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.72	3.84	4.94	6.07	7.18	8.29	9.43	10.56	11.71	12.88		14.44	7 / 7			
reaction time	0.177	interval		1.12	1.10	1.13	1.11	1.11	1.14	1.13	1.15	1.17	1.56			3.35	3.36	3.45
wind	0.5 m/s	velocity	5.04	8.16	8.31	8.09	8.23	8.23	8.02	8.09	7.95	7.81	8.99	7.62		8.19	8.16	7.95

U20 FINAL - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.69	3.77	4.84	5.90	6.94	8.04	9.09	10.19	11.31	12.43		13.96	2 / 6		
reaction time	0.187	interval		1.08	1.07	1.06	1.04	1.10	1.05	1.10	1.12	1.12	1.53			3.21	3.19	3.34
wind	-0.3 m/s	velocity	5.10	8.46	8.54	8.62	8.79	8.31	8.70	8.31	8.16	8.16	9.16	7.88		8.54	8.60	8.21

U20 Heat 1 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.56	3.64	4.71	5.77	6.82	7.88	8.96	10.05	11.16	12.28		13.91	6 / 3		
reaction time	0.168	interval		1.08	1.07	1.06	1.05	1.06	1.08	1.09	1.11	1.12	1.63			3.21	3.19	3.32
wind	0.5 m/s	velocity	5.36	8.46	8.54	8.62	8.70	8.62	8.46	8.39	8.23	8.16	8.60	7.91		8.54	8.60	8.26

FINAL - 2018 Chinese National Sports School Championships (Jinjiang, CHN) (99.1cm) *Zhang (2019) - comparative analysis of characteristics of Chinese elite men's 110m hurdles in different age groups*

date	??	time	2.74	3.85	4.94	6.03	7.14	8.20	9.32	10.50	11.66	12.81		14.39	8 / ??		
reaction time		interval		1.11	1.09	1.09	1.11	1.06	1.12	1.18	1.16	1.15	1.58			3.29	3.29	3.49
wind	??	velocity	5.01	8.23	8.39	8.39	8.23	8.62	8.16	7.75	7.88	7.95	8.87	7.64		8.33	8.33	7.86

Ji Wei (CHN) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Chinese National Games (Tianjin, CHN) *Henson (2017) - coaching observations*

date	03-Sep-17	time	2.73	3.84	4.92	5.99	7.03	8.08	9.16	10.26	11.36	12.50		14.01	9 / 6		
reaction time		interval		1.11	1.08	1.07	1.04	1.05	1.08	1.10	1.10	1.14	1.51			3.26	3.17	3.34
wind	0.3 m/s	velocity	5.03	8.23	8.46	8.54	8.79	8.70	8.46	8.31	8.31	8.02	9.28	7.85		8.41	8.65	8.21

FINAL - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.68	3.77	4.80	5.84	6.86	7.92	8.96	10.02	11.09	12.17		13.57	1 / 8		
reaction time	0.144	interval		1.09	1.03	1.04	1.02	1.06	1.04	1.06	1.07	1.08	1.40			3.16	3.12	3.21
wind	0.1 m/s	velocity	5.12	8.39	8.87	8.79	8.96	8.62	8.79	8.62	8.54	8.46	10.01	8.11		8.68	8.79	8.54

Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.64	3.71	4.74	5.77	6.79	7.82	8.84	9.89	10.95	12.01		13.41	4 / 3		
reaction time	0.147	interval		1.07	1.03	1.03	1.02	1.03	1.02	1.05	1.06	1.06	1.40			3.13	3.07	3.17
wind	0.9 m/s	velocity	5.20	8.54	8.87	8.87	8.96	8.87	8.96	8.70	8.62	8.62	10.01	8.20		8.76	8.93	8.65

Heat 5 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.64	3.71	4.75	5.79	6.81	7.86	8.91	9.95	11.03	12.11		13.51	2 / 1		
reaction time	0.124	interval		1.07	1.04	1.04	1.02	1.05	1.05	1.04	1.08	1.08	1.40			3.15	3.12	3.20
wind	0.0 m/s	velocity	5.20	8.54	8.79	8.79	8.96	8.70	8.70	8.79	8.46	8.46	10.01	8.14		8.70	8.79	8.57

FINAL - 2009 Osaka Grand Prix (Osaka, JPN) *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*

date	09-May-09	time	2.63	3.69	4.73	5.77	6.78	7.80	8.81	9.84	10.91	11.99		13.51	/ 3		
reaction time		interval		1.06	1.04	1.04	1.01	1.02	1.01	1.03	1.07	1.08	1.52			3.14	3.04	3.18
wind	0.2 m/s	velocity	5.22	8.62	8.79	8.79	9.05	8.96	9.05	8.87	8.54	8.46	9.22	8.14		8.73	9.02	8.62

Jia Qihang (CHN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

U20 Heat 1 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.59	3.72	4.81	5.91	6.99	8.14	9.26	10.41	11.51	12.70		14.30	7 / 5		
reaction time	0.177	interval		1.13	1.09	1.10	1.08	1.15	1.12	1.15	1.10	1.19	1.60			3.32	3.35	3.44
wind	0.5 m/s	velocity	5.30	8.09	8.39	8.31	8.46	7.95	8.16	7.95	8.31	7.68	8.76	7.69		8.26	8.19	7.97

Jian Jinlong (CHN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2021 East China District Meeting (Zhaoqing, CHN) *CAA Hurdle Development (2021)*

date	24-Apr-21	time	2.75	3.93	5.06	6.20	7.32	8.46	9.59	10.74	11.90	13.10		14.66	2 / 6		
reaction time	0.166	interval		1.18	1.13	1.14	1.12	1.14	1.13	1.15	1.16	1.20	1.56	PB		3.45	3.39	3.51
wind	-1.1 m/s	velocity	4.99	7.75	8.09	8.02	8.16	8.02	8.09	7.95	7.88	7.62	8.99	7.50		7.95	8.09	7.81

Jiang Fan (CHN) (1990)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.69	3.82	4.92	6.01	7.12	8.21	9.30	10.45	11.59	12.74		14.27	4 / 5		
reaction time	0.140	interval		1.13	1.10	1.09	1.11	1.09	1.09	1.15	1.14	1.15	1.53			3.32	3.29	3.44
wind	-0.5 m/s	velocity	5.10	8.09	8.31	8.39	8.23	8.39	8.39	7.95	8.02	7.95	9.16	7.71		8.26	8.33	7.97

FINAL - 2020 Don Kirby Elite Invitational (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.70	3.82	4.90	6.01	7.11							8.14	2 / 6		
reaction time		interval		1.12	1.08	1.11	1.10						1.03			3.31		
		velocity	5.08	8.16	8.46	8.23	8.31						9.44	7.37		8.28		

Semi-Final 3 - 2020 Don Kirby Elite Invitational (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.68	3.80	4.85	5.94	7.00							7.96	1 / 2		
reaction time		interval		1.12	1.05	1.09	1.06						0.96			3.26		
		velocity	5.12	8.16	8.70	8.39	8.62						10.13	7.54		8.41		

Heat 2 - 2020 Don Kirby Elite Invitational (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.55	3.65	4.72	5.79	6.87							7.94	2 / 1		
reaction time		interval		1.10	1.07	1.07	1.08						1.07			3.24		
		velocity	5.38	8.31	8.54	8.54	8.46						9.08	7.56		8.46		

FINAL - 2020 Mountain T's Invitational (Flagstaff AZ) (Altitude) *CAA Hurdle Development (2020)*

date	01-Feb-20	time	2.72	3.81	4.89	5.98	7.04						7.97	2 / 5	
reaction time		interval		1.09	1.08	1.09	1.06					0.93			3.26
		velocity	5.04	8.39	8.46	8.39	8.62					10.45	7.53		8.41

Heat 2 - 2020 Mountain T's Invitational (Flagstaff AZ) (Altitude) *CAA Hurdle Development (2020)*

date	01-Feb-20	time	2.72	3.82	4.91	5.97	7.02						7.97	5 / 2	
reaction time		interval		1.10	1.09	1.06	1.05					0.95			3.25
		velocity	5.04	8.31	8.39	8.62	8.70					10.23	7.53		8.44

Heat 2 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.70	3.84	4.95	6.06	7.17	8.29	9.41	10.59	11.83	13.09		14.80	9 / 6		
reaction time	0.159	interval		1.14	1.11	1.11	1.11	1.12	1.12	1.18	1.24	1.26	1.71			3.36	3.35	3.68
wind	-0.2 m/s	velocity	5.08	8.02	8.23	8.23	8.23	8.16	8.16	7.75	7.37	7.25	8.20	7.43		8.16	8.19	7.45

FINAL - 2019 Chinese World Championship Trials (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	02-Aug-19	time	2.65	3.74	4.80	5.87	6.92	7.99	9.07	10.16	11.26	12.38		13.89	5 / 4		
reaction time	0.148	interval		1.09	1.06	1.07	1.05	1.07	1.08	1.09	1.10	1.12	1.51			3.22	3.20	3.31
wind	0.0 m/s	velocity	5.18	8.39	8.62	8.54	8.70	8.54	8.46	8.39	8.31	8.16	9.28	7.92		8.52	8.57	8.28

Heat 1 - 2019 Chinese World Championship Trials (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	02-Aug-19	time	2.68	3.78	4.88	5.97	7.05	8.12	9.24	10.36	11.48	12.61		14.13	7 / 2		
reaction time	0.144	interval		1.10	1.10	1.09	1.08	1.07	1.12	1.12	1.12	1.13	1.52			3.29	3.27	3.37
wind	-0.3 m/s	velocity	5.12	8.31	8.31	8.39	8.46	8.54	8.16	8.16	8.16	8.09	9.22	7.78		8.33	8.39	8.14

FINAL - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.63	3.73	4.80	5.89	6.97	8.06	9.15	10.24	11.34	12.48		13.96	7 / 5		
reaction time	0.143	interval		1.10	1.07	1.09	1.08	1.09	1.09	1.09	1.10	1.14	1.48			3.26	3.26	3.33
wind	0.1 m/s	velocity	5.22	8.31	8.54	8.39	8.46	8.39	8.39	8.39	8.31	8.02	9.47	7.88		8.41	8.41	8.23

Heat 1 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.69	3.80	4.87	5.95	7.05	8.12	9.22	10.34	11.44	12.59		14.12	6 / 2		
reaction time	0.150	interval		1.11	1.07	1.08	1.10	1.07	1.10	1.12	1.10	1.15	1.53			3.26	3.27	3.37
wind	0.1 m/s	velocity	5.10	8.23	8.54	8.46	8.31	8.54	8.31	8.16	8.31	7.95	9.16	7.79		8.41	8.39	8.14

Heat 4 - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.69	3.84	4.96	6.08	7.22	8.40						dnf	8 / --		
reaction time	0.153	interval		1.15	1.12	1.12	1.14	1.18								3.39		
wind	-0.8 m/s	velocity	5.10	7.95	8.16	8.16	8.02	7.75								8.09		

FINAL - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	09-Apr-19	time	2.76	3.88	4.97	6.11	7.21	8.34	9.48	10.63	11.80	12.98		14.65	8 / 7		
reaction time	0.209	interval		1.12	1.09	1.14	1.10	1.13	1.14	1.15	1.17	1.18	1.67			3.35	3.37	3.50
wind	0.2 m/s	velocity	4.97	8.16	8.39	8.02	8.31	8.09	8.02	7.95	7.81	7.75	8.40	7.51		8.19	8.14	7.83

Heat 2 - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	08-Apr-19	time	2.71	3.85	4.95	6.05	7.15	8.26	9.38	10.50	11.65	12.79		14.33	5 / 2		
reaction time	0.176	interval		1.14	1.10	1.10	1.10	1.11	1.12	1.12	1.15	1.14	1.54			3.34	3.33	3.41
wind	-0.6 m/s	velocity	5.06	8.02	8.31	8.31	8.31	8.23	8.16	8.16	7.95	8.02	9.10	7.68		8.21	8.23	8.04

A-FINAL - 2019 Chinese Indoor National Grand Prix 2 (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	24-Feb-19	time	2.68	3.80	4.89	5.99	7.09						8.03	5 / 3	
reaction time		interval		1.12	1.09	1.10	1.10					0.94			3.31
		velocity	5.12	8.16	8.39	8.31	8.31					10.34	7.47		8.28

A-FINAL - 2019 Chinese Indoor National Grand Prix 1 (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	20-Feb-19	time	2.67	3.79	4.85	5.94	7.02						7.94	5 / 1	
reaction time		interval		1.12	1.06	1.09	1.08					0.92			3.27
		velocity	5.14	8.16	8.62	8.39	8.46					10.57	7.56		8.39

FINAL - 2017 Chinese National Games (Tianjin, CHN) *Henson (2017) - coaching observations*

date	03-Sep-17	time	2.65	3.72	4.79	5.84	6.89	7.94	9.02	10.11	11.20	12.31		13.78	2 / 2		
reaction time		interval		1.07	1.07	1.05	1.05	1.05	1.08	1.09	1.09	1.11	1.47			3.19	3.18	3.29
wind	0.3 m/s	velocity	5.18	8.54	8.54	8.70	8.70	8.70	8.46	8.39	8.39	8.23	9.54	7.98		8.60	8.62	8.33

Jiang Jinlong (CHN) (2000)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

U20 Heat 2 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.70	3.80	4.90	5.99	7.09	8.18	9.26	10.37	11.48	12.61		14.16	3 / 5		
reaction time	0.168	interval		1.10	1.10	1.09	1.10	1.09	1.08	1.11	1.11	1.13	1.55			3.29	3.27	3.35
wind	-0.3 m/s	velocity	5.08	8.31	8.31	8.39	8.31	8.39	8.46	8.23	8.23	8.09	9.05	7.77		8.33	8.39	8.19

Jiang Wei (CHN) (1994)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

Heat 4 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.69	3.82	4.97	6.09	7.21	8.31	9.43	10.56	11.73	12.90		14.49	4 / 5			
reaction time	0.162	interval		1.13	1.15	1.12	1.12	1.10	1.12	1.13	1.17	1.17	1.59			3.40	3.34	3.47
wind	-0.2 m/s	velocity	5.10	8.09	7.95	8.16	8.16	8.31	8.16	8.09	7.81	7.81	8.82	7.59		8.06	8.21	7.90

FINAL - 2021 Philippe Cup Athletics Invitational (Wuhan, CHN) *CAA Hurdle Development (2021)*

date	19-May-21	time	2.74	3.89	5.00	6.10	7.22	8.36	9.44	10.59	11.73	12.90		14.43	2 / 5			
reaction time	0.194	interval		1.15	1.11	1.10	1.12	1.14	1.08	1.15	1.14	1.17	1.53			3.36	3.34	3.46
wind	1.9 m/s	velocity	5.01	7.95	8.23	8.31	8.16	8.02	8.46	7.95	8.02	7.81	9.16	7.62		8.16	8.21	7.92

Heat 2 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.72	3.87	4.99	6.11	7.26	8.39	9.51	10.68	11.84	13.04		14.60	3 / 4			
reaction time	0.200	interval	*7 steps*	1.15	1.12	1.12	1.15	1.13	1.12	1.17	1.16	1.20	1.56			3.39	3.40	3.53
wind	-0.2 m/s	velocity	5.04	7.95	8.16	8.16	7.95	8.09	8.16	7.81	7.88	7.62	8.99	7.53		8.09	8.06	7.77

B-FINAL - 2019 Chinese Indoor National Grand Prix 4 (Xi'an, CHN) *CAA Hurdle Development (2019)*

date	4-Mar-19	time	2.69	3.79	4.87	5.93	7.01							7.98	3 / 2			
reaction time		interval	*7 steps*	1.10	1.08	1.06	1.08						0.97			3.24		
		velocity	5.10	8.31	8.46	8.62	8.46						10.02	7.52		8.46		

Heat 2 - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	15-Sep-18	time	2.68	3.78	4.87	5.94	7.02	8.12	9.22	10.36	11.50	12.66		14.22	8 / 5			
reaction time		interval	*7 steps*	1.10	1.09	1.07	1.08	1.10	1.10	1.14	1.14	1.16	1.56			3.26	3.28	3.44
wind	0.7 m/s	velocity	5.12	8.31	8.39	8.54	8.46	8.31	8.31	8.02	8.02	7.88	8.99	7.74		8.41	8.36	7.97

FINAL - 2018 National Grand Prix Final (Guiyang, CHN) (Altitude) *Zhang (2019) - comparative analysis of Chinese elite men's 110m hurdles in different age groups*

date	17-Jun-18	time	2.69	3.80	4.93	6.06	7.18	8.29	9.42	10.57	11.71	12.86		14.45	2 / 8			
reaction time		interval		1.11	1.13	1.13	1.12	1.11	1.13	1.15	1.14	1.15	1.59			3.37	3.36	3.44
wind	-0.3 m/s	velocity	5.10	8.23	8.09	8.09	8.16	8.23	8.09	7.95	8.02	7.95	8.82	7.61		8.14	8.16	7.97

Jiang Yuhong (CHN) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	11-Jul-19	time	2.98	4.25	5.51	6.79	8.10	9.56	11.04	12.50	13.98	15.48		17.39	4 / 6			
reaction time	0.247	interval		1.27	1.26	1.28	1.31	1.46	1.48	1.46	1.48	1.50	1.91			3.81	4.25	4.44
wind	-0.1 m/s	velocity	4.60	7.20	7.25	7.14	6.98	6.26	6.18	6.26	6.18	6.09	7.34	6.33		7.20	6.45	6.18

Jiles-Tindall, Julius (USA) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 4 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.69	3.79	4.90	5.99	7.08	8.16	9.28	10.38	11.47	12.61		14.10	6 / 7			
reaction time		interval		1.10	1.11	1.09	1.09	1.08	1.12	1.10	1.09	1.14	1.49			3.30	3.29	3.33
wind	-2.8 m/s	velocity	5.10	8.31	8.23	8.39	8.39	8.46	8.16	8.31	8.39	8.02	9.41	7.80		8.31	8.33	8.23

FINAL - 2003 USATF National Junior Championships (Palo Alto, CA) (99cm) *USATF Women's Sprint Development (2003)*

date	21-Jun-03	time	2.70	3.84	4.94	6.04	7.14	8.29	9.41	10.54	11.71	12.89		14.51	2 / 7			
reaction time		interval		1.14	1.10	1.10	1.10	1.15	1.12	1.13	1.17	1.18	1.62			3.34	3.37	3.48
wind	-2.4 m/s	velocity	5.08	8.02	8.31	8.31	8.31	7.95	8.16	8.09	7.81	7.75	8.65	7.58		8.21	8.14	7.88

John, Alexander (GER) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.65	3.71	4.77	5.84	6.89	7.95	9.03	10.09	11.17	12.27		13.64	6 / 8			
reaction time	0.185	interval		1.06	1.06	1.07	1.05	1.06	1.08	1.06	1.08	1.10	1.37			3.19	3.19	3.24
wind	0.6 m/s	velocity	5.18	8.62	8.62	8.54	8.70	8.62	8.46	8.62	8.46	8.31	10.23	8.06		8.60	8.60	8.46

Heat 4 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.63	3.70	4.75	5.81	6.84	7.88	8.93	9.96	11.01	12.08		13.41	5 / 2			
reaction time	0.114	interval		1.07	1.05	1.06	1.03	1.04	1.05	1.03	1.05	1.07	1.33			3.18	3.12	3.15
wind	0.5 m/s	velocity	5.22	8.54	8.70	8.62	8.87	8.79	8.70	8.87	8.70	8.54	10.54	8.20		8.62	8.79	8.70

Johnson, Allen (USA) (1971)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER) *Graubner (2007) - http://www.fgs.uni-halle.de*

date	23-Sep-07	time	2.59	3.63	4.66	5.68	6.71	7.74	8.77	9.81	10.87	11.95		13.36	2 / 6			
reaction time	0.158	interval		1.04	1.03	1.02	1.03	1.03	1.03	1.04	1.06	1.08	1.41			3.09	3.09	3.18
wind	0.0 m/s	velocity	5.30	8.79	8.87	8.96	8.87	8.87	8.87	8.79	8.62	8.46	9.94	8.23		8.87	8.87	8.62

FINAL - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.59	3.62	4.64	5.64	6.67	7.69	8.76	9.78	10.93	12.03		13.60	2 / 7			
reaction time		interval		1.03	1.02	1.00	1.03	1.02	1.07	1.02	1.15	1.10	1.57			3.05	3.12	3.27
wind	0.5 m/s	velocity	5.30	8.87	8.96	9.14	8.87	8.96	8.54	8.96	7.95	8.31	8.93	8.09		8.99	8.79	8.39

Semi-Final 1 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.57	3.64	4.64	5.67	6.69	7.71	8.76	9.81	10.86	11.95		13.42	8 / 4			
reaction time		interval		1.07	1.00	1.03	1.02	1.02	1.05	1.05	1.05	1.09	1.47			3.10	3.09	3.19
wind	-0.6 m/s	velocity	5.34	8.54	9.14	8.87	8.96	8.96	8.70	8.70	8.70	8.39	9.54	8.20		8.85	8.87	8.60

Heat 1 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.57	3.62	4.64	5.67	6.71	7.73	8.77	9.86	10.93	12.02		13.52	3 / 3			
reaction time		interval		1.05	1.02	1.03	1.04	1.02	1.04	1.09	1.07	1.09	1.50			3.10	3.10	3.25
wind	0.1 m/s	velocity	5.34	8.70	8.96	8.87	8.79	8.96	8.79	8.39	8.54	8.39	9.35	8.14		8.85	8.85	8.44

FINAL - 2006 IAAF World Cup (Athens, GRE) (TV Analysis) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	17-Sep-06	time	2.55	3.54	4.54	5.53	6.51	7.50	8.49	9.49	10.51	11.55		12.96	3 / 1			
reaction time	0.164	interval		0.99	1.00	0.99	0.98	0.99	0.99	1.00	1.02	1.04	1.41	CR		2.98	2.96	3.06
wind	0.4 m/s	velocity	5.38	9.23	9.14	9.23	9.33	9.23	9.23	9.14	8.96	8.79	9.94	8.49		9.20	9.26	8.96

FINAL - 2005 USATF National Championships (Carson, CA) *USATF Women's Sprint Development (2005)*

date	24-Jun-05	time	2.56	3.57	4.58	5.58	6.56	7.56	8.58	9.56	10.58	11.64		12.99	2 / 1			
reaction time		interval		1.01	1.01	1.00	0.98	1.00	1.02	0.98	1.02	1.06	1.35			3.02	3.00	3.06
wind	0.2 m/s	velocity	5.36	9.05	9.05	9.14	9.33	9.14	8.96	9.33	8.96	8.62	10.39	8.47		9.08	9.14	8.96

FINAL - 2003 IAAF World Championships (Paris, FRA) *Leynier (2003) - Paris 2003 - Haies: Le 110m haies*

date	30-Aug-03	time	2.56	3.60	4.60	5.60	6.60	7.62	8.62	9.64	10.68	11.72		13.12	4 / 1			
reaction time	0.159	interval		1.04	1.00	1.00	1.00	1.02	1.00	1.02	1.04	1.04	1.40			3.04	3.02	3.10
wind	0.3 m/s	velocity	5.36	8.79	9.14	9.14	9.14	8.96	9.14	8.96	8.79	8.79	10.01	8.38		9.02	9.08	8.85

FINAL - 2003 Athletissima Meeting (Lausanne, SUI) *Xu (2004) - an analysis of Liu Xiang's technique in 100m hurdle final at the Athens Olympic Games*

date	01-Jul-03	time	2.56	3.58	4.60	5.60	6.58	7.58	8.60	9.60	10.62	11.66		13.06	/ 1			
reaction time		interval		1.02	1.02	1.00	0.98	1.00	1.02	1.00	1.02	1.04	1.40			3.04	3.00	3.06
wind	0.0 m/s	velocity	5.36	8.96	8.96	9.14	9.33	9.14	8.96	9.14	8.96	8.79	10.01	8.42		9.02	9.14	8.96

FINAL - 2003 USATF National Championships (Palo Alto, CA) *USATF Women's Sprint Development (2003)*

date	21-Jun-03	time	2.35	3.44	4.44	5.49	6.51	7.52	8.56	9.59	10.64	11.70		13.37	6 / 1			
reaction time		interval		1.09	1.00	1.05	1.02	1.01	1.04	1.03	1.05	1.06	1.67			3.14	3.07	3.14
wind	-2.4 m/s	velocity	5.84	8.39	9.14	8.70	8.96	9.05	8.79	8.87	8.70	8.62	8.40	8.23		8.73	8.93	8.73

FINAL - 2002 IAAF World Cup (Madrid, ESP) *Sanchez (2002) - copa del mundo de Madrid '02: análisis de la carreras con villas*

date	21-Sep-02	time	2.48	3.49	4.51	5.51	6.52	7.55	8.59	9.65	10.71	11.78		13.45	5 / 2			
reaction time	0.135	interval		1.01	1.02	1.00	1.01	1.03	1.04	1.06	1.06	1.07	1.67			3.03	3.08	3.19
wind	-2.2 m/s	velocity	5.53	9.05	8.96	9.14	9.05	8.87	8.79	8.62	8.62	8.54	8.40	8.18		9.05	8.90	8.60

FINAL - 2001 ISTAF (Berlin, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	31-Aug-09	time	2.58	3.59	4.60	5.58	6.58	7.58	8.58	9.60	10.62	11.66		13.04	4 / 1			
reaction time	0.170	interval		1.01	1.01	0.98	1.00	1.00	1.00	1.02	1.02	1.04	1.38			3.00	3.00	3.08
wind	1.0 m/s	velocity	5.32	9.05	9.05	9.33	9.14	9.14	9.14	8.96	8.96	8.79	10.16	8.44		9.14	9.14	8.90

FINAL - 1997 IAAF World Championships (Athens, GRE) *Hommel (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*

date	07-Aug-97	time	2.56	3.56	4.54	5.54	6.52	7.54	8.52	9.57	10.59	11.62		12.93	4 / 1			
reaction time	0.128	interval		1.00	0.98	1.00	0.98	1.02	0.98	1.05	1.02	1.03	1.31			2.98	2.98	3.10
wind	0.0 m/s	velocity	5.36	9.14	9.33	9.14	9.33	8.96	9.33	8.70	8.96	8.87	10.70	8.51		9.20	9.20	8.85

FINAL - 1996 Memorial Van Damme (Brussels, BEL) *Shi (2013) - comprehensive research on the "three characteristics" of the men's 110m hurdles*

date	23-Aug-96	time	2.56	3.56	4.54	5.54	6.52	7.53	8.51	9.56	10.58	11.61		12.92	/ 1			
reaction time		interval		1.00	0.98	1.00	0.98	1.01	0.98	1.05	1.02	1.03	1.31	=AR =PB		2.98	2.97	3.10
wind	0.2 m/s	velocity	5.36	9.14	9.33	9.14	9.33	9.05	9.33	8.70	8.96	8.87	10.70	8.51		9.20	9.23	8.85

FINAL - 1996 Olympic Games (Atlanta, GA) *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

date	26-Jul-96	time	2.34	3.38	4.39	5.36	6.32	7.30	8.30	9.33	10.36	11.38		12.95	6 / 1			
reaction time	0.170	interval		1.04	1.01	0.97	0.96	0.98	1.00	1.03	1.03	1.02	1.57	OR		3.02	2.94	3.08
wind	0.8 m/s	velocity	5.86	8.79	9.05	9.42	9.52	9.33	9.14	8.87	8.87	8.96	8.93	8.49		9.08	9.33	8.90

FINAL - 1996 USA Olympic Trials (Atlanta, GA) *McNichols (2000) - Hurdle technique study through video analysis*

date	23-Jun-96	time	2.36	3.40	4.40	5.36	6.36	7.33	8.32	9.32	10.36	11.42		12.92	6 / 1			
reaction time		interval		1.04	1.00	0.96	1.00	0.97	0.99	1.00	1.04	1.06	1.50	AR PB		3.00	2.96	3.10
wind	0.9 m/s	velocity	5.81	8.79	9.14	9.52	9.14	9.42	9.23	9.14	8.79	8.62	9.35	8.51		9.14	9.26	8.85

Jordán, Abel (ESP) (2003)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

FINAL - 2025 European Athletics Indoor Championships (Apeldoorn, NED) *European Athletics (2025) - european athletics indoor championships results book*

date	07-Mar-25	time	2.42	3.49	4.51	5.52	6.53							7.54	1 / 4			
reaction time	0.155	interval	7 steps	1.07	1.02	1.01	1.01						1.01			3.10		
		velocity	5.67	8.54	8.96	9.05	9.05						9.62	7.96		8.85		

Semi-Final 2 - 2025 European Athletics Indoor Championships (Apeldoorn, NED) *European Athletics (2025) - european athletics indoor championships results book*

date	07-Mar-25	time	2.41	3.48	4.50	5.52	6.53							7.58	1 / 4			
reaction time	0.154	interval	7 steps	1.07	1.02	1.02	1.01						1.05			3.11		
		velocity	5.69	8.54	8.96	8.96	9.05						9.26	7.92		8.82		

Joseph, Jason (SUI) (1998)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

Semi-Final 2 - 2025 European Athletics Indoor Championships (Apeldoorn, NED) — *European Athletics (2025) - european athletics indoor championships results book*

date	07-Mar-25	time	2.49	3.56	4.58	5.58	6.61							7.70	3 / 7				
reaction time	0.176	interval	7 steps	1.07	1.02	1.00	1.03						1.09			3.09			
		velocity	5.51	8.54	8.96	9.14	8.87						8.92	7.79		8.87			

FINAL - 2024 Weltklasse (Zürich, SUI) — *Omega Timing (2024) - diamond league race analysis*

date	05-Sep-24	time	2.50	3.59	4.62	5.61	6.62	7.66	8.71	9.77	10.85	11.93		13.60	9 / 9				
reaction time	0.170	interval	7 steps	1.09	1.03	0.99	1.01	1.04	1.05	1.06	1.08	1.08	1.67			3.11	3.10	3.22	
wind	-0.3 m/s	velocity	5.49	8.39	8.87	9.23	9.05	8.79	8.70	8.62	8.46	8.46	8.40	8.09		8.82	8.85	8.52	

FINAL - 2024 Athletissima (Lausanne, SUI) — *Omega Timing (2024) - diamond league race analysis*

date	22-Aug-24	time	2.48	3.56	4.60	5.59	6.61	7.64	8.69	9.76	10.86	11.97		13.78	2 / 8				
reaction time	0.148	interval	7 steps	1.08	1.04	0.99	1.02	1.03	1.05	1.07	1.10	1.11	1.81			3.11	3.10	3.28	
wind	-0.1 m/s	velocity	5.53	8.46	8.79	9.23	8.96	8.87	8.70	8.54	8.31	8.23	7.75	7.98		8.82	8.85	8.36	

Semi-Final 2 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	2.45	3.54	4.58	5.60	6.61	7.64	8.68	9.73	10.79	11.86		13.43	5 / 6				
reaction time	0.180	interval	7 steps	1.09	1.04	1.02	1.01	1.03	1.04	1.05	1.06	1.07	1.57			3.15	3.08	3.18	
wind	-0.1 m/s	velocity	5.60	8.39	8.79	8.96	9.05	8.87	8.79	8.70	8.62	8.54	8.93	8.19		8.70	8.90	8.62	

Heat 4 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.48	3.56	4.58	5.57	6.56	7.56	8.56	9.61	10.66	11.70		13.26	6 / 1				
reaction time	0.170	interval	7 steps	1.08	1.02	0.99	0.99	1.00	1.00	1.05	1.05	1.04	1.56			3.09	2.99	3.14	
wind	0.3 m/s	velocity	5.53	8.46	8.96	9.23	9.23	9.14	9.14	8.70	8.70	8.79	8.99	8.30		8.87	9.17	8.73	

FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON) — *Omega Timing (2024) - diamond league race analysis*

date	12-Jul-24	time	2.54	3.62	4.64	5.66	6.68	7.71	8.74	9.78	10.85	11.93		13.54	1 / 6				
reaction time	0.154	interval	7 steps	1.08	1.02	1.02	1.02	1.03	1.03	1.04	1.07	1.08	1.61			3.12	3.08	3.19	
wind	-0.7 m/s	velocity	5.40	8.46	8.96	8.96	8.96	8.87	8.87	8.79	8.54	8.46	8.71	8.12		8.79	8.90	8.60	

Heat 1 - 2024 Meeting de Paris (Paris, FRA) — *Omega Timing (2024) - diamond league race analysis*

date	07-Jul-24	time	2.52	3.60	4.62	5.63	6.65	7.67	8.71	9.74	10.80	11.86		13.41	2 / 6				
reaction time	0.158	interval	7 steps	1.08	1.02	1.01	1.02	1.02	1.04	1.03	1.06	1.06	1.55			3.11	3.08	3.15	
wind	0.1 m/s	velocity	5.44	8.46	8.96	9.05	8.96	8.96	8.79	8.87	8.62	8.62	9.05	8.20		8.82	8.90	8.70	

FINAL - 2024 European Athletics Championships (Roma, ITA) (TV Analysis) — *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	08-Jun-24	time	2.60	3.63	4.65	5.70	6.74	7.78	8.82	9.86	10.95	12.00		13.43	6 / 3				
reaction time	0.155	interval	7 steps	1.03	1.02	1.05	1.04	1.04	1.04	1.04	1.09	1.05	1.43			3.10	3.12	3.18	
wind	0.6 m/s	velocity	5.28	8.87	8.96	8.70	8.79	8.79	8.79	8.79	8.39	8.70	9.80	8.19		8.85	8.79	8.62	

FINAL - 2023 Prefontaine Classic (Eugene, OR) — *Omega Timing (2023) - diamond league race analysis*

date	17-Sep-23	time	2.43	3.49	4.52	5.52	6.51	7.50	8.51	9.52	10.54	11.57		13.12	8 / 5				
reaction time	0.156	interval	7 steps	1.06	1.03	1.00	0.99	0.99	1.01	1.01	1.02	1.03	1.55			3.09	2.99	3.06	
wind	0.9 m/s	velocity	5.65	8.62	8.87	9.14	9.23	9.23	9.05	9.05	8.96	8.87	9.05	8.38		8.87	9.17	8.96	

FINAL - 2023 Weltklasse (Zürich, SUI) — *Omega Timing (2023) - diamond league race analysis*

date	31-Aug-23	time	2.40	3.46	4.46	5.45	6.45	7.45	8.46	9.46	10.49	11.54		13.08	5 / 1				
reaction time	0.137	interval	7 steps	1.06	1.00	0.99	1.00	1.00	1.01	1.00	1.03	1.05	1.54	**NR PB**		3.05	3.01	3.08	
wind	-0.1 m/s	velocity	5.72	8.62	9.14	9.23	9.14	9.14	9.05	9.14	8.87	8.70	9.10	8.41		8.99	9.11	8.90	

FINAL - 2023 World Athletics Championships (Budapest, HUN) — *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	21-Aug-23	time	2.56	3.58	4.57	5.59	6.61	7.66	8.70	9.75	10.78	11.84		13.28	9 / 7				
reaction time	0.143	interval	7 steps	1.02	0.99	1.02	1.02	1.05	1.04	1.05	1.03	1.06	1.44			3.03	3.11	3.14	
wind	0.0 m/s	velocity	5.36	8.96	9.23	8.96	8.96	8.70	8.79	8.70	8.87	8.62	9.74	8.28		9.05	8.82	8.73	

Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) — *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.56	3.66	4.68	5.70	6.72	7.73	8.73	9.73	10.77	11.80		13.25	8 / 4				
reaction time	0.163	interval	7 steps	1.10	1.02	1.02	1.02	1.01	1.00	1.00	1.04	1.03	1.45			3.14	3.03	3.07	
wind	-0.1 m/s	velocity	5.36	8.31	8.96	8.96	8.96	9.05	9.14	9.14	8.79	8.87	9.67	8.30		8.73	9.05	8.93	

Heat 4 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) — *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.53	3.60	4.62	5.64	6.68	7.72	8.78	9.82	10.86	11.90		13.38	2 / 4				
reaction time	0.159	interval	7 steps	1.07	1.02	1.02	1.04	1.04	1.06	1.04	1.04	1.04	1.48			3.11	3.14	3.12	
wind	-0.6 m/s	velocity	5.42	8.54	8.96	8.96	8.79	8.79	8.62	8.79	8.79	8.79	9.47	8.22		8.82	8.73	8.79	

FINAL - 2023 Athletissima (Lausanne, SUI) — *Omega Timing (2023) - diamond league race analysis*

date	30-Jun-23	time	2.40	3.47	4.49	5.50	6.50	7.50	8.52	9.58	10.63	11.68		13.23	5 / 2				
reaction time	0.153	interval	7 steps	1.07	1.02	1.01	1.00	1.00	1.02	1.06	1.05	1.05	1.55			3.10	3.02	3.16	
wind	-1.0 m/s	velocity	5.72	8.54	8.96	9.05	9.14	9.14	8.96	8.62	8.70	8.70	9.05	8.31		8.85	9.08	8.68	

FINAL - 2023 Meeting de Paris (Paris, FRA) — *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.43	3.47	4.49	5.49	6.50	7.51	8.53	9.56	10.61	11.67		13.29	3 / 7				
reaction time	0.195	interval	7 steps	1.04	1.02	1.00	1.01	1.01	1.02	1.03	1.05	1.06	1.62			3.06	3.04	3.14	

wind	-0.5 m/s	velocity	5.65	8.79	8.96	9.14	9.05	9.05	8.96	8.87	8.70	8.62	8.65	8.28		8.96	9.02	8.73

Heat 1 - 2023 Meeting de Paris (Paris, FRA) *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.47	3.54	4.57	5.59	6.60	7.62	8.65	9.68	10.71	11.78		13.36	4 / 2			
reaction time	0.201	interval	7 steps	1.07	1.03	1.02	1.01	1.02	1.03	1.03	1.03	1.07	1.58			3.12	3.06	3.13
wind	-2.0 m/s	velocity	5.55	8.54	8.87	8.96	9.05	8.96	8.87	8.87	8.87	8.54	8.87	8.23		8.79	8.96	8.76

FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	02-Jun-23	time	2.53	3.56	4.54	5.52	6.54	7.54	8.54	9.57	10.60	11.66		13.10	3 / 2			
reaction time	0.164	interval	7 steps	1.03	0.98	0.98	1.02	1.00	1.00	1.03	1.03	1.06	1.44	NR		2.99	3.02	3.12
wind	-0.2 m/s	velocity	5.42	8.87	9.33	9.33	8.96	9.14	9.14	8.87	8.87	8.62	9.74	8.40		9.17	9.08	8.79

FINAL - 2022 Weltklasse (Zürich, SUI) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	08-Sep-22	time	2.60	3.64	4.68	5.70	6.74	7.76	8.81	9.88	10.96	12.04		13.54	9 / 6			
reaction time	0.178	interval	7 steps	1.04	1.04	1.02	1.04	1.02	1.05	1.07	1.08	1.08	1.50			3.10	3.11	3.23
wind	-1.0 m/s	velocity	5.28	8.79	8.79	8.96	8.79	8.96	8.70	8.54	8.46	8.46	9.35	8.12		8.85	8.82	8.49

FINAL - 2022 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	26-Aug-22	time	2.58	3.65	4.72	5.77	6.81	7.84	8.91	9.98	11.08	12.18		13.66	2 / 8			
reaction time	0.158	interval	7 steps	1.07	1.07	1.05	1.04	1.03	1.07	1.07	1.10	1.10	1.48			3.19	3.14	3.27
wind	0.0 m/s	velocity	5.32	8.54	8.54	8.70	8.79	8.87	8.54	8.54	8.31	8.31	9.47	8.05		8.60	8.73	8.39

FINAL - 2022 European Athletics Championships (Munich, GER) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Aug-22	time	2.52	3.58	4.62	5.66	6.68	7.72	8.76	9.80	10.84	11.88		13.35	8 / 4			
reaction time	0.169	interval	7 steps	1.06	1.04	1.04	1.02	1.04	1.04	1.04	1.04	1.04	1.47			3.14	3.10	3.12
wind	-0.2 m/s	velocity	5.44	8.62	8.79	8.79	8.96	8.79	8.79	8.79	8.79	8.79	9.54	8.24		8.73	8.85	8.79

Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.58	3.63	4.66	5.70	6.75	7.80	8.86	9.96	11.03	12.17		13.67	7 / 7			
reaction time	0.149	interval	7 steps	1.05	1.03	1.04	1.05	1.05	1.06	1.10	1.07	1.14	1.50			3.12	3.16	3.31
wind	-0.6 m/s	velocity	5.32	8.70	8.87	8.79	8.70	8.70	8.62	8.31	8.54	8.02	9.35	8.05		8.79	8.68	8.28

Heat 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.53	3.56	4.60	5.60	6.63	7.66	8.76	9.80	10.86	11.96		13.49	7 / 4			
reaction time	0.140	interval	7 steps	1.03	1.04	1.00	1.03	1.03	1.10	1.04	1.06	1.10	1.53			3.07	3.16	3.20
wind	-0.5 m/s	velocity	5.42	8.87	8.79	9.14	8.87	8.87	8.31	8.79	8.62	8.31	9.16	8.15		8.93	8.68	8.57

FINAL - 2022 Bislett Games (Oslo, NOR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jun-22	time	2.56	3.62	4.64	5.68	6.68	7.72	8.76	9.84	10.92	12.02		13.55	7 / 5			
reaction time	0.159	interval	7 steps	1.06	1.02	1.04	1.00	1.04	1.04	1.08	1.08	1.10	1.53			3.12	3.08	3.26
wind	-1.2 m/s	velocity	5.36	8.62	8.96	8.79	9.14	8.79	8.79	8.46	8.46	8.31	9.16	8.12		8.79	8.90	8.41

FINAL - 2021 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Aug-21	time	2.56	3.60	4.64	5.62	6.60	7.60	8.60	9.60	10.62	11.62		13.11	3 / 2			
reaction time	0.149	interval	7 steps	1.04	1.04	0.98	0.98	1.00	1.00	1.00	1.02	1.00	1.49			3.06	2.98	3.02
wind	2.5 m/s	velocity	5.36	8.79	8.79	9.33	9.33	9.14	9.14	9.14	8.96	9.14	9.41	8.39		8.96	9.20	9.08

Semi-Final 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.59	3.67	4.71	5.71	6.76	7.80	8.86	9.89	10.96	12.05		13.46	4 / 5			
reaction time	0.135	interval	7 steps	1.08	1.04	1.00	1.05	1.04	1.06	1.03	1.07	1.09	1.41			3.12	3.15	3.19
wind	0.1 m/s	velocity	5.30	8.46	8.79	9.14	8.70	8.79	8.62	8.87	8.54	8.39	9.94	8.17		8.79	8.70	8.60

Heat 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.57	3.69	4.69	5.70	6.73	7.70	8.69	9.74	10.78	11.86		13.31	6 / 2			
reaction time	0.143	interval	7 steps	1.12	1.00	1.01	1.03	0.97	0.99	1.05	1.04	1.08	1.45			3.13	2.99	3.17
wind	0.0 m/s	velocity	5.34	8.16	9.14	9.05	8.87	9.42	9.23	8.70	8.79	8.46	9.67	8.26		8.76	9.17	8.65

FINAL - 2020 Doha Diamond League (Doha, QAT) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	25-Sep-20	time	2.56	3.64	4.68	5.70	6.72	7.76	8.80	9.82	10.82	11.88		13.40	3 / 2			
reaction time	0.196	interval	7 steps	1.08	1.04	1.02	1.02	1.04	1.04	1.02	1.00	1.06	1.52			3.14	3.10	3.08
wind	0.3 m/s	velocity	5.36	8.46	8.79	8.96	8.96	8.79	8.79	8.96	9.14	8.62	9.22	8.21		8.73	8.85	8.90

FINAL - 2020 Herculis Meeting International d'Athletisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	14-Aug-20	time	2.73	3.80	4.87	5.90	6.92	7.97	9.00	10.07	11.18	12.31		13.84	2 / 7			
reaction time	0.233	interval	7 steps	1.07	1.07	1.03	1.02	1.05	1.03	1.07	1.11	1.13	1.53			3.17	3.10	3.31
wind	0.8 m/s	velocity	5.03	8.54	8.54	8.87	8.96	8.70	8.87	8.54	8.23	8.09	9.16	7.95		8.65	8.85	8.28

Semi-Final 2 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.62	3.67	4.71	5.75	6.77	7.79	8.82	9.90	10.97	12.08		13.53	4 / 7			
reaction time	0.158	interval	7 steps	1.05	1.04	1.04	1.02	1.02	1.03	1.08	1.07	1.11	1.45			3.13	3.07	3.26
wind	0.9 m/s	velocity	5.24	8.70	8.79	8.79	8.96	8.96	8.87	8.46	8.54	8.23	9.67	8.13		8.76	8.93	8.41

Juránek, Martin (CZE) (1991)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

Heat 1 - 2012 Czech Republic National Indoor Championships (Praha, CZE) *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

date	25-Feb-12	time	2.85	4.06	5.29	6.54	7.76						8.78	1 / 7			
reaction time	0.174	interval		1.21	1.23	1.25	1.22					1.02			3.69		
		velocity	4.81	7.55	7.43	7.31	7.49					9.53	6.83		7.43		

Kagimoto, Masahiro (JPN) (1995)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

FINAL - 2019 Kinami Memorial (Osaka, JPN) *Matsubayashi (2019) - research on athlete performance and technique- 2019 data book*

date	06-May-19	time	2.66	3.74	4.80	5.90	6.97	8.05	9.16	10.26	11.38	12.49		13.95	9 / 8			
reaction time		interval		1.08	1.06	1.10	1.07	1.08	1.11	1.10	1.12	1.11	1.46			3.24	3.26	3.33
wind	0.3 m/s	velocity	5.16	8.46	8.62	8.31	8.54	8.46	8.23	8.31	8.16	8.23	9.60	7.89		8.46	8.41	8.23

B FINAL - 2019 Mikio Oda Memorial (Hiroshima, JPN) *Kobayashi (2019) - research on athlete performance and technique- 2019 data book*

date	28-Apr-19	time	2.67	3.76	4.83	5.90	6.98	8.07	9.18	10.29	11.40	12.51		13.97	5 / 1			
reaction time		interval		1.09	1.07	1.07	1.08	1.09	1.11	1.11	1.11	1.11	1.46			3.23	3.28	3.33
wind	1.4 m/s	velocity	5.14	8.39	8.54	8.54	8.46	8.39	8.23	8.23	8.23	8.23	9.60	7.87		8.49	8.36	8.23

A FINAL - 2018 National Sports Festival (Fukui, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	08-Oct-18	time	2.66	3.79	4.92	5.99	7.09	8.20	9.29	10.39	11.50	12.62		14.09	7 / 8			
reaction time	0.144	interval		1.13	1.13	1.07	1.10	1.11	1.09	1.10	1.11	1.12	1.47			3.33	3.30	3.33
wind	1.2 m/s	velocity	5.16	8.09	8.09	8.54	8.31	8.23	8.39	8.31	8.23	8.16	9.54	7.81		8.23	8.31	8.23

FINAL - 2018 Fuse Sprint (Tottori, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	03-Jun-18	time	2.65	3.74	4.80	5.86	6.93	8.02	9.11	10.23	11.33	12.46		13.93	/ 6			
reaction time		interval		1.09	1.06	1.06	1.07	1.09	1.09	1.12	1.10	1.13	1.47			3.21	3.25	3.35
wind	0.5 m/s	velocity	5.18	8.39	8.62	8.62	8.54	8.39	8.39	8.16	8.31	8.09	9.54	7.90		8.54	8.44	8.19

FINAL - 2018 Kinami Michitaka Memorial (Osaka, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	06-May-18	time	2.65	3.72	4.80	5.86	6.94	8.00	9.10	10.20	11.33	12.47		13.91	8 / 4			
reaction time		interval		1.07	1.08	1.06	1.08	1.06	1.10	1.10	1.13	1.14	1.44			3.21	3.24	3.37
wind	1.6 m/s	velocity	5.18	8.54	8.46	8.62	8.46	8.62	8.31	8.31	8.09	8.02	9.74	7.91		8.54	8.46	8.14

Semi-Final 2 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.64	3.72	4.79	5.88	6.95	8.03	9.11	10.21	11.33	12.45		13.93	8 / 6			
reaction time	0.144	interval		1.08	1.07	1.09	1.07	1.08	1.08	1.10	1.12	1.12	1.48			3.24	3.23	3.34
wind	0.3 m/s	velocity	5.20	8.46	8.54	8.39	8.54	8.46	8.46	8.31	8.16	8.16	9.47	7.90		8.46	8.49	8.21

Heat 3 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.62	3.72	4.78	5.86	6.92	8.00	9.09	10.18	11.30	12.44		13.88	2 / 2			
reaction time	0.140	interval		1.10	1.06	1.08	1.06	1.08	1.09	1.09	1.12	1.14	1.44			3.24	3.23	3.35
wind	0.5 m/s	velocity	5.24	8.31	8.62	8.46	8.62	8.46	8.39	8.39	8.16	8.02	9.74	7.93		8.46	8.49	8.19

FINAL - 2017 Kansai Regional University Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/05/13/post-441/*

date	11-May-17	time	2.64	3.72	4.81	5.89	6.98	8.06	9.15	10.25	11.35	12.48		13.93	7 / 1			
reaction time		interval		1.08	1.09	1.08	1.09	1.08	1.09	1.10	1.10	1.13	1.45			3.25	3.26	3.33
wind	1.6 m/s	velocity	5.20	8.46	8.39	8.46	8.39	8.46	8.39	8.31	8.31	8.09	9.67	7.90		8.44	8.41	8.23

FINAL - 2017 Mito Invitational (Mito, JPN) *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.68	3.76	4.90	6.01	7.12	8.24	9.37	10.49	11.64	12.81		14.33	3 / 7			
reaction time		interval		1.08	1.14	1.11	1.11	1.12	1.13	1.12	1.15	1.17	1.52			3.33	3.36	3.44
wind	-2.3 m/s	velocity	5.12	8.46	8.02	8.23	8.23	8.16	8.09	8.16	7.95	7.81	9.22	7.68		8.23	8.16	7.97

Heat 2 - 2017 Mito Invitational (Mito, JPN) *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.67	3.77	4.83	5.93	7.03	8.12	9.21	10.34	11.48	12.64		14.11	6 / 3			
reaction time		interval		1.10	1.06	1.10	1.10	1.09	1.09	1.13	1.14	1.16	1.47			3.26	3.28	3.43
wind	0.6 m/s	velocity	5.14	8.31	8.62	8.31	8.31	8.39	8.39	8.09	8.02	7.88	9.54	7.80		8.41	8.36	7.99

B FINAL - 2017 Mikio Oda Memorial (Hiroshima, JPN) *(2017) - tfdata-store.com/2017/05/01/458/*

date	29-Apr-17	time	2.67	3.75	4.86	5.97	7.06	8.18	9.31	10.47	11.60	12.76		14.28	6 / 6			
reaction time		interval		1.08	1.11	1.11	1.09	1.12	1.13	1.16	1.13	1.16	1.52			3.30	3.34	3.45
wind	-1.5 m/s	velocity	5.14	8.46	8.23	8.23	8.39	8.16	8.09	7.88	8.09	7.88	9.22	7.70		8.31	8.21	7.95

FINAL - 2017 Kyoto University Meeting (Kyoto, JPN) *(2017) - tfdata-store.com/2017/04/12/post-362/*

date	09-Apr-17	time	2.68	3.77	4.85	5.95	7.02	8.11	9.21	10.31	11.41	12.51		13.97	6 / 1			
reaction time		interval		1.09	1.08	1.10	1.07	1.09	1.10	1.10	1.10	1.10	1.46			3.27	3.26	3.30
wind	1.5 m/s	velocity	5.12	8.39	8.46	8.31	8.54	8.39	8.31	8.31	8.31	8.31	9.60	7.87		8.39	8.41	8.31

FINAL - 2016 Japanese University Championships (Kumagaya, JPN) *(2016.09.06) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Sep-16	time	2.71	3.83	4.94	6.06	7.17	8.27	9.39	10.51	11.64	12.80		14.32	9 / 5			
reaction time	0.169	interval		1.12	1.11	1.12	1.11	1.10	1.12	1.12	1.13	1.16	1.52			3.35	3.33	3.41
wind	-1.9 m/s	velocity	5.06	8.16	8.23	8.16	8.23	8.31	8.16	8.16	8.09	7.88	9.22	7.68		8.19	8.23	8.04

Semi-Final 1 - 2016 Japanese University Championships (Kumagaya, JPN) *(2016.09.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Sep-16	time	2.71	3.80	4.88	5.98	7.08	8.18	9.29	10.37	11.47	12.59		14.01	7 / 2			

reaction time	0.159	interval		1.09	1.08	1.10	1.10	1.10	1.11	1.08	1.10	1.12	1.42			3.27	3.31	3.30
wind	0.6 m/s	velocity	5.06	8.39	8.46	8.31	8.31	8.31	8.23	8.46	8.31	8.16	9.87	7.85		8.39	8.28	8.31

FINAL - 2016 Japanese National Championships (Nagoya, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	26-Jun-16	time	2.64	3.74	4.81	5.89	6.97	8.02	9.11	10.18	11.25	12.36		13.78	1 / 6			
reaction time	0.146	interval		1.10	1.07	1.08	1.08	1.05	1.09	1.07	1.07	1.11	1.42			3.25	3.22	3.25
wind	2.4 m/s	velocity	5.20	8.31	8.54	8.46	8.46	8.70	8.39	8.54	8.54	8.23	9.87	7.98		8.44	8.52	8.44

FINAL - 2016 Kansai University Meeting (Osaka, JPN) *(2016.05.30) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	13-May-16	time	2.64	3.72	4.80	5.85	6.92	7.98	9.04	10.11	11.20	12.30		13.72	5 / 1			
reaction time		interval		1.08	1.08	1.05	1.07	1.06	1.06	1.07	1.09	1.10	1.42			3.21	3.19	3.26
wind	0.5 m/s	velocity	5.20	8.46	8.46	8.70	8.54	8.62	8.62	8.54	8.39	8.31	9.87	8.02		8.54	8.60	8.41

FINAL - 2016 Mito Invitational (Mito, JPN) *(2016.05.27) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	05-May-16	time	2.66	3.74	4.81	5.89	6.96	8.04	9.12	10.22	11.32	12.45		13.86	4 / 2			
reaction time		interval		1.08	1.07	1.08	1.07	1.08	1.08	1.10	1.10	1.13	1.41			3.23	3.23	3.33
wind	0.7 m/s	velocity	5.16	8.46	8.54	8.46	8.54	8.46	8.46	8.31	8.31	8.09	9.94	7.94		8.49	8.49	8.23

Kameyama, Yuji (JPN) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Kansai Regional University Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/05/13/post-441/*

date	11-May-17	time	2.74	3.86	4.98	6.10	7.21	8.30	9.40	10.52	11.64	12.81		14.33	6 / 5			
reaction time		interval		1.12	1.12	1.12	1.11	1.09	1.10	1.12	1.12	1.17	1.52			3.36	3.30	3.41
wind	1.6 m/s	velocity	5.01	8.16	8.16	8.16	8.23	8.39	8.31	8.16	8.16	7.81	9.22	7.68		8.16	8.31	8.04

Kanai, Nao (JPN) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN) (0.99) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	16-Oct-15	time	2.65	3.74	4.81	5.89	6.97	8.04	9.12	10.22	11.32	12.45		13.91	5 / 2			
reaction time		interval		1.09	1.07	1.08	1.08	1.07	1.08	1.10	1.10	1.13	1.46			3.24	3.23	3.33
wind	0.1 m/s	velocity	5.18	8.39	8.54	8.46	8.46	8.54	8.46	8.31	8.31	8.09	9.60	7.91		8.46	8.49	8.23

FINAL - 2015 Japanese National High School Championships (Wakayama, JPN) (99cm) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	02-Aug-15	time	2.65	3.72	4.80	5.86	6.91	7.99	9.05	10.14	11.22	12.37		13.85	4 / 1			
reaction time		interval		1.07	1.08	1.06	1.05	1.08	1.06	1.09	1.08	1.15	1.48	PB		3.21	3.19	3.32
wind	1.4 m/s	velocity	5.18	8.54	8.46	8.62	8.70	8.46	8.62	8.39	8.46	7.95	9.47	7.94		8.54	8.60	8.26

FINAL - 2014 Japanese National High School Championships (Kofu, JPN) (99cm) *Yanagiya (2014) - research on athlete performance and technique- 2014 data book*

date	03-Aug-14	time	2.74	3.88	4.99	6.11	7.23	8.36	9.50	10.65	11.81	13.00		14.55	6 / 3			
reaction time		interval		1.14	1.11	1.12	1.12	1.13	1.14	1.15	1.16	1.19	1.55			3.37	3.39	3.50
wind	-2.4 m/s	velocity	5.01	8.02	8.23	8.16	8.16	8.09	8.02	7.95	7.88	7.68	9.05	7.56		8.14	8.09	7.83

Kanai, Tadashi (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2017 Mito Invitational (Mito, JPN) *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.70	3.82	4.93	6.05	7.15	8.28	9.41	10.56	11.71	12.89		14.43	2 / 5			
reaction time		interval		1.12	1.11	1.12	1.10	1.13	1.13	1.15	1.15	1.18	1.54			3.35	3.36	3.48
wind	-2.5 m/s	velocity	5.08	8.16	8.23	8.16	8.31	8.09	8.09	7.95	7.95	7.75	9.10	7.62		8.19	8.16	7.88

Kanai, Taio (JPN) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.52	3.59	4.65	5.69	6.71	7.76	8.84	9.92				26.11	7 / 8			
reaction time	0.127	interval	7 steps	1.07	1.06	1.04	1.02	1.05	1.08	1.08						3.17	3.15	
wind	0.1 m/s	velocity	5.44	8.54	8.62	8.79	8.96	8.70	8.46	8.46				4.21		8.65	8.70	

Heat 5 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.58	3.66	4.68	5.68	6.70	7.73	8.78	9.81	10.89	11.97		13.41	7 / 3			
reaction time	0.148	interval	7 steps	1.08	1.02	1.00	1.02	1.03	1.05	1.03	1.08	1.08	1.44			3.10	3.10	3.19
wind	-0.1 m/s	velocity	5.32	8.46	8.96	9.14	8.96	8.87	8.70	8.87	8.46	8.46	9.74	8.20		8.85	8.85	8.60

FINAL - 2021 Japanese National Championships (Osaka, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	27-Jun-21	time	2.52	3.55	4.56	5.59	6.61	7.63	8.66	9.72	10.76	11.82		13.22	9 / 2			
reaction time	0.141	interval	7 steps	1.03	1.01	1.03	1.02	1.02	1.03	1.06	1.04	1.06	1.40			3.07	3.07	3.16
wind	1.2 m/s	velocity	5.44	8.87	9.05	8.87	8.96	8.96	8.87	8.62	8.79	8.62	10.01	8.32		8.93	8.93	8.68

FINAL - 2021 Fuse Sprint (Tottori, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	06-Jun-21	time	2.55	3.58	4.62	5.65	6.68	7.71	8.76	9.81	10.88	11.96		13.40	4 / 1			
reaction time	0.128	interval	7 steps	1.03	1.04	1.03	1.03	1.03	1.05	1.05	1.07	1.08	1.44			3.10	3.11	3.20
wind	1.8 m/s	velocity	5.38	8.87	8.79	8.87	8.87	8.87	8.70	8.70	8.54	8.46	9.74	8.21		8.85	8.82	8.57

FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	09-May-21	time	2.53	3.57	4.59	5.65	6.68	7.73	8.78	9.84	10.91	11.98		13.38	4 / 1			
reaction time	0.133	interval	7 steps	1.04	1.02	1.06	1.03	1.05	1.05	1.06	1.07	1.07	1.40			3.12	3.13	3.20
wind	-0.8 m/s	velocity	5.42	8.79	8.96	8.62	8.87	8.70	8.70	8.62	8.54	8.54	10.01	8.22		8.79	8.76	8.57

FINAL - 2021 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	29-Apr-21	time	2.51	3.54	4.55	5.56	6.58	7.60	8.62	9.67	10.70	11.75		13.16	4 / 1			
reaction time		interval	7 steps	1.03	1.01	1.01	1.02	1.02	1.02	1.05	1.03	1.05	1.41	NR PB		3.05	3.06	3.13
wind	1.7 m/s	velocity	5.47	8.87	9.05	9.05	8.96	8.96	8.96	8.70	8.87	8.70	9.94	8.36		8.99	8.96	8.76

FINAL - 2020 Japanese National Championships (Niigata, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	03-Oct-20	time	2.56	3.60	4.63	5.66	6.68	7.73	8.77	9.82	10.89	11.95		13.36	6 / 1			
reaction time	0.137	interval	7 steps	1.04	1.03	1.03	1.02	1.05	1.04	1.05	1.07	1.06	1.41			3.10	3.11	3.18
wind	-0.1 m/s	velocity	5.36	8.79	8.87	8.87	8.96	8.70	8.79	8.70	8.54	8.62	9.94	8.23		8.85	8.82	8.62

Heat 2 - 2020 All Japan Corporate Championships (Kumagaya, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	20-Sep-20	time	2.55	3.60	4.65	5.66	6.69	7.72	8.75	9.82	10.88	11.95		13.38	5 / 1			
reaction time	0.138	interval		1.05	1.05	1.01	1.03	1.03	1.03	1.07	1.06	1.07	1.43			3.11	3.09	3.20
wind	1.7 m/s	velocity	5.38	8.70	8.70	9.05	8.87	8.87	8.87	8.54	8.62	8.54	9.80	8.22		8.82	8.87	8.57

FINAL - 2020 Athlete Night Games (Fukui, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	29-Aug-20	time	2.55	3.60	4.63	5.65	6.66	7.70	8.73	9.78	10.83	11.90		13.27	5 / 1			
reaction time		interval	7 steps	1.05	1.03	1.02	1.01	1.04	1.03	1.05	1.05	1.07	1.37	PB		3.10	3.08	3.17
wind	1.4 m/s	velocity	5.38	8.70	8.87	8.96	9.05	8.79	8.87	8.70	8.70	8.54	10.23	8.29		8.85	8.90	8.65

FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	23-Aug-20	time	2.55	3.60	4.65	5.68	6.73	7.77	8.81	9.88	10.93	12.03		13.45	6 / 1			
reaction time	0.121	interval	7 steps	1.05	1.05	1.03	1.05	1.04	1.04	1.07	1.05	1.10	1.42			3.13	3.13	3.22
wind	-0.4 m/s	velocity	5.38	8.70	8.70	8.87	8.70	8.79	8.79	8.54	8.70	8.31	9.87	8.18		8.76	8.76	8.52

Heat 2 - 2019 IAAF World Championships (Doha, QAT) *Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*

date	30-Sep-19	time	2.58	3.64	4.70	5.76	6.84	7.90	8.99	10.09	11.20	12.31		13.74	7 / 7			
reaction time	0.125	interval	7 steps	1.06	1.06	1.06	1.08	1.06	1.09	1.10	1.11	1.11	1.43			3.18	3.23	3.32
wind	0.5 m/s	velocity	5.32	8.62	8.62	8.62	8.46	8.62	8.39	8.31	8.23	8.23	9.80	8.01		8.62	8.49	8.26

FINAL - 2019 Japanese World Championships Trials (Fujiyoshida, JPN) *Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*

date	01-Sep-19	time	2.58	3.63	4.68	5.72	6.77	7.83	8.88	9.95	11.02	12.10		13.51	4 / 3			
reaction time		interval		1.05	1.05	1.04	1.05	1.06	1.05	1.07	1.07	1.08	1.41			3.14	3.16	3.22
wind	1.4 m/s	velocity	5.32	8.70	8.70	8.79	8.70	8.62	8.70	8.54	8.54	8.46	9.94	8.14		8.73	8.68	8.52

FINAL - 2019 Seiko Golden Grand Prix (Osaka, JPN) *Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*

date	19-May-19	time	2.54	3.61	4.67	5.71	6.75	7.79	8.82	9.90	10.98	12.06		13.47	5 / 3			
reaction time	0.102	interval	7 steps	1.07	1.06	1.04	1.04	1.04	1.03	1.08	1.08	1.08	1.41			3.17	3.11	3.24
wind	2.9 m/s	velocity	5.40	8.54	8.62	8.79	8.79	8.79	8.87	8.46	8.46	8.46	9.94	8.17		8.65	8.82	8.46

FINAL - 2019 Asian Athletics Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	24-Apr-19	time	2.58	3.64	4.70	5.73	6.80	7.87	8.94	10.02	11.11	12.21		13.64	9 / 5			
reaction time	0.138	interval	7 steps	1.06	1.06	1.03	1.07	1.07	1.07	1.08	1.09	1.10	1.43			3.15	3.21	3.27
wind	1.7 m/s	velocity	5.32	8.62	8.62	8.87	8.54	8.54	8.54	8.46	8.39	8.31	9.80	8.06		8.70	8.54	8.39

A FINAL - 2018 National Sports Festival (Fukui, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	08-Oct-18	time	2.56	3.63	4.66	5.70	6.73	7.78	8.83	9.88	10.95	12.03		13.46	6 / 1			
reaction time	0.121	interval		1.07	1.03	1.04	1.03	1.05	1.05	1.05	1.07	1.08	1.43			3.14	3.13	3.20
wind	1.2 m/s	velocity	5.36	8.54	8.87	8.79	8.87	8.70	8.70	8.70	8.54	8.46	9.80	8.17		8.73	8.76	8.57

FINAL - 2018 IAAF Continental Cup (Ostrava, CZE) (TV Analysis) *Henson (2021) - Athlete First: 2018 year end hurdle report*

date	09-Sep-18	time	2.52	3.64	4.68	5.74	6.80	7.84	8.88	10.00	11.08	12.18		13.72	5 / 6			
reaction time	0.119	interval	7 steps	1.12	1.04	1.06	1.06	1.04	1.04	1.12	1.08	1.10	1.54			3.22	3.14	3.30
wind	0.9 m/s	velocity	5.44	8.16	8.79	8.62	8.62	8.79	8.79	8.16	8.46	8.31	9.10	8.02		8.52	8.73	8.31

FINAL - 2018 Asian Games (Jakarta, INA) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	28-Aug-18	time	2.58	3.65	4.70	5.76	6.82	7.88	8.96	10.06	11.16	12.28		13.74	7 / 7			
reaction time	0.125	interval		1.07	1.05	1.06	1.06	1.06	1.08	1.10	1.10	1.12	1.46			3.18	3.20	3.32
wind	0.0 m/s	velocity	5.32	8.54	8.70	8.62	8.62	8.62	8.46	8.31	8.31	8.16	9.60	8.01		8.62	8.57	8.26

FINAL - 2018 Japanese National Championships (Yamaguchi, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	24-Jun-18	time	2.56	3.60	4.62	5.66	6.68	7.71	8.77	9.83	10.89	11.96		13.36	4 / 1			
reaction time	0.144	interval	7 steps	1.04	1.02	1.04	1.02	1.03	1.06	1.06	1.06	1.07	1.40	NR PB		3.10	3.11	3.19
wind	0.7 m/s	velocity	5.36	8.79	8.96	8.79	8.96	8.87	8.62	8.62	8.62	8.54	10.01	8.23		8.85	8.82	8.60

FINAL - 2018 Fuse Sprint (Tottori, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	03-Jun-18	time	2.58	3.63	4.67	5.73	6.75	7.80	8.85	9.92	10.99	12.10		13.52	/ 1			
reaction time		interval		1.05	1.04	1.06	1.02	1.05	1.05	1.07	1.07	1.11	1.42			3.15	3.12	3.25
wind	0.5 m/s	velocity	5.32	8.70	8.79	8.62	8.96	8.70	8.70	8.54	8.54	8.23	9.87	8.14		8.70	8.79	8.44

FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	20-May-18	time	2.67	3.74	4.77	5.81	6.87	7.91	8.96	10.02	11.10	12.18		13.53	8 / 2			
reaction time	0.159	interval	7 steps	1.07	1.03	1.04	1.06	1.04	1.05	1.06	1.08	1.08	1.35	=PB		3.14	3.15	3.22
wind	-0.4 m/s	velocity	5.14	8.54	8.87	8.79	8.62	8.79	8.70	8.62	8.46	8.46	10.39	8.13		8.73	8.70	8.52

FINAL - 2018 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	29-Apr-18	time	2.60	3.66	4.71	5.75	6.78	7.83	8.90	9.96	11.05	12.13		13.52	6 / 1			
reaction time		interval		1.06	1.05	1.04	1.03	1.05	1.07	1.06	1.09	1.08	1.39			3.15	3.15	3.23
wind	2.6 m/s	velocity	5.28	8.62	8.70	8.79	8.87	8.70	8.54	8.62	8.39	8.46	10.09	8.14		8.70	8.70	8.49

FINAL - 2017 All Star Night (Hiratsuka, JPN) *(2017) - tfdata-store.com/2017/07/26/post-1072/*

date	22-Jul-17	time	2.55	3.62	4.67	5.73	6.79	7.83	8.90	9.97	11.04	12.12		13.53	7 / 2			
reaction time	0.127	interval	*7 steps*	1.07	1.05	1.06	1.06	1.04	1.07	1.07	1.07	1.08	1.41			3.18	3.17	3.22
wind	1.8 m/s	velocity	5.38	8.54	8.70	8.62	8.62	8.79	8.54	8.54	8.54	8.46	9.94	8.13		8.62	8.65	8.52

FINAL - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	25-Jun-17	time	2.58	3.65	4.71	5.78	6.85	7.92	9.00	10.09	11.20	12.31		13.77	6 / 5			
reaction time	0.128	interval	*7 steps*	1.07	1.06	1.07	1.07	1.07	1.08	1.09	1.11	1.11	1.46			3.20	3.22	3.31
wind	-0.2 m/s	velocity	5.32	8.54	8.62	8.54	8.54	8.54	8.46	8.39	8.23	8.23	9.60	7.99		8.57	8.52	8.28

Semi-Final 2 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.59	3.67	4.71	5.77	6.83	7.90	8.97	10.06	11.16	12.27		13.71	6 / 2			
reaction time	0.115	interval	*7 steps*	1.08	1.04	1.06	1.06	1.07	1.07	1.09	1.10	1.11	1.44			3.18	3.20	3.30
wind	0.3 m/s	velocity	5.30	8.46	8.79	8.62	8.62	8.54	8.54	8.39	8.31	8.23	9.74	8.02		8.62	8.57	8.31

Heat 2 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.57	3.63	4.67	5.71	6.77	7.84	8.91	9.99	11.08	12.18		13.62	6 / 2			
reaction time	0.135	interval	*7 steps*	1.06	1.04	1.04	1.06	1.07	1.07	1.08	1.09	1.10	1.44	**PB**		3.14	3.20	3.27
wind	0.0 m/s	velocity	5.34	8.62	8.79	8.79	8.62	8.54	8.54	8.46	8.39	8.31	9.74	8.08		8.73	8.57	8.39

Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN) *(2017) - tfdata-store.com/2017/06/08/914/*

date	26-May-17	time	2.58	3.63	4.68	5.74	6.80	7.87	8.93	10.01	11.09	12.21		13.63	5 / 1			
reaction time	0.149	interval	*7 steps*	1.05	1.05	1.06	1.06	1.07	1.06	1.08	1.08	1.12	1.42	**PB**		3.16	3.19	3.28
wind	0.4 m/s	velocity	5.32	8.70	8.70	8.62	8.62	8.54	8.62	8.46	8.46	8.16	9.87	8.07		8.68	8.60	8.36

FINAL - 2017 Mikio Oda Memorial (Hiroshima, JPN) *(2017) - tfdata-store.com/2017/05/01/458/*

date	29-Apr-17	time	2.60	3.68	4.77	5.84	6.90	7.96	9.03	10.11	11.18	12.28		13.73	7 / 4			
reaction time		interval	*7 steps*	1.08	1.09	1.07	1.06	1.06	1.07	1.08	1.07	1.10	1.45			3.24	3.19	3.25
wind	1.5 m/s	velocity	5.28	8.46	8.39	8.54	8.62	8.62	8.54	8.46	8.54	8.31	9.67	8.01		8.46	8.60	8.44

FINAL - 2017 Tokyo Six School Meeting (Tokyo, JPN) *(2017) - tfdata-store.com/2017/04/10/post-342/*

date	08-Apr-17	time	2.60	3.67	4.75	5.80	6.86	7.93	8.99	10.09	11.16	12.27		13.71	6 / 1			
reaction time		interval	*7 steps*	1.07	1.08	1.05	1.06	1.07	1.06	1.10	1.07	1.11	1.44	**PB**		3.20	3.19	3.28
wind	0.5 m/s	velocity	5.28	8.54	8.46	8.70	8.62	8.54	8.62	8.31	8.54	8.23	9.74	8.02		8.57	8.60	8.36

Heat 2 - 2017 Tokyo Six School Meeting (Tokyo, JPN) *(2017) - tfdata-store.com/2017/04/10/post-342/*

date	08-Apr-17	time	2.60	3.68	4.74	5.81	6.88	7.97	9.07	10.17	11.29	12.40		13.86	4 / 1			
reaction time		interval	*7 steps*	1.08	1.06	1.07	1.07	1.09	1.10	1.10	1.12	1.11	1.46			3.21	3.26	3.33
wind	0.8 m/s	velocity	5.28	8.46	8.62	8.54	8.54	8.39	8.31	8.31	8.16	8.23	9.60	7.94		8.54	8.41	8.23

FINAL - 2016 Japanese University Championships (Kumagaya, JPN) *(2016.09.06) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Sep-16	time	2.64	3.75	4.85	5.94	7.03	8.17	9.30	10.44	11.57	12.73		14.25	6 / 4			
reaction time	0.146	interval	*7 steps*	1.11	1.10	1.09	1.09	1.14	1.13	1.14	1.13	1.16	1.52			3.30	3.36	3.43
wind	-1.9 m/s	velocity	5.20	8.23	8.31	8.39	8.39	8.02	8.09	8.02	8.09	7.88	9.22	7.72		8.31	8.16	7.99

Semi-Final 2 - 2016 Japanese University Championships (Kumagaya, JPN) *(2016.09.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Sep-16	time	2.62	3.70	4.78	5.85	6.94	8.03	9.14	10.26	11.36	12.49		13.93	4 / 2			
reaction time	0.135	interval	*7 steps*	1.08	1.08	1.07	1.09	1.09	1.11	1.12	1.10	1.13	1.44			3.23	3.29	3.35
wind	0.7 m/s	velocity	5.24	8.46	8.46	8.54	8.39	8.39	8.23	8.16	8.31	8.09	9.74	7.90		8.49	8.33	8.19

FINAL - 2016 Japanese National Championships (Nagoya, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	26-Jun-16	time	2.58	3.66	4.73	5.78	6.84	7.90	8.96	10.03	11.10	12.19		13.61	3 / 3			
reaction time	0.136	interval		1.08	1.07	1.05	1.06	1.06	1.06	1.07	1.07	1.09	1.42			3.20	3.18	3.23
wind	2.4 m/s	velocity	5.32	8.46	8.54	8.70	8.62	8.62	8.62	8.54	8.54	8.39	9.87	8.08		8.57	8.62	8.49

Kani, Shota (JPN) (2000)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

FINAL - 2023 Fuse Sprint (Tottori, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	25-Jun-23	time	2.60	3.71	4.83	5.90	6.98	8.07	9.16	10.27	11.38	12.50		14.00	8 / 7			
reaction time	0.133	interval		1.11	1.12	1.07	1.08	1.09	1.09	1.11	1.11	1.12	1.50			3.30	3.26	3.34
wind	1.1 m/s	velocity	5.28	8.23	8.16	8.54	8.46	8.39	8.39	8.23	8.23	8.16	9.35	7.86		8.31	8.41	8.21

Karpov, Dmitriy (KAZ) (1981)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

Decathlon - Heat 4 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.73	3.85	4.94	6.03	7.17	8.31	9.45	10.61	11.73	12.91		14.46	4 / 1			
reaction time	0.141	interval		1.12	1.09	1.09	1.14	1.14	1.14	1.16	1.12	1.18	1.55			3.30	3.42	3.46
wind	0.0 m/s	velocity	5.03	8.16	8.39	8.39	8.02	8.02	8.02	7.88	8.16	7.75	9.05	7.61		8.31	8.02	7.92

Kasyanov, Oleksiy (UKR) (1985)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 3 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 20-Aug-09	time	2.73	3.85	4.95	6.07	7.18	8.31	9.45	10.59	11.77	12.96		14.44	7 / 4			
reaction time 0.163	interval		1.12	1.10	1.12	1.11	1.13	1.14	1.14	1.18	1.19	1.48			3.34	3.38	3.51
wind -0.1 m/s	velocity	5.03	8.16	8.31	8.16	8.23	8.09	8.02	8.02	7.75	7.68	9.47	7.62		8.21	8.11	7.81

Kataoka, Takumi (JPN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (99cm)													*Kijima (2019) - research on athlete performance and technique- 2019 data book*			
date 18-Oct-19	time	2.64	3.74	4.82	5.93	6.99	8.07	9.16	10.25	11.34	12.46		13.94	8 / 3			
reaction time 0.115	interval		1.10	1.08	1.11	1.06	1.08	1.09	1.09	1.09	1.12	1.48			3.29	3.23	3.30
wind -0.4 m/s	velocity	5.20	8.31	8.46	8.23	8.62	8.46	8.39	8.39	8.39	8.16	9.47	7.89		8.33	8.49	8.31

Kato, Takuma (JPN) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2017 Mito Invitational (Mito, JPN)													*(2017) - tfdata-store.com/2017/05/06/post-423/*			
date 05-May-17	time	2.71	3.83	4.96	6.06	7.19	8.31	9.43	10.56	11.70	12.89		14.44	6 / 3			
reaction time	interval		1.12	1.13	1.10	1.13	1.12	1.12	1.13	1.14	1.19	1.55			3.35	3.37	3.46
wind 0.3 m/s	velocity	5.06	8.16	8.09	8.31	8.09	8.16	8.16	8.09	8.02	7.68	9.05	7.62		8.19	8.14	7.92
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN) (99cm)													*(2016.10.21) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 21-Oct-16	time	2.62	3.70	4.75	5.80	6.84	7.91	8.98	10.05	11.18	12.28		13.69	6 / 1			
reaction time	interval		1.08	1.05	1.05	1.04	1.07	1.07	1.07	1.13	1.10	1.41			3.18	3.18	3.30
wind -0.2 m/s	velocity	5.24	8.46	8.70	8.70	8.79	8.54	8.54	8.54	8.09	8.31	9.94	8.04		8.62	8.62	8.31
FINAL - 2016 Japanese National High School Championships (Okayama, JPN) (99cm)													*Kota (2016) - 69th high school championships: JAF scientific committee- biomechanics data*			
date 02-Aug-16	time	2.63	3.73	4.83	5.92	7.01	8.11	9.20	10.32	11.41	12.55		13.98	6 / 1			
reaction time 0.127	interval		1.10	1.10	1.09	1.09	1.10	1.09	1.12	1.09	1.14	1.43	**PB**		3.29	3.28	3.35
wind 1.2 m/s	velocity	5.22	8.31	8.31	8.39	8.39	8.31	8.39	8.16	8.39	8.02	9.80	7.87		8.33	8.36	8.19
FINAL - 2016 Hokusei Shinetsu High School Meeting (Okayama, JPN) (99cm)													*(2016.06.18) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 18-Jun-16	time	2.68	3.76	4.88	5.98	7.10	8.24	9.40	10.56	11.73	12.89		14.39	7 / 1			
reaction time	interval		1.08	1.12	1.10	1.12	1.14	1.16	1.16	1.17	1.16	1.50			3.30	3.42	3.49
wind -2.5 m/s	velocity	5.12	8.46	8.16	8.31	8.16	8.02	7.88	7.88	7.81	7.88	9.35	7.64		8.31	8.02	7.86
FINAL - 2016 Niigata Perfecture High School Meeting (Niigata, JPN)													*(2016.05.30) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 29-May-16	time	2.68	3.78	4.88	5.97	7.08	8.20	9.31	10.43	11.56	12.70		14.16	/ 1			
reaction time	interval		1.10	1.10	1.09	1.11	1.12	1.11	1.12	1.13	1.14	1.46			3.29	3.34	3.39
wind -0.6 m/s	velocity	5.12	8.31	8.31	8.39	8.23	8.16	8.23	8.16	8.09	8.02	9.60	7.77		8.33	8.21	8.09
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN) (99cm)													*Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*			
date 02-Aug-15	time	2.69	3.83	4.96	6.08	7.22	8.35	9.48	10.64	11.80	12.97		14.50	3 / 6			
reaction time	interval		1.14	1.13	1.12	1.14	1.13	1.13	1.16	1.16	1.17	1.53			3.39	3.40	3.49
wind 1.4 m/s	velocity	5.10	8.02	8.09	8.16	8.02	8.09	8.09	7.88	7.88	7.81	9.16	7.59		8.09	8.06	7.86

Kato, Yoshihiko (JPN) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Mito Invitational (Mito, JPN)													*(2017) - tfdata-store.com/2017/05/06/post-423/*			
date 05-May-17	time	2.72	3.88	5.04	6.17	7.28	8.39	9.49	10.60	11.70	12.83		14.31	8 / 6			
reaction time	interval		1.16	1.16	1.13	1.11	1.11	1.10	1.11	1.10	1.13	1.48			3.45	3.32	3.34
wind -2.3 m/s	velocity	5.04	7.88	7.88	8.09	8.23	8.23	8.31	8.23	8.31	8.09	9.47	7.69		7.95	8.26	8.21
Heat 1 - 2017 Mito Invitational (Mito, JPN)													*(2017) - tfdata-store.com/2017/05/06/post-423/*			
date 05-May-17	time	2.72	3.82	4.93	6.03	7.12	8.23	9.35	10.46	11.60	12.74		14.22	9 / 2			
reaction time	interval		1.10	1.11	1.10	1.09	1.11	1.12	1.11	1.14	1.14	1.48			3.31	3.32	3.39
wind 0.3 m/s	velocity	5.04	8.31	8.23	8.31	8.39	8.23	8.16	8.23	8.02	8.02	9.47	7.74		8.28	8.26	8.09

Katsuta, Chiku (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 1 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm)													*(2016.11.08) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 21-Oct-16	time	2.63	3.70	4.79	5.84	6.91	7.99	9.07	10.17	11.28	12.41		13.85	4 / 1			
reaction time	interval		1.07	1.09	1.05	1.07	1.08	1.08	1.10	1.11	1.13	1.44			3.21	3.23	3.34
wind 1.0 m/s	velocity	5.22	8.54	8.39	8.70	8.54	8.46	8.46	8.31	8.23	8.09	9.74	7.94		8.54	8.49	8.21
Heat 4 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm)													*(2016.11.08) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 21-Oct-16	time	2.67	3.75	4.83	5.90	6.97	8.04	9.14	10.23	11.33	12.51		14.05	1 / 1			
reaction time	interval		1.08	1.08	1.07	1.07	1.07	1.10	1.09	1.10	1.18	1.54			3.23	3.24	3.37
wind 1.5 m/s	velocity	5.14	8.46	8.46	8.54	8.54	8.54	8.31	8.39	8.31	7.75	9.10	7.83		8.49	8.46	8.14

Katsuta, Kizuku (JPN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN) (99cm)													*Kota (2017) - 70th high school championships: JAF scientific committee- biomechanics data*			
date 02-Aug-17	time	2.68	3.78	4.88	5.98	7.08	8.20	9.33	10.44	11.59	12.73		14.19	7 / 1			
reaction time 0.153	interval		1.10	1.10	1.10	1.10	1.12	1.13	1.11	1.15	1.14	1.46			3.30	3.35	3.40
wind -0.7 m/s	velocity	5.12	8.31	8.31	8.31	8.31	8.16	8.09	8.23	7.95	8.02	9.60	7.75		8.31	8.19	8.06
FINAL - 2017 Fuse Sprint (Tottori, JPN)													*(2017) - tfdata-store.com/2017/06/04/post-848/*			
date 04-Jun-17	time	2.69	3.78	4.90	5.99	7.09	8.20	9.32	10.45	11.57	12.74		14.20	3 / 6			

reaction time		interval		1.09	1.12	1.09	1.10	1.11	1.12	1.13	1.12	1.17	1.46			3.30	3.33	3.42
wind	3.2 m/s	velocity	5.10	8.39	8.16	8.39	8.31	8.23	8.16	8.09	8.16	7.81	9.60	7.75		8.31	8.23	8.02

FINAL - 2016 Japanese National High School Championships (Okayama, JPN) (99cm) *Kota (2016) - 69th high school championships: JAF scientific committee- biomechanics data*

date	02-Aug-16	time	2.65	3.74	4.88	5.99	7.11	8.24	9.36	10.46	11.59	12.74		14.18	4 / 2			
reaction time	0.147	interval		1.09	1.14	1.11	1.12	1.13	1.12	1.10	1.13	1.15	1.44	PB		3.34	3.37	3.38
wind	1.2 m/s	velocity	5.18	8.39	8.02	8.23	8.16	8.09	8.16	8.31	8.09	7.95	9.74	7.76		8.21	8.14	8.11

Katta, Kizuku (JPN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Shimane High School Championships (Izumo, JPN) *Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*

date	28-May-17	time	2.73	3.87	5.00	6.10	7.27	8.37	9.67	10.93	12.17	13.40		14.91	4 / 1			
reaction time		interval		1.14	1.13	1.10	1.17	1.10	1.30	1.26	1.24	1.23	1.51			3.37	3.57	3.73
wind	0.3 m/s	velocity	5.03	8.02	8.09	8.31	7.81	8.31	7.03	7.25	7.37	7.43	9.28	7.38		8.14	7.68	7.35

Kaul, Niklas (GER) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	03-Aug-24	time	2.63	3.79	4.91	6.02	7.13	8.24	9.36	10.49	11.62	12.78		14.53	5 / 6			
reaction time	0.158	interval	7 steps	1.16	1.12	1.11	1.11	1.11	1.12	1.13	1.13	1.16	1.75			3.39	3.34	3.42
wind	0.2 m/s	velocity	5.22	7.88	8.16	8.23	8.23	8.23	8.16	8.09	8.09	7.88	8.01	7.57		8.09	8.21	8.02

Decathlon - Heat 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2022 year end hurdle report*

date	24-Jul-22	time	2.76	3.90	5.00	6.10	7.17	8.26	9.37	10.50	11.60	12.74		14.27	8 / 3			
reaction time	0.143	interval	7 steps	1.14	1.10	1.10	1.07	1.09	1.11	1.13	1.10	1.14	1.53	PB		3.34	3.27	3.37
wind	0.4 m/s	velocity	4.97	8.02	8.31	8.31	8.54	8.39	8.23	8.09	8.31	8.02	9.16	7.71		8.21	8.39	8.14

Kavka, Tomáš (CZE) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2014 Czech Republic National Championships (Ostrava, CZE) *Feher (2014) - Final report from the Czech Republic national championships*

date	02-Aug-14	time	2.77	3.93	5.03	6.21	7.35	8.53	9.69	10.85	12.08	13.27		14.95	7 / 6			
reaction time	0.122	interval		1.16	1.10	1.18	1.14	1.18	1.16	1.16	1.23	1.19	1.68			3.44	3.48	3.58
wind	-1.2 m/s	velocity	4.95	7.88	8.31	7.75	8.02	7.75	7.88	7.88	7.43	7.68	8.35	7.36		7.97	7.88	7.66

Heat 2 - 2014 Czech Republic National Championships (Ostrava, CZE) *Feher (2014) - Final report from the Czech Republic national championships*

date	02-Aug-14	time	2.84	4.00	5.15	6.25	7.40	8.55	9.70	10.85	12.05	13.28		14.83	6 / 3			
reaction time	0.150	interval		1.16	1.15	1.10	1.15	1.15	1.15	1.15	1.20	1.23	1.55			3.41	3.45	3.58
wind	0.8 m/s	velocity	4.83	7.88	7.95	8.31	7.95	7.95	7.95	7.95	7.62	7.43	9.05	7.42		8.04	7.95	7.66

FINAL - 2013 Czech Republic National Championships (Tábor, CZE) *Feher (2013) - Final report from the men's & women's Czech Republic national championships*

date	15-Jun-13	time	2.80	3.92	5.05	6.13	7.24	8.38	9.50	10.65	11.79	12.95		14.54	6 / 5			
reaction time	0.161	interval		1.12	1.13	1.08	1.11	1.14	1.12	1.15	1.14	1.16	1.59			3.33	3.37	3.45
wind	0.4 m/s	velocity	4.90	8.16	8.09	8.46	8.23	8.02	8.16	7.95	8.02	7.88	8.82	7.57		8.23	8.14	7.95

Heat 3 - 2013 Czech Republic National Championships (Tábor, CZE) *Feher (2013) - Final report from the men's & women's Czech Republic national championships*

date	15-Jun-13	time	2.81	3.98	5.08	6.19	7.32	8.45	9.58	10.70	11.87	13.03		14.59	5 / 2			
reaction time	0.161	interval		1.17	1.10	1.11	1.13	1.13	1.13	1.12	1.17	1.16	1.56			3.38	3.39	3.45
wind	-0.3 m/s	velocity	4.88	7.81	8.31	8.23	8.09	8.09	8.09	8.16	7.81	7.88	8.99	7.54		8.11	8.09	7.95

FINAL - 2012 Czech Republic National Indoor Championships (Praha, CZE) *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

date	25-Feb-12	time	2.74	3.88	4.94	6.01	7.10							8.05	6 / 4			
reaction time	0.153	interval		1.14	1.06	1.07	1.09						0.95			3.27		
		velocity	5.01	8.02	8.62	8.54	8.39						10.23	7.45		8.39		

Heat 2 - 2012 Czech Republic National Indoor Championships (Praha, CZE) *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

date	25-Feb-12	time	2.75	3.87	4.95	6.02	7.11							8.09	3 / 2			
reaction time	0.143	interval		1.12	1.08	1.07	1.09						0.98			3.27		
		velocity	4.99	8.16	8.46	8.54	8.39						9.92	7.42		8.39		

Kawahara, Ren (JPN) (2006)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 Japanese U16 National Championships (Matsuyama, JPN) (99cm) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	24-Oct-21	time	2.74	3.89	5.05	6.21	7.39	8.54	9.69	10.81	11.94	13.11		14.68	/ 2			
reaction time		interval		1.15	1.16	1.16	1.18	1.15	1.15	1.12	1.13	1.17	1.57			3.47	3.48	3.42
wind	1.0 m/s	velocity	5.01	7.95	7.88	7.88	7.75	7.95	7.95	8.16	8.09	7.81	8.93	7.49		7.90	7.88	8.02

Kawakami, Asuma (JPN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 3 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.11) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.67	3.76	4.87	5.96	7.04	8.14	9.24	10.35	11.49	12.63		14.09	5 / 2			
reaction time		interval		1.09	1.11	1.09	1.08	1.10	1.10	1.11	1.14	1.14	1.46			3.29	3.28	3.39
wind	-0.2 m/s	velocity	5.14	8.39	8.23	8.39	8.46	8.31	8.31	8.23	8.02	8.02	9.60	7.81		8.33	8.36	8.09

Heat 1 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.07) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.67	3.78	4.88	5.97	7.08	8.20	9.31	10.43	11.56	12.71		14.21	7 / 1			
reaction time		interval		1.11	1.10	1.09	1.11	1.12	1.11	1.12	1.13	1.15	1.50			3.30	3.34	3.40
wind	1.7 m/s	velocity	5.14	8.23	8.31	8.39	8.23	8.16	8.23	8.16	8.09	7.95	9.35	7.74		8.31	8.21	8.06

Kawamura, Naoya (JPN) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2018 Kinami Michitaka Memorial (Osaka, JPN)													*Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*			
date 06-May-18 time	2.73	3.84	4.94	6.05	7.13	8.23	9.32	10.43	11.53	12.67		14.14	2 / 8			
reaction time interval		1.11	1.10	1.11	1.08	1.10	1.09	1.11	1.10	1.14	1.47			3.32	3.27	3.35
wind 1.6 m/s velocity	5.03	8.23	8.31	8.23	8.46	8.31	8.39	8.23	8.31	8.02	9.54	7.78		8.26	8.39	8.19
Heat 2 - 2017 Mito Invitational (Mito, JPN)													*(2017) - tfdata-store.com/2017/05/06/post-423/*			
date 05-May-17 time	2.76	3.91	5.06	6.20	7.34	8.46	9.58	10.74	11.89	13.07		14.62	8 / 6			
reaction time interval		1.15	1.15	1.14	1.14	1.12	1.12	1.16	1.15	1.18	1.55			3.44	3.38	3.49
wind 0.6 m/s velocity	4.97	7.95	7.95	8.02	8.02	8.16	8.16	7.88	7.95	7.75	9.05	7.52		7.97	8.11	7.86
Semi-Final 1 - 2016 Japanese University Championships (Kumagaya, JPN)													*(2016.09.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 04-Sep-16 time	2.78	3.89	4.98	6.07	7.17	8.28	9.38	10.50	11.62	12.77		14.23	3 / 6			
reaction time 0.160 interval		1.11	1.09	1.09	1.10	1.11	1.10	1.12	1.12	1.15	1.46			3.29	3.31	3.39
wind 0.6 m/s velocity	4.94	8.23	8.39	8.39	8.31	8.23	8.31	8.16	8.16	7.95	9.60	7.73		8.33	8.28	8.09

Kawano, Hayato (JPN) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)													*Shibayama (2021) - national high school and U20 national championhsips*			
date 01-Aug-21 time	2.64	3.75	4.85	5.97	7.07	8.18	9.33	10.50	11.62	12.79		14.36	7 / 7			
reaction time 0.143 interval		1.11	1.10	1.12	1.10	1.11	1.15	1.17	1.12	1.17	1.57	PB		3.33	3.36	3.46
wind 1.4 m/s velocity	5.20	8.23	8.31	8.16	8.31	8.23	7.95	7.81	8.16	7.81	8.93	7.66		8.23	8.16	7.92

Kawasaki, Kousuke (JPN) (2007)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)													*Takashima (2024) - national high school sports festival - biomechanics data*			
date 01-Aug-24 time	2.74	3.84	4.95	6.04	7.14	8.24	9.34	10.46	11.58	12.72		14.19	9 / 6			
reaction time 0.156 interval		1.10	1.11	1.09	1.10	1.10	1.10	1.12	1.12	1.14	1.47	PB		3.30	3.30	3.38
wind -0.7 m/s velocity	5.01	8.31	8.23	8.39	8.31	8.31	8.31	8.16	8.16	8.02	9.54	7.75		8.31	8.31	8.11

Kawashima, Ryota (JPN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2021 Fuse Sprint (Tottori, JPN)													*Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*			
date 06-Jun-21 time	2.59	3.68	4.75	5.79	6.85	7.92	8.98	10.06	11.14	12.27		13.77	3 / 5			
reaction time 0.139 interval		1.09	1.07	1.04	1.06	1.07	1.06	1.08	1.08	1.13	1.50	PB		3.20	3.19	3.29
wind 1.8 m/s velocity	5.30	8.39	8.54	8.79	8.62	8.54	8.62	8.46	8.46	8.09	9.35	7.99		8.57	8.60	8.33
FINAL - 2016 Japanese National High School Championships (Okayama, JPN) (99cm)													*Kota (2016) - 69th high school championships: JAF scientific committee- biomechanics data*			
date 02-Aug-16 time	2.69	3.82	4.94	6.05	7.16	8.29	9.41	10.52	11.67	12.83		14.33	9 / 6			
reaction time 0.169 interval		1.13	1.12	1.11	1.11	1.13	1.12	1.11	1.15	1.16	1.50	PB		3.36	3.36	3.42
wind 1.2 m/s velocity	5.10	8.09	8.16	8.23	8.23	8.09	8.16	8.23	7.95	7.88	9.35	7.68		8.16	8.16	8.02

Kazanov, Igor (URS) (1963)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1991 European Cup (Frankfurt, GER)													*Federle (2003) - http://www.fgs.uni-halle.de*			
date 30-Jun-91 time	2.54	3.64	4.69	5.75	6.79	7.86	8.93	9.99	11.09	12.18		13.64	/ 4			
reaction time interval		1.10	1.05	1.06	1.04	1.07	1.07	1.06	1.10	1.09	1.46			3.21	3.18	3.25
wind -0.9 m/s velocity	5.40	8.31	8.70	8.62	8.79	8.54	8.54	8.62	8.31	8.39	9.60	8.06		8.54	8.62	8.44

Kazmirek, Kai (GER) (1991)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis)													*Henson (2024) - Athlete First: 2022 year end hurdle report*			
date 24-Jul-22 time	2.76	3.88	5.00	6.10	7.20	8.32	9.46	10.58	11.73	12.92		14.43	3 / 4			
reaction time 0.150 interval		1.12	1.12	1.10	1.10	1.12	1.14	1.12	1.15	1.19	1.51			3.34	3.36	3.46
wind 0.4 m/s velocity	4.97	8.16	8.16	8.31	8.31	8.16	8.02	8.16	7.95	7.68	9.28	7.62		8.21	8.16	7.92
Decathlon - Heat 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date 05-Aug-21 time	2.82	3.93	5.03	6.24	7.32	8.46	9.64	10.78	11.93	13.12		14.73	9 / 4			
reaction time 0.136 interval		1.11	1.10	1.21	1.08	1.14	1.18	1.14	1.15	1.19	1.61			3.42	3.40	3.48
wind 0.0 m/s velocity	4.87	8.23	8.31	7.55	8.46	8.02	7.75	8.02	7.95	7.68	8.71	7.47		8.02	8.06	7.88

Kelley, Kai (USA) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 4 - 2007 USATF National Championships (Indianapolis, IN)													*USATF Men's Hurdle Development (2007)*			
date 23-Jun-07 time	2.64	3.77	4.84	5.92	7.01	8.10	9.19	10.28	11.39	12.52		14.00	1 / 4			
reaction time interval		1.13	1.07	1.08	1.09	1.09	1.09	1.09	1.11	1.13	1.48			3.28	3.27	3.33
wind -2.8 m/s velocity	5.20	8.09	8.54	8.46	8.39	8.39	8.39	8.39	8.23	8.09	9.47	7.86		8.36	8.39	8.23

Kendziera, Dave (USA) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2018 NCAA Championships (Eugene, OR) (TV Analysis)													*Henson (2020) - Athlete First: 2018 year end hurdle report*			
date 08-Jun-18 time	2.54	3.63	4.67	5.70	6.71	7.74	8.78	9.82	10.87	11.92		13.43	6 / 2			
reaction time interval 7 steps		1.09	1.04	1.03	1.01	1.03	1.04	1.04	1.05	1.05	1.51			3.16	3.08	3.14
wind -1.1 m/s velocity	5.40	8.39	8.79	8.87	9.05	8.87	8.79	8.79	8.70	8.70	9.28	8.19		8.68	8.90	8.73

Kichima, Kaito (JPN) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2016 Japanese National High School Championships (Okayama, JPN) (99cm)													*Kota (2016) - 69th high school championships: JAF scientific committee- biomechanics data*			
date 02-Aug-16 time	2.68	3.78	4.87	5.95	7.05	8.15	9.27	10.38	11.53	12.70		14.20	7 / 3			
reaction time 0.161 interval		1.10	1.09	1.08	1.10	1.10	1.12	1.11	1.15	1.17	1.50	PB		3.27	3.32	3.43
wind 1.2 m/s velocity	5.12	8.31	8.39	8.46	8.31	8.31	8.16	8.23	7.95	7.81	9.35	7.75		8.39	8.26	7.99

Kijanica, Michael (CZE) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2015 Czech Republic National U18 Indoor Championships (Praha, CZE) (91cm)													*Feher (2015) - Final report U18 & U20 Czech Republic indoor national champs*			
date 14-Feb-15	time	2.68	3.81	4.90	6.00	7.09						8.08	5 / 1			
reaction time 0.175	interval		1.13	1.09	1.10	1.09					0.99			3.32		
	velocity	5.12	8.09	8.39	8.31	8.39					9.82	7.43		8.26		

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 2 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14	time	2.87	4.03	5.20	6.38	7.55	8.74	9.93	11.15	12.35	13.62	15.36	7 / 3			
reaction time 0.249	interval		1.16	1.17	1.18	1.17	1.19	1.19	1.22	1.20	1.27	1.74		3.51	3.55	3.69
wind -4.1 m/s	velocity	4.78	7.88	7.81	7.75	7.81	7.68	7.68	7.49	7.62	7.20	8.06	7.16	7.81	7.72	7.43

Kikuchi, Rintaro (JPN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2019 National Sports Festival (Hitachinaka, JPN) (99cm)													*Enomoto (2019) - research on athlete performance and technique- 2019 data book*			
date 06-Oct-19	time	2.57	3.62	4.70	5.76	6.83	7.85	8.92	9.94	11.02	12.10	13.54	2 / 4			
reaction time 0.132	interval		1.05	1.08	1.06	1.07	1.02	1.07	1.02	1.08	1.08	1.44		3.19	3.16	3.18
wind 2.7 m/s	velocity	5.34	8.70	8.46	8.62	8.54	8.96	8.54	8.96	8.46	8.46	9.74	8.12	8.60	8.68	8.62

Kiljan, Krzysztof (POL) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 1 - 2025 European Athletics Indoor Championships (Apeldoorn, NED)													*European Athletics (2025) - european athletics indoor championships results book*			
date 07-Mar-25	time	2.40	3.46	4.50	5.52	6.55						7.62	7 / 6			
reaction time 0.146	interval	7 steps	1.06	1.04	1.02	1.03					1.07			3.12		
	velocity	5.72	8.62	8.79	8.96	8.87					9.08	7.87		8.79		

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2024 Kamila Skolimowska Memorial (Silesia, POL)													*Omega Timing (2024) - diamond league race analysis*			
date 25-Aug-24	time	2.43	3.50	4.57	5.60	6.65	7.69	8.77	9.86	10.97	12.08	13.73	9 / 9			
reaction time 0.162	interval	7 steps	1.07	1.07	1.03	1.05	1.04	1.08	1.09	1.11	1.11	1.65		3.17	3.17	3.31
wind 1.1 m/s	velocity	5.65	8.54	8.54	8.87	8.70	8.79	8.46	8.39	8.23	8.23	8.50	8.01	8.65	8.65	8.28

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Repechage 1 - 2024 Olympic Games (Paris, FRA)													*Paris 2024 Olympic Games - Results Book (2024)*			
date 06-Aug-24	time	2.41	3.50	4.56	5.60	6.65	7.71	8.76	9.84	10.95	12.07	13.73	6 / 6			
reaction time 0.148	interval	7 steps	1.09	1.06	1.04	1.05	1.06	1.05	1.08	1.11	1.12	1.66		3.19	3.16	3.31
wind 0.2 m/s	velocity	5.69	8.39	8.62	8.79	8.70	8.62	8.70	8.46	8.23	8.16	8.45	8.01	8.60	8.68	8.28

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 3 - 2024 Olympic Games (Paris, FRA)													*Paris 2024 Olympic Games - Results Book (2024)*			
date 04-Aug-24	time	2.41	3.49	4.55	5.60	6.64	7.69	8.75	9.82	10.90	12.01	13.67	9 / 8			
reaction time 0.153	interval	7 steps	1.08	1.06	1.05	1.04	1.05	1.06	1.07	1.08	1.11	1.66		3.19	3.15	3.26
wind 1.1 m/s	velocity	5.69	8.46	8.62	8.70	8.79	8.70	8.62	8.54	8.46	8.23	8.45	8.05	8.60	8.70	8.41

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2021 Copernicus Cup (Toruń, POL) (TV Analysis)													*Henson (2021) - men's 60m hurdles world record season - Grant Holloway*			
date 17-Feb-21	time	2.58	3.67	4.71	5.77	6.84						7.80	2 / 6			
reaction time 0.155	interval	7 steps	1.09	1.04	1.06	1.07					0.96			3.19		
	velocity	5.32	8.39	8.79	8.62	8.54					10.13	7.69		8.60		

Kim Byung-Jun (KOR) (1991)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2018 Asian Games (Jakarta, INA)													*Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*			
date 28-Aug-18	time	2.62	3.69	4.72	5.75	6.79	7.82	8.86	9.93	11.00	12.09	13.57	2 / 5			
reaction time 0.188	interval		1.07	1.03	1.03	1.04	1.03	1.04	1.07	1.07	1.09	1.48		3.13	3.11	3.23
wind 0.0 m/s	velocity	5.24	8.54	8.87	8.87	8.79	8.87	8.79	8.54	8.54	8.39	9.47	8.11	8.76	8.82	8.49

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN)													*Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*			
date 20-May-18	time	2.64	3.73	4.80	5.85	6.91	7.97	9.04	10.15	11.23	12.34	13.85	4 / 6			
reaction time 0.162	interval		1.09	1.07	1.05	1.06	1.06	1.07	1.11	1.08	1.11	1.51		3.21	3.19	3.30
wind -0.4 m/s	velocity	5.20	8.39	8.54	8.70	8.62	8.62	8.54	8.23	8.46	8.23	9.28	7.94	8.54	8.60	8.31

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Korean National Championships (Kimchun, KOR)													*Hong (2018) - performance of men's 110m hurdles using rhythmic units*			
date 02-Jun-17	time	2.63	3.76	4.83	5.90	6.90	8.03	9.06	10.13	11.20	12.27	13.70	/ 1			
reaction time	interval		1.13	1.07	1.07	1.00	1.13	1.03	1.07	1.07	1.07	1.43		3.27	3.16	3.21
wind 2.6 m/s	velocity	5.22	8.09	8.54	8.54	9.14	8.09	8.87	8.54	8.54	8.54	9.80	8.03	8.39	8.68	8.54

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Open FINAL - 2017 Michitaka Memorial (Osaka, JPN)													*(2017) - tfdata-store.com/2017/05/08/post-413/*			
date 07-May-17	time	2.67	3.74	4.79	5.82	6.87	7.91	8.96	10.03	11.12	12.21	13.68	2 / 1			
reaction time	interval	7 steps	1.07	1.05	1.03	1.05	1.04	1.05	1.07	1.09	1.09	1.47		3.15	3.14	3.25
wind -1.5 m/s	velocity	5.14	8.54	8.70	8.87	8.70	8.79	8.70	8.54	8.39	8.39	9.54	8.04	8.70	8.73	8.44

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Michitaka Memorial (Osaka, JPN)													*(2017) - tfdata-store.com/2017/05/08/post-413/*			
date 07-May-17	time	2.60	3.68	4.74	5.81	6.88	7.93	8.99	10.04	11.11	12.20	13.68	8 / 2			
reaction time	interval	7 steps	1.08	1.06	1.07	1.07	1.05	1.06	1.05	1.07	1.09	1.48		3.21	3.18	3.21
wind -0.8 m/s	velocity	5.28	8.46	8.62	8.54	8.54	8.70	8.62	8.70	8.54	8.39	9.47	8.04	8.54	8.62	8.54

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Mikio Oda Memorial (Hiroshima, JPN)													*(2017) - tfdata-store.com/2017/05/01/458/*			
date 29-Apr-17	time	2.63	3.69	4.75	5.80	6.85	7.90	8.96	10.01	11.08	12.15	13.64	4 / 2			
reaction time	interval	7 steps	1.06	1.06	1.05	1.05	1.05	1.06	1.05	1.07	1.07	1.49		3.17	3.16	3.19

wind	1.5 m/s	velocity	5.22	8.62	8.62	8.70	8.70	8.70	8.62	8.70	8.54	8.54	9.41	8.06		8.65	8.68	8.60

Kim Kyung-Tae (KOR) (1997)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 2024 Michitaka Kinami Memorial (Osaka, JPN)																		
date	12-May-24	time	2.59	3.66	4.69	5.75	6.80	7.85	8.90	9.96	11.04	12.12		13.62	2 / 5			
reaction time	0.156	interval		1.07	1.03	1.06	1.05	1.05	1.05	1.06	1.08	1.08	1.50	**PB**		3.16	3.15	3.22
wind	0.9 m/s	velocity	5.30	8.54	8.87	8.62	8.70	8.70	8.70	8.62	8.46	8.46	9.35	8.08		8.68	8.70	8.52

Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season

B FINAL - 2024 Mikio Oda Memorial (Hiroshima, JPN)																		
date	29-Apr-24	time	2.63	3.70	4.76	5.81	6.87	7.94	9.03	10.13	11.23	12.34		13.81	5 / 2			
reaction time	0.155	interval		1.07	1.06	1.05	1.06	1.07	1.09	1.10	1.10	1.11	1.47			3.18	3.22	3.31
wind	-0.7 m/s	velocity	5.22	8.54	8.62	8.70	8.62	8.54	8.39	8.31	8.31	8.23	9.54	7.97		8.62	8.52	8.28

Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season

FINAL - 2017 Korean National Championships (Kimchun, KOR)																		
date	02-Jun-17	time	2.65	3.78	4.88	6.01	7.14	8.21	9.31	10.41	11.54	12.67		14.20	/ 3			
reaction time		interval		1.13	1.10	1.13	1.13	1.07	1.10	1.10	1.13	1.13	1.53			3.36	3.30	3.36
wind	2.6 m/s	velocity	5.18	8.09	8.31	8.09	8.09	8.54	8.31	8.31	8.09	8.09	9.16	7.75		8.16	8.31	8.16

Hong (2018) - performance of men's 110m hurdles using rhythmic units

Kimball, Patrick (USA) (1998)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Heat 2 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude)																		
date	14-Feb-20	time	2.68	3.80	4.92	5.99	7.09							8.09	7 / 6			
reaction time	0.156	interval		1.12	1.12	1.07	1.10						1.00			3.31		
		velocity	5.12	8.16	8.16	8.54	8.31						9.72	7.42		8.28		

CAA Hurdle Development (2020)

King, David (GBR) (1994)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 2023 Weltklasse (Zürich, SUI)																		
date	31-Aug-23	time	2.44	3.51	4.55	5.57	6.61	7.66	8.72	9.79	10.87	11.98		13.60	8 / 4			
reaction time	0.122	interval	7 steps	1.07	1.04	1.02	1.04	1.05	1.06	1.07	1.08	1.11	1.62			3.13	3.15	3.26
wind	-0.1 m/s	velocity	5.62	8.54	8.79	8.96	8.79	8.70	8.62	8.54	8.46	8.23	8.65	8.09		8.76	8.70	8.41

Omega Timing (2023) - diamond league race analysis

Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis)																		
date	17-Jul-22	time	2.56	3.63	4.66	5.66	6.73	7.76	8.83	9.88	10.93	12.03		13.51	2 / 7			
reaction time	0.120	interval	7 steps	1.07	1.03	1.00	1.07	1.03	1.07	1.05	1.05	1.10	1.48			3.10	3.17	3.20
wind	0.3 m/s	velocity	5.36	8.54	8.87	9.14	8.54	8.87	8.54	8.70	8.70	8.31	9.47	8.14		8.85	8.65	8.57

Henson (2022) - Athlete First: 2022 year end hurdle report

Heat 5 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis)																		
date	16-Jul-22	time	2.58	3.66	4.73	5.73	6.76	7.83	8.90	9.93	11.00	12.10		13.57	5 / 4			
reaction time	0.117	interval	7 steps	1.08	1.07	1.00	1.03	1.07	1.07	1.03	1.07	1.10	1.47			3.15	3.17	3.20
wind	0.4 m/s	velocity	5.32	8.46	8.54	9.14	8.87	8.54	8.54	8.87	8.54	8.31	9.54	8.11		8.70	8.65	8.57

Henson (2022) - Athlete First: 2022 year end hurdle report

FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR) (TV Analysis)																		
date	21-May-22	time	2.53	3.60	4.70	5.72	6.74	7.80	8.87	9.93	11.00	12.08		13.64	2 / 7			
reaction time	0.137	interval	7 steps	1.07	1.10	1.02	1.02	1.06	1.07	1.06	1.07	1.08	1.56			3.19	3.15	3.21
wind	0.7 m/s	velocity	5.42	8.54	8.31	8.96	8.96	8.62	8.54	8.62	8.54	8.46	8.99	8.06		8.60	8.70	8.54

Henson (2022) - Athlete First: 2022 year end hurdle report

FINAL - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)																		
date	20-Mar-22	time	2.48	3.54	4.58	5.60	6.60							7.62	1 / 6			
reaction time	0.142	interval	7 steps	1.06	1.04	1.02	1.00						1.02			3.12		
		velocity	5.53	8.62	8.79	8.96	9.14						9.53	7.87		8.79		

Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record

Semi-Final 3 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)																		
date	20-Mar-22	time	2.53	3.56	4.60	5.62	6.63							7.57	3 / 3			
reaction time	0.121	interval	7 steps	1.03	1.04	1.02	1.01						0.94	**=PB**		3.09		
		velocity	5.42	8.87	8.79	8.96	9.05						10.34	7.93		8.87		

Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record

Heat 1 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)																		
date	20-Mar-22	time	2.53	3.60	4.63	5.65	6.68							7.65	3 / 1			
reaction time	0.118	interval	7 steps	1.07	1.03	1.02	1.03						0.97			3.12		
		velocity	5.42	8.54	8.87	8.96	8.87						10.02	7.84		8.79		

Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record

FINAL - 2022 Müller Indoor Grand Prix (Birmingham, GBR) (TV Analysis)																		
date	19-Feb-22	time	2.46	3.53	4.55	5.57	6.60							7.63	7 / 5			
reaction time	0.132	interval	7 steps	1.07	1.02	1.02	1.03						1.03	**=PB**		3.11		
		velocity	5.58	8.54	8.96	8.96	8.87						9.44	7.86		8.82		

Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record

FINAL - 2021 Boris Hanžeković Memorial (Zagreb, CRO) (TV Analysis)																		
date	14-Sep-21	time	2.50	3.60	4.63	5.66	6.66	7.70	8.73	9.76	10.86	12.03		13.56	3 / 5			
reaction time	0.140	interval	7 steps	1.10	1.03	1.03	1.00	1.04	1.03	1.03	1.10	1.17	1.53			3.16	3.07	3.30
wind	0.7 m/s	velocity	5.49	8.31	8.87	8.87	9.14	8.79	8.87	8.87	8.31	7.81	9.16	8.11		8.68	8.93	8.31

Henson (2021) - Athlete First: 2021 year end hurdle report

Semi-Final 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)																		
date	04-Aug-21	time	2.62	3.65	4.72	5.78	6.82	7.85	8.89	9.92	11.02	12.13		13.67	2 / 7			
reaction time	0.141	interval	7 steps	1.03	1.07	1.06	1.04	1.03	1.04	1.03	1.10	1.11	1.54			3.16	3.11	3.24

Henson (2024) - Athlete First: 2021 year end hurdle report

wind	-0.1 m/s	velocity	5.24	8.87	8.54	8.62	8.79	8.87	8.79	8.87	8.31	8.23	9.10	8.05		8.68	8.82	8.46

Heat 4 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.53	3.57	4.62	5.66	6.75	7.81	8.82	9.85	10.98	12.06		13.55	1 / 6			
reaction time	0.111	interval	7 steps	1.04	1.05	1.04	1.09	1.06	1.01	1.03	1.13	1.08	1.49			3.13	3.16	3.24
wind	-0.2 m/s	velocity	5.42	8.79	8.70	8.79	8.39	8.62	9.05	8.87	8.09	8.46	9.41	8.12		8.76	8.68	8.46

FINAL - 2020 Doha Diamond League (Doha, QAT) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	25-Sep-20	time	2.48	3.56	4.60	5.64	6.68	7.70	8.76	9.82	10.90	11.98		13.54	1 / 3			
reaction time	0.109	interval	7 steps	1.08	1.04	1.04	1.04	1.02	1.06	1.06	1.08	1.08	1.56			3.16	3.12	3.22
wind	0.3 m/s	velocity	5.53	8.46	8.79	8.79	8.79	8.96	8.62	8.62	8.46	8.46	8.99	8.12		8.68	8.79	8.52

FINAL - 2020 Paavo Nurmi Games (Turku, FIN) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	11-Aug-20	time	2.60	3.67	4.70	5.75	6.77	7.84	8.88	9.91	11.01	12.08		13.57	5 / 3			
reaction time	0.148	interval	7 steps	1.07	1.03	1.05	1.02	1.07	1.04	1.03	1.10	1.07	1.49			3.15	3.13	3.20
wind	1.1 m/s	velocity	5.28	8.54	8.87	8.70	8.96	8.54	8.79	8.87	8.31	8.54	9.41	8.11		8.70	8.76	8.57

FINAL - 2019 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	18-Aug-19	time	2.62	3.73	4.80	5.83	6.86	7.89	8.91	9.96	11.05	12.15		13.69	3 / 7			
reaction time	0.136	interval	7 steps	1.11	1.07	1.03	1.03	1.03	1.02	1.05	1.09	1.10	1.54			3.21	3.08	3.24
wind	-0.2 m/s	velocity	5.24	8.23	8.54	8.87	8.87	8.87	8.96	8.70	8.39	8.31	9.10	8.04		8.54	8.90	8.46

FINAL - 2019 Müller Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	21-Jul-19	time	2.45	3.51	4.56	5.61	6.65	7.72	8.77	9.85	10.92	12.05		13.66	1 / 8			
reaction time	0.135	interval	7 steps	1.06	1.05	1.05	1.04	1.07	1.05	1.08	1.07	1.13	1.61			3.16	3.16	3.28
wind	0.4 m/s	velocity	5.60	8.62	8.70	8.70	8.79	8.54	8.70	8.46	8.54	8.09	8.71	8.05		8.68	8.68	8.36

FINAL - 2019 Müller Indoor Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Feb-19	time	2.54	3.58	4.65	5.68	6.72							7.68	3 / 6			
reaction time	0.130	interval	7 steps	1.04	1.07	1.03	1.04						0.96			3.14		
		velocity	5.40	8.79	8.54	8.87	8.79						10.13	7.81		8.73		

FINAL - 2018 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	18-Aug-18	time	2.52	3.58	4.62	5.64	6.66	7.70	8.74	9.78	10.84	11.92		13.53	9 / 8			
reaction time	0.124	interval	7 steps	1.06	1.04	1.02	1.02	1.04	1.04	1.04	1.06	1.08	1.61			3.12	3.10	3.18
wind	1.3 m/s	velocity	5.44	8.62	8.79	8.96	8.96	8.79	8.79	8.79	8.62	8.46	8.71	8.13		8.79	8.85	8.62

FINAL - 2017 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	20-Aug-17	time	2.58	3.64	4.70	5.76	6.82	7.88	8.92	10.00	11.04	12.12		13.65	1 / 7			
reaction time	0.138	interval	7 steps	1.06	1.06	1.06	1.06	1.06	1.04	1.08	1.04	1.08	1.53			3.18	3.16	3.20
wind	-0.6 m/s	velocity	5.32	8.62	8.62	8.62	8.62	8.62	8.79	8.46	8.79	8.46	9.16	8.06		8.62	8.68	8.57

Kingdom, Roger (USA) (1962)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

FINAL - 1996 USA Olympic Trials (Atlanta, GA) *McNichols (2000) - Hurdle technique study through video analysis*

date	23-Jun-96	time	2.45	3.50	4.53	5.52	6.55	7.54	8.55	9.62	10.65	11.77		13.34	1 / 5			
reaction time		interval		1.05	1.03	0.99	1.03	0.99	1.01	1.07	1.03	1.12	1.57			3.07	3.03	3.22
wind	0.9 m/s	velocity	5.60	8.70	8.87	9.23	8.87	9.23	9.05	8.54	8.87	8.16	8.93	8.25		8.93	9.05	8.52

FINAL - 1989 IAAF World Cup (Barcelona, ESP) *Gill (1990) - atletismo (I) carreras y marcha*

date	10-Sep-89	time	2.55	3.60	4.61	5.61	6.58	7.56	8.54	9.54	10.54	11.57		12.87	9 / 1			
reaction time		interval		1.05	1.01	1.00	0.97	0.98	0.98	1.00	1.00	1.03	1.30			3.06	2.93	3.03
wind	2.6 m/s	velocity	5.38	8.70	9.05	9.14	9.42	9.33	9.33	9.14	9.14	8.87	10.78	8.55		8.96	9.36	9.05

FINAL - 1988 Olympic Games (Seoul, KOR) *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.55	3.60	4.61	5.61	6.61	7.59	8.59	9.59	10.62	11.64		12.98	4 / 1			
reaction time	0.142	interval		1.05	1.01	1.00	1.00	0.98	1.00	1.00	1.03	1.02	1.34	OR		3.06	2.98	3.05
wind	1.5 m/s	velocity	5.38	8.70	9.05	9.14	9.14	9.33	9.14	9.14	8.87	8.96	10.46	8.47		8.96	9.20	8.99

Semi-Final 2 - 1988 Olympic Games (Seoul, KOR) *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.60	3.66	4.68	5.67	6.66	7.68	8.71	9.76	10.83	11.91		13.37	3 / 1			
reaction time	0.192	interval		1.06	1.02	0.99	0.99	1.02	1.03	1.05	1.07	1.08	1.46			3.07	3.04	3.20
wind	-0.7 m/s	velocity	5.28	8.62	8.96	9.23	9.23	8.96	8.87	8.70	8.54	8.46	9.60	8.23		8.93	9.02	8.57

Kiriyama, Norihiro (JPN) (1992)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

Heat 2 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.69	3.78	4.86	5.93	7.04	8.16	9.26	10.38	11.53	12.68		14.20	5 / 7			
reaction time	0.176	interval		1.09	1.08	1.07	1.11	1.12	1.10	1.12	1.15	1.15	1.52			3.24	3.33	3.42
wind	0.0 m/s	velocity	5.10	8.39	8.46	8.54	8.23	8.16	8.31	8.16	7.95	7.95	9.22	7.75		8.46	8.23	8.02

Kishi, Kazuki (JPN) (1993)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

Heat 2 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.65	3.75	4.85	5.95	7.06	8.14	9.27	10.39	11.53	12.67		14.15	9 / 6			
reaction time	0.158	interval		1.10	1.10	1.10	1.11	1.08	1.13	1.12	1.14	1.14	1.48			3.30	3.32	3.40

wind	0.0 m/s	velocity	5.18	8.31	8.31	8.31	8.23	8.46	8.09	8.16	8.02	8.02	9.47	7.77		8.31	8.26	8.06

Kisiala, Jan (CZE) (1998)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm)															*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date	28-Jun-14	time	2.88	4.04	5.18	6.32	7.45	8.57	9.77	10.96	12.17	13.39		14.93	2 / 3			
reaction time	0.177	interval		1.16	1.14	1.14	1.13	1.12	1.20	1.19	1.21	1.22	1.54			3.44	3.45	3.62
wind	-3.7 m/s	velocity	4.76	7.88	8.02	8.02	8.09	8.16	7.62	7.68	7.55	7.49	9.10	7.37		7.97	7.95	7.57
Heat 3 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm)															*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date	28-Jun-14	time	2.88	4.05	5.20	6.35	7.50	8.65	9.81	10.98	12.18	13.39		14.99	5 / 2			
reaction time	0.168	interval		1.17	1.15	1.15	1.15	1.15	1.16	1.17	1.20	1.21	1.60			3.47	3.46	3.58
wind	-1.6 m/s	velocity	4.76	7.81	7.95	7.95	7.95	7.95	7.88	7.81	7.62	7.55	8.76	7.34		7.90	7.92	7.66

Kislykh, Andrey (RUS) (1976)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 1997 European Cup (Munich, GER)															*Jung (2003) - http://www.fgs.uni-halle.de*			
date	22-Jun-97	time	2.65	3.70	4.71	5.73	6.74	7.78	8.84	9.90	10.97	12.05		13.53	/ 3			
reaction time		interval		1.05	1.01	1.02	1.01	1.04	1.06	1.06	1.07	1.08	1.48			3.08	3.11	3.21
wind	0.2 m/s	velocity	5.18	8.70	9.05	8.96	9.05	8.79	8.62	8.62	8.54	8.46	9.47	8.13		8.90	8.82	8.54

Kiss, Dániel (HUN) (1982)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 2010 European Team Championships, 1st League (Budapest, HUN)															*Blomkvist (2010) - www.sub13.se*			
date	20-Jun-10	time	2.49	3.52	4.54	5.53	6.54	7.54	8.58	9.58	10.67	11.75		13.32	5 / 1			
reaction time	0.160	interval		1.03	1.02	0.99	1.01	1.00	1.04	1.00	1.09	1.08	1.57	NR		3.04	3.05	3.17
wind	1.1 m/s	velocity	5.51	8.87	8.96	9.23	9.05	9.14	8.79	9.14	8.39	8.46	8.93	8.26		9.02	8.99	8.65
FINAL - 2010 IAAF World Indoor Championships (Doha, QAT)															*Kuitunen (2010) - biomencanical analysis of the 14th IAAF World Indoor championships*			
date	14-Mar-10	time	2.73	3.75	4.82	5.89	6.93							7.81	2 / 8			
reaction time	0.182	interval		1.02	1.07	1.07	1.04						0.88			3.16		
		velocity	5.03	8.96	8.54	8.54	8.79						11.05	7.68		8.68		
FINAL - 2010 GE Galan (Stockholm, SWE)															*Blomkvist (2010) - www.sub13.se*			
date	10-Feb-10	time	2.50	3.53	4.56	5.58	6.60							7.66	/ 2			
reaction time		interval		1.03	1.03	1.02	1.02						1.06			3.08		
		velocity	5.49	8.87	8.87	8.96	8.96						9.17	7.83		8.90		
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)															*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date	20-Aug-09	time	2.67	3.72	4.76	5.76	6.80	7.83	8.86	9.90	10.96	12.04		13.45	3 / 3			
reaction time	0.156	interval		1.05	1.04	1.00	1.04	1.03	1.03	1.04	1.06	1.08	1.41			3.09	3.10	3.18
wind	0.1 m/s	velocity	5.14	8.70	8.79	9.14	8.79	8.87	8.87	8.79	8.62	8.46	9.94	8.18		8.87	8.85	8.62
Heat 6 - 2009 IAAF World Championships (Berlin, GER)															*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date	19-Aug-09	time	2.70	3.77	4.78	5.79	6.79	7.79	8.81	9.83	10.87	11.97		13.34	7 / 1			
reaction time	0.158	interval		1.07	1.01	1.01	1.00	1.00	1.02	1.02	1.04	1.10	1.37	NR		3.09	3.02	3.16
wind	0.1 m/s	velocity	5.08	8.54	9.05	9.05	9.14	9.14	8.96	8.96	8.79	8.31	10.23	8.25		8.87	9.08	8.68

Kitz, Silvio (GDR) (1966)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 1986 East German National Championships (Jena, GDR)															*Aubert (1987) - mesures et observations biomecaniques a propos des courses de haies hautes*			
date	27-Jun-86	time	2.62	3.74	4.84	5.95	7.06	8.17	9.29	10.40	11.51	12.66		14.12	/ 3			
reaction time		interval		1.12	1.10	1.11	1.11	1.11	1.12	1.11	1.11	1.15	1.46			3.33	3.34	3.37
wind	1.7 m/s	velocity	5.24	8.16	8.31	8.23	8.23	8.23	8.16	8.23	8.23	7.95	9.60	7.79		8.23	8.21	8.14

Kobayashi, Fumihito (JPN) (1994)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Heat 3 - 2017 Japanese National Championships (Osaka, JPN)															*(2017) - tfdata-store.com/2017/07/13/post-1040/*			
date	24-Jun-17	time	2.76	3.88	5.05	6.26	7.45	8.65	9.90	11.14	12.38	13.63		15.27	9 / 8			
reaction time	0.146	interval		1.12	1.17	1.21	1.19	1.20	1.25	1.24	1.24	1.25	1.64			3.50	3.64	3.73
wind	0.5 m/s	velocity	4.97	8.16	7.81	7.55	7.68	7.62	7.31	7.37	7.37	7.31	8.55	7.20		7.83	7.53	7.35

Koga, Jieremi (JPN) (2007)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)															*Takashima (2024) - national high school sports festival - biomechanics data*			
date	01-Aug-24	time	2.57	3.64	4.68	5.75	6.77	7.83	8.90	9.96	11.04	12.14		13.59	7 / 1			
reaction time	0.152	interval		1.07	1.04	1.07	1.02	1.06	1.07	1.06	1.08	1.10	1.45	PB		3.18	3.15	3.24
wind	-0.7 m/s	velocity	5.34	8.54	8.79	8.54	8.96	8.62	8.54	8.62	8.46	8.31	9.67	8.09		8.62	8.70	8.46
FINAL - 2024 Japanese National U20 Championsips (Niigata, JPN) (99.1cm)															*Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*			
date	30-Jun-24	time	2.61	3.68	4.75	5.76	6.84	7.91	8.97	10.07	11.16	12.27		13.75	7 / 7			
reaction time	0.171	interval	7 steps	1.07	1.07	1.01	1.08	1.07	1.06	1.10	1.09	1.11	1.48			3.15	3.21	3.30
wind	0.1 m/s	velocity	5.26	8.54	8.54	9.05	8.46	8.54	8.62	8.31	8.39	8.23	9.47	8.00		8.70	8.54	8.31

Kohutek, Artur (POL) (1971)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 2002 European Championships (Munich, GER)															*Graubner (2009) - http://www.fgs.uni-halle.de*			
date	10-Aug-02	time	2.62	3.67	4.69	5.71	6.71	7.73	8.77	9.79	10.85	11.91		13.32	/ 3			
reaction time	0.157	interval		1.05	1.02	1.02	1.00	1.02	1.04	1.02	1.06	1.06	1.41			3.09	3.06	3.14
wind	0.4 m/s	velocity	5.24	8.70	8.96	8.96	9.14	8.96	8.79	8.96	8.62	8.62	9.94	8.26		8.87	8.96	8.73

Semi-Final 1 - 2002 European Championships (Munich, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	10-Aug-02	time	2.65	3.70	4.73	5.74	6.75	7.77	8.82	9.85	10.93	12.01		13.44	/ 2			
reaction time	0.135	interval		1.05	1.03	1.01	1.01	1.02	1.05	1.03	1.08	1.08	1.43			3.09	3.08	3.19
wind	-0.5 m/s	velocity	5.18	8.70	8.87	9.05	9.05	8.96	8.70	8.87	8.46	8.46	9.80	8.18		8.87	8.90	8.60

Heat 2 - 2002 European Championships (Munich, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	09-Aug-02	time	2.68	3.74	4.78	5.78	6.80	7.83	8.85	9.92	10.98	12.05		13.49	/ 1			
reaction time	0.152	interval		1.06	1.04	1.00	1.02	1.03	1.02	1.07	1.06	1.07	1.44			3.10	3.07	3.20
wind	0.5 m/s	velocity	5.12	8.62	8.79	9.14	8.96	8.87	8.96	8.54	8.62	8.54	9.74	8.15		8.85	8.93	8.57

FINAL - 1998 European Championships (Budapest, HUN) *Sanchez (1998) - Budapest '98: análisis de la carreras con villas*

date	22-Aug-98	time	2.60	3.62	4.65	5.67	6.67	7.70	8.72	9.73	10.75	11.83		13.29	7 / 5			
reaction time		interval		1.02	1.03	1.02	1.00	1.03	1.02	1.01	1.02	1.08	1.46			3.07	3.05	3.11
wind	1.5 m/s	velocity	5.28	8.96	8.87	8.96	9.14	8.87	8.96	9.05	8.96	8.46	9.60	8.28		8.93	8.99	8.82

Koike, Ryo (JPN) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

B FINAL - 2024 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	29-Apr-24	time	2.75	3.84	4.89	5.94	6.99	8.05	9.11	10.19	11.30	12.41		13.93	8 / 4			
reaction time	0.196	interval	7 steps	1.09	1.05	1.05	1.05	1.06	1.06	1.08	1.11	1.11	1.52			3.19	3.17	3.30
wind	-0.7 m/s	velocity	4.99	8.39	8.70	8.70	8.70	8.62	8.62	8.46	8.23	8.23	9.22	7.90		8.60	8.65	8.31

FINAL - 2022 Japanese U20 National Championsips (Osaka, JPN) (99cm) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	12-Jun-22	time	2.58	3.69	4.74	5.79	6.80	7.83	8.87	9.93	11.00	12.10		13.57	7 / 3			
reaction time	0.155	interval	7 steps	1.11	1.05	1.05	1.01	1.03	1.04	1.06	1.07	1.10	1.47	PB		3.21	3.08	3.23
wind	1.1 m/s	velocity	5.32	8.23	8.70	8.70	9.05	8.87	8.79	8.62	8.54	8.31	9.54	8.11		8.54	8.90	8.49

FINAL - 2021 Japanese High School National Championships (Fukui, JPN) *Shibayama (2021) - national high school and U20 national championhsips*

date	01-Aug-21	time	2.65	3.78	4.88	5.93	7.00	8.08	9.15	10.24	11.35	12.45		13.93	5 / 2			
reaction time	0.147	interval	7 steps	1.13	1.10	1.05	1.07	1.08	1.07	1.09	1.11	1.10	1.48	=PB		3.28	3.22	3.30
wind	1.4 m/s	velocity	5.18	8.09	8.31	8.70	8.54	8.46	8.54	8.39	8.23	8.31	9.47	7.90		8.36	8.52	8.31

Kojima, Keiichiro (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN) *Takashima (2023) - national high school sports festival - biomechanics data*

date	06-Aug-23	time	2.75	3.86	4.95	6.05	7.13	8.24	9.33	10.44	11.57	12.70		14.15	5 / 2			
reaction time	0.228	interval		1.11	1.09	1.10	1.08	1.11	1.09	1.11	1.13	1.13	1.45			3.30	3.28	3.37
wind	0.8 m/s	velocity	4.99	8.23	8.39	8.31	8.46	8.23	8.39	8.23	8.09	8.09	9.67	7.77		8.31	8.36	8.14

Kokubu, Toru (JPN) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

B FINAL - 2019 Mikio Oda Memorial (Hiroshima, JPN) *Kobayashi (2019) - research on athlete performance and technique- 2019 data book*

date	28-Apr-19	time	2.69	3.79	4.88	5.96	7.05	8.15	9.25	10.38	11.52	12.67		14.17	6 / 2			
reaction time		interval	7 steps	1.10	1.09	1.08	1.09	1.10	1.10	1.13	1.14	1.15	1.50			3.27	3.29	3.42
wind	1.4 m/s	velocity	5.10	8.31	8.39	8.46	8.39	8.31	8.31	8.09	8.02	7.95	9.35	7.76		8.39	8.33	8.02

Kondo, Mizuki (JPN) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (99cm) *Kijima (2019) - research on athlete performance and technique- 2019 data book*

date	18-Oct-19	time	2.64	3.70	4.76	5.80	6.83	7.88	8.92	9.97	11.03	12.13		13.60	3 / 2			
reaction time	0.152	interval		1.06	1.06	1.04	1.03	1.05	1.04	1.05	1.06	1.10	1.47			3.16	3.12	3.21
wind	-0.4 m/s	velocity	5.20	8.62	8.62	8.79	8.87	8.70	8.79	8.70	8.62	8.31	9.54	8.09		8.68	8.79	8.54

FINAL - 2019 National Sports Festival (Hitachinaka, JPN) (99cm) *Enomoto (2019) - research on athlete performance and technique- 2019 data book*

date	06-Oct-19	time	2.63	3.68	4.72	5.73	6.76	7.78	8.82	9.87	10.92	11.98		13.45	6 / 2			
reaction time	0.142	interval		1.05	1.04	1.01	1.03	1.02	1.04	1.05	1.05	1.06	1.47			3.10	3.09	3.16
wind	2.7 m/s	velocity	5.22	8.70	8.79	9.05	8.87	8.96	8.79	8.70	8.70	8.62	9.54	8.18		8.85	8.87	8.68

FINAL - 2019 Japanese National High School Championships (Okinawa, JPN) (99cm) *Kota (2019) - 72nd high school champs: JAF scientific committee - biomechanics data*

date	08-Aug-19	time	2.69	3.80	4.92	6.00	7.12	8.23	9.33	10.46	11.57	12.72		14.21	5 / 2			
reaction time		interval		1.11	1.12	1.08	1.12	1.11	1.10	1.13	1.11	1.15	1.49	PB		3.31	3.33	3.39
wind	-3.0 m/s	velocity	5.10	8.23	8.16	8.46	8.16	8.23	8.31	8.09	8.23	7.95	9.41	7.74		8.28	8.23	8.09

Konečeny, Michael (CZE) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.82	4.02	5.20	6.43	7.64	8.88	10.23	11.59	12.90	14.22		15.97	8 / 5			
reaction time	0.144	interval		1.20	1.18	1.23	1.21	1.24	1.35	1.36	1.31	1.32	1.75			3.61	3.80	3.99
wind	-2.5 m/s	velocity	4.87	7.62	7.75	7.43	7.55	7.37	6.77	6.72	6.98	6.92	8.01	6.89		7.60	7.22	6.87

Konno, Ryoma (JPN) (2004)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2022 Japanese National High School Championships (Naruto, JPN) *Kishima (2022) - national high school championships biomechanics data collection*

date	07-Aug-22	time	2.69	3.82	4.96	6.08	7.20	8.32	9.47	10.66	11.82	13.06		14.57	4 / 1			
reaction time	0.147	interval		1.13	1.14	1.12	1.12	1.12	1.15	1.19	1.16	1.24	1.51			3.39	3.39	3.59
wind	-3.8 m/s	velocity	5.10	8.09	8.02	8.16	8.16	8.16	7.95	7.68	7.88	7.37	9.28	7.55		8.09	8.09	7.64

Kopanayko, Serhiy (UKR) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Race 1 - 2011 European Team Championships (Stockholm, SWE) *Blomkvist (2011) - www.sub13.se*

date	19-Jun-11	time	2.68	3.76	4.88	5.96	7.04	8.11	9.26	10.40	11.62	12.84		14.57	4 / 6		
reaction time	0.166	interval		1.08	1.12	1.08	1.08	1.07	1.15	1.14	1.22	1.22	1.73			3.28	3.30	3.58
wind	-0.8 m/s	velocity	5.12	8.46	8.16	8.46	8.46	8.54	7.95	8.02	7.49	7.49	8.10	7.55		8.36	8.31	7.66

Korbmacher, Andre (USA) (2005)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 New Balance Indoor Grand Prix (Boston, MA) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	04-Feb-24	time	2.54	3.58	4.62	5.68	6.72							7.67	8 / 7		
reaction time	0.148	interval		1.04	1.04	1.06	1.04						0.95	PB		3.14	
		velocity	5.40	8.79	8.79	8.62	8.79						10.23	7.82		8.73	

Korkealaakso, Antti (FIN) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2011 Landskamp FIN-SWE-NOR (Tampere, FIN) *Blomkvist (2011) - www.sub13.se*

date	05-Feb-11	time	2.60	3.72	4.80	5.88	6.96							7.99	4 / 3		
reaction time		interval		1.12	1.08	1.08	1.08						1.03			3.28	
		velocity	5.28	8.16	8.46	8.46	8.46						9.44	7.51		8.36	

Korving, Robin (NED) (1974)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 1999 IAAF World Championships (Sevilla, ESP) *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	24-Aug-99	time	2.59	3.62	4.66	5.67	6.72	7.74	8.78	9.84	10.91	11.96		13.45	2 / 7		
reaction time	0.133	interval		1.03	1.04	1.01	1.05	1.02	1.04	1.06	1.07	1.05	1.49			3.08	3.11	3.18
wind	0.0 m/s	velocity	5.30	8.87	8.79	9.05	8.70	8.96	8.79	8.62	8.54	8.70	9.41	8.18		8.90	8.82	8.62

FINAL - 1998 European Championships (Budapest, HUN) *Sanchez (1998) - Budapest '98: análisis de la carreras con villas*

date	22-Aug-98	time	2.60	3.62	4.66	5.67	6.68	7.70	8.70	9.72	10.77	11.81		13.20	5 / 3		
reaction time		interval		1.02	1.04	1.01	1.01	1.02	1.00	1.02	1.05	1.04	1.39	NR		3.07	3.03	3.11
wind	1.5 m/s	velocity	5.28	8.96	8.79	9.05	9.05	8.96	9.14	8.96	8.70	8.79	10.09	8.33		8.93	9.05	8.82

Koster, Timme (NED) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2023 FBK Games (Hengelo, NED) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	04-Jun-23	time	2.73	3.83	4.93	5.97	7.00	8.06	9.13	10.20	11.27	12.36		13.78	1 / 8		
reaction time	0.157	interval		1.10	1.10	1.04	1.03	1.06	1.07	1.07	1.07	1.09	1.42			3.24	3.16	3.23
wind	0.4 m/s	velocity	5.03	8.31	8.31	8.79	8.87	8.62	8.54	8.54	8.54	8.39	9.87	7.98		8.46	8.68	8.49

Kotani, Arata (JPN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Fuse Sprint (Tottori, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	02-Jun-24	time	2.61	3.66	4.73	5.78	6.84	7.90	8.93	10.05	11.14	12.24		13.68	9 / 7		
reaction time	0.148	interval		1.05	1.07	1.05	1.06	1.06	1.03	1.12	1.09	1.10	1.44			3.17	3.15	3.31
wind	1.3 m/s	velocity	5.26	8.70	8.54	8.70	8.62	8.62	8.87	8.16	8.39	8.31	9.74	8.04		8.65	8.70	8.28

FINAL - 2024 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	12-May-24	time	2.64	3.69	4.74	5.81	6.85	7.93	9.01	10.10	11.20	12.31		13.76	9 / 7		
reaction time	0.175	interval		1.05	1.05	1.07	1.04	1.08	1.08	1.09	1.10	1.11	1.45	PB		3.17	3.20	3.30
wind	0.9 m/s	velocity	5.20	8.70	8.70	8.54	8.79	8.46	8.46	8.39	8.31	8.23	9.67	7.99		8.65	8.57	8.31

Koua, Franck Brice (ITA) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 European Indoor Championships (Toruń, POL) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	07-Mar-21	time	2.52	3.60	4.66	5.70	6.76							7.76	2 / 8		
reaction time	0.165	interval		1.08	1.06	1.04	1.06						1.00			3.18	
		velocity	5.44	8.46	8.62	8.79	8.62						9.72	7.73		8.62	

Koussi, Mohamed (MAR) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) *Omega Timing (2023) - diamond league race analysis*

date	28-May-23	time	2.42	3.49	4.53	5.59	6.64	7.71	8.78	9.85	10.92	12.02		13.70	1 / 8		
reaction time	0.141	interval		1.07	1.04	1.06	1.05	1.07	1.07	1.07	1.07	1.10	1.68			3.17	3.19	3.24
wind	-1.3 m/s	velocity	5.67	8.54	8.79	8.62	8.70	8.54	8.54	8.54	8.54	8.31	8.35	8.03		8.65	8.60	8.46

Kováč, Igor (SVK) (1969)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1997 IAAF World Championships (Athens, GRE) *Hommel (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*

date	07-Aug-97	time	2.62	3.68	4.70	5.72	6.72	7.74	8.78	9.78	10.82	11.86		13.18	1 / 3		
reaction time	0.161	interval		1.06	1.02	1.02	1.00	1.02	1.04	1.00	1.04	1.04	1.32			3.10	3.06	3.08
wind	0.0 m/s	velocity	5.24	8.62	8.96	8.96	9.14	8.96	8.79	9.14	8.79	8.79	10.62	8.35		8.85	8.96	8.90

Kováč, Igor (TCH) (1969)

FINAL - 1991 European Cup (Frankfurt, GER) *Federle (2003) - http://www.fgs.uni-halle.de*

date	30-Jun-91	time	2.63	3.72	4.78	5.86	6.92	7.99	9.05	10.14	11.25	12.45		13.94	/ 5		
reaction time		interval		1.09	1.06	1.08	1.06	1.07	1.06	1.09	1.11	1.20	1.49			3.23	3.19	3.40
wind	-0.9 m/s	velocity	5.22	8.39	8.62	8.46	8.62	8.54	8.62	8.39	8.23	7.62	9.41	7.89		8.49	8.60	8.06

Kozima, Keiichirou (JPN) (2005)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Japanese National U20 Championsips (Niigata, JPN) (99.1cm) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	30-Jun-24	time	2.69	3.76	4.82	5.86	6.90	7.93	9.00	10.08	11.15	12.25		13.74	5 / 6		
reaction time	0.155	interval	7 steps	1.07	1.06	1.04	1.04	1.03	1.07	1.08	1.07	1.10	1.49	PB		3.17	3.14	3.25
wind	0.1 m/s	velocity	5.10	8.54	8.62	8.79	8.79	8.87	8.54	8.46	8.54	8.31	9.41	8.01		8.65	8.73	8.44

Král, Aleš (CZE) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14 time	2.81	4.10	5.40	6.66	7.95	9.27	10.58	11.95	13.23	14.60		16.34	8 / 7			
reaction time 0.165 interval		1.29	1.30	1.26	1.29	1.32	1.31	1.37	1.28	1.37	1.74			3.85	3.92	4.02
wind -1.6 m/s velocity	4.88	7.09	7.03	7.25	7.09	6.92	6.98	6.67	7.14	6.67	8.06	6.73		7.12	6.99	6.82
Heat 3 - 2012 Czech Republic National Indoor Championships (Praha, CZE)													*Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*			
date 25-Feb-12 time	2.87	4.09	5.32	6.54	7.77							8.84	1 / 7			
reaction time 0.202 interval		1.22	1.23	1.22	1.23						1.07			3.67		
velocity	4.78	7.49	7.43	7.49	7.43						9.08	6.79		7.47		

Krauchanka, Andrei (BLR) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 3 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 20-Aug-09 time	2.77	3.89	4.99	6.07	7.17	8.25	9.35	10.45	11.56	12.67		14.13	4 / 1			
reaction time 0.175 interval		1.12	1.10	1.08	1.10	1.08	1.10	1.10	1.11	1.11	1.46			3.30	3.28	3.32
wind -0.1 m/s velocity	4.95	8.16	8.31	8.46	8.31	8.46	8.31	8.31	8.23	8.23	9.60	7.78		8.31	8.36	8.26

Kraus, Patrik (CZE) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14 time	2.84	4.08	5.30	6.53	7.70	8.90	10.08	11.31	12.57	13.81		15.52	2 / 4			
reaction time 0.179 interval		1.24	1.22	1.23	1.17	1.20	1.18	1.23	1.26	1.24	1.71			3.69	3.55	3.73
wind -0.3 m/s velocity	4.83	7.37	7.49	7.43	7.81	7.62	7.75	7.43	7.25	7.37	8.20	7.09		7.43	7.72	7.35

Kraus, Simon (FRA) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2020 Paavo Nurmi Games (Turku, FIN) (TV Analysis)													*Henson (2020) - Athlete First: 2020 year end hurdle report*			
date 11-Aug-20 time	2.64	3.70	4.84	5.91	7.00	8.08	9.21					dnf	2 / --			
reaction time 0.154 interval	7 steps	1.06	1.14	1.07	1.09	1.08	1.13							3.27	3.30	
wind 1.1 m/s velocity	5.20	8.62	8.02	8.54	8.39	8.46	8.09							8.39	8.31	

Krejčí, Michal (CZE) (1981)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2014 Czech Republic National Championships (Ostrava, CZE)													*Feher (2014) - Final report from the Czech Republic national championships*			
date 02-Aug-14 time	2.74	3.93	5.11	6.29	7.48	8.72	9.94	11.17	12.42	13.72		15.45	1 / 8			
reaction time 0.147 interval		1.19	1.18	1.18	1.19	1.24	1.22	1.23	1.25	1.30	1.73			3.55	3.65	3.78
wind -1.2 m/s velocity	5.01	7.68	7.75	7.75	7.68	7.37	7.49	7.43	7.31	7.03	8.10	7.12		7.72	7.51	7.25
Heat 1 - 2014 Czech Republic National Championships (Ostrava, CZE)													*Feher (2014) - Final report from the Czech Republic national championships*			
date 02-Aug-14 time	2.75	3.97	5.16	6.35	7.54	8.72	9.90	11.14	12.38	13.64		15.27	2 / 4			
reaction time 0.106 interval		1.22	1.19	1.19	1.19	1.18	1.18	1.24	1.24	1.26	1.63			3.60	3.55	3.74
wind -1.6 m/s velocity	4.99	7.49	7.68	7.68	7.68	7.75	7.75	7.37	7.37	7.25	8.60	7.20		7.62	7.72	7.33
FINAL - 2013 Czech Republic National Championships (Tábor, CZE)													*Feher (2013) - Final report from the men's & women's Czech Republic national championships*			
date 15-Jun-13 time	2.75	3.88	5.00	6.13	7.24	8.38	9.50	10.65	11.84	13.03		14.62	8 / 7			
reaction time 0.149 interval		1.13	1.12	1.13	1.11	1.14	1.12	1.15	1.19	1.19	1.59			3.38	3.37	3.53
wind 0.4 m/s velocity	4.99	8.09	8.16	8.09	8.23	8.02	8.16	7.95	7.68	7.68	8.82	7.52		8.11	8.14	7.77
Heat 1 - 2013 Czech Republic National Championships (Tábor, CZE)													*Feher (2013) - Final report from the men's & women's Czech Republic national championships*			
date 15-Jun-13 time	2.71	3.86	4.99	6.13	7.27	8.40	9.54	10.70	11.88	13.08		14.66	5 / 2			
reaction time 0.126 interval		1.15	1.13	1.14	1.14	1.13	1.14	1.16	1.18	1.20	1.58			3.42	3.41	3.54
wind -0.6 m/s velocity	5.06	7.95	8.09	8.02	8.02	8.09	8.02	7.88	7.75	7.62	8.87	7.50		8.02	8.04	7.75
Heat 2 - 2012 Czech Republic National Indoor Championships (Praha, CZE)													*Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*			
date 25-Feb-12 time	2.76	3.90	5.04	6.16	7.28							8.27	5 / 3			
reaction time 0.108 interval		1.14	1.14	1.12	1.12						0.99			3.40		
velocity	4.97	8.02	8.02	8.16	8.16						9.82	7.26		8.06		

Krivák, Dominik (CZE) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2015 Czech Republic National U18 Indoor Championships (Praha, CZE) (91cm)													*Feher (2015) - Final report U18 & U20 Czech Republic indoor national champs*			
date 14-Feb-15 time	2.65	3.77	4.90	6.03	7.16							8.14	8 / 4			
reaction time 0.109 interval		1.12	1.13	1.13	1.13						0.98			3.38		
velocity	5.18	8.16	8.09	8.09	8.09						9.92	7.37		8.11		

Kronberg, Robert (SWE) (1976)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2008 Windsprint (Sundsvall, SWE)													*(2008) - www.ssg.se/en/Windsprint/Split-times/*			
date 06-Jul-08 time		3.76			6.85			10.06				13.69	5 / 2			
reaction time interval					3.09			3.21			3.63					
wind 0.5 m/s velocity		6.08			8.87			8.54			8.90	8.04				
FINAL - 2007 Windsprint (Sundsvall, SWE)													*(2007) - www.ssg.se/en/Windsprint/Split-times/*			
date 24-Jul-07 time		3.68			6.82			10.01				13.65	/ 1			
reaction time interval					3.14			3.19			3.64					
wind 1.3 m/s velocity		6.21			8.73			8.60			8.87	8.06				

FINAL - 2002 European Championships (Munich, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	10-Aug-02	time	2.63	3.67	4.71	5.76	6.77	7.85	8.89	9.95	11.06	12.15		13.63	/ 7			
reaction time	0.134	interval		1.04	1.04	1.05	1.01	1.08	1.04	1.06	1.11	1.09	1.48			3.13	3.13	3.26
wind	0.4 m/s	velocity	5.22	8.79	8.79	8.70	9.05	8.46	8.79	8.62	8.23	8.39	9.47	8.07		8.76	8.76	8.41

Semi-Final 2 - 2002 European Championships (Munich, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	10-Aug-02	time	2.58	3.64	4.66	5.72	6.74	7.80	8.86	9.92	10.99	12.06		13.53	/ 4			
reaction time	0.103	interval		1.06	1.02	1.06	1.02	1.06	1.06	1.06	1.07	1.07	1.47			3.14	3.14	3.20
wind	0.8 m/s	velocity	5.32	8.62	8.96	8.62	8.96	8.62	8.62	8.62	8.54	8.54	9.54	8.13		8.73	8.73	8.57

Kubaszewski, Mariusz (POL) (1982)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2007 European Cup (Munich, GER) *Graubner (2007) - http://www.fgs.uni-halle.de*

date	24-Jun-07	time	2.64	3.73	4.79	5.83	6.91	7.95	9.03	10.08	11.17	12.29		13.74	/ 7			
reaction time	0.127	interval		1.09	1.06	1.04	1.08	1.04	1.08	1.05	1.09	1.12	1.45			3.19	3.20	3.26
wind	0.4 m/s	velocity	5.20	8.39	8.62	8.79	8.46	8.79	8.46	8.70	8.39	8.16	9.67	8.01		8.60	8.57	8.41

Kubeš, Jirí (CZE) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.79	3.93	5.10	6.25	7.40	8.56	9.75	10.93	12.14	13.40		15.29	1 / 7			
reaction time	0.186	interval		1.14	1.17	1.15	1.15	1.16	1.19	1.18	1.21	1.26	1.89			3.46	3.50	3.65
wind	-2.2 m/s	velocity	4.92	8.02	7.81	7.95	7.95	7.88	7.68	7.75	7.55	7.25	7.42	7.19		7.92	7.83	7.51

Heat 3 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.80	3.95	5.11	6.25	7.43	8.62	9.80	11.00	12.20	13.43		15.06	5 / 3			
reaction time	0.203	interval		1.15	1.16	1.14	1.18	1.19	1.18	1.20	1.20	1.23	1.63			3.45	3.55	3.63
wind	-2.5 m/s	velocity	4.90	7.95	7.88	8.02	7.75	7.68	7.75	7.62	7.62	7.43	8.60	7.30		7.95	7.72	7.55

Kubota, Kohei (JPN) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Nambu Memorial (Sapporo, JPN) *(2017) - tfdata-store.com/2017/07/12/post-1025/*

date	09-Jul-17	time	2.65	3.77	4.90	6.01	7.14	8.26	9.38	10.51	11.65	12.82		14.34	8 / 6			
reaction time		interval		1.12	1.13	1.11	1.13	1.12	1.12	1.13	1.14	1.17	1.52			3.36	3.37	3.44
wind	2.7 m/s	velocity	5.18	8.16	8.09	8.23	8.09	8.16	8.16	8.09	8.02	7.81	9.22	7.67		8.16	8.14	7.97

Kubota, Kosuke (JPN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL A - 2016 Japanese Junior Olympics (Yokohama, JPN) (99cm) *(2016.10.30) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	30-Oct-16	time	2.72	3.84	4.96	6.10	7.24	8.37	9.52	10.67	11.82	12.99		14.60	7 / 1			
reaction time		interval		1.12	1.12	1.14	1.14	1.13	1.15	1.15	1.15	1.17	1.61			3.38	3.42	3.47
wind	0.1 m/s	velocity	5.04	8.16	8.16	8.02	8.02	8.09	7.95	7.95	7.95	7.81	8.71	7.53		8.11	8.02	7.90

Kubota, Taichi (JPN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2022 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	01-May-22	time	2.69	3.79	4.86	5.94	7.02	8.08	9.17	10.25	11.35	12.48		13.95	2 / 7			
reaction time	0.165	interval		1.10	1.07	1.08	1.08	1.06	1.09	1.08	1.10	1.13	1.47	PB		3.25	3.23	3.31
wind	0.8 m/s	velocity	5.10	8.31	8.54	8.46	8.46	8.62	8.39	8.46	8.31	8.09	9.54	7.89		8.44	8.49	8.28

FINAL - 2018 Japanese National High School Championships (Nagoya, JPN) (99cm) *Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection*

date	06-Aug-18	time	2.70	3.80	4.90	6.00	7.10	8.21	9.29	10.41	11.52	12.64		14.12	3 / 3			
reaction time		interval		1.10	1.10	1.10	1.10	1.11	1.08	1.12	1.11	1.12	1.48	PB		3.30	3.29	3.35
wind	1.6 m/s	velocity	5.08	8.31	8.31	8.31	8.31	8.23	8.46	8.16	8.23	8.16	9.47	7.79		8.31	8.33	8.19

Semi-Final 2 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.08) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.78	3.91	5.01	6.12	7.21	8.31	9.41	10.49	11.61	12.72		14.19	5 / 3			
reaction time		interval		1.13	1.10	1.11	1.09	1.10	1.10	1.08	1.12	1.11	1.47			3.34	3.29	3.31
wind	1.6 m/s	velocity	4.94	8.09	8.31	8.23	8.39	8.31	8.31	8.46	8.16	8.23	9.54	7.75		8.21	8.33	8.28

Heat 5 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.08) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.74	3.85	4.97	6.08	7.20	8.31	9.45	10.59	11.73	12.86		14.38	3 / 1			
reaction time		interval		1.11	1.12	1.11	1.12	1.11	1.14	1.14	1.14	1.13	1.52			3.34	3.37	3.41
wind	1.3 m/s	velocity	5.01	8.23	8.16	8.23	8.16	8.23	8.02	8.02	8.02	8.09	9.22	7.65		8.21	8.14	8.04

Kudo, Haruto (JPN) (2005)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Japanese National U20 Championsips (Niigata, JPN) (99.1cm) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	30-Jun-24	time	2.64	3.73	4.78	5.83	6.87	7.94	9.00	10.08	11.18	12.27		13.78	9 / 8			
reaction time	0.152	interval	7 steps	1.09	1.05	1.05	1.04	1.07	1.06	1.08	1.10	1.09	1.51			3.19	3.17	3.27
wind	0.1 m/s	velocity	5.20	8.39	8.70	8.70	8.79	8.54	8.62	8.46	8.31	8.39	9.28	7.98		8.60	8.65	8.39

Kudo, Masayoshi (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 6 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.08) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.70	3.80	4.89	6.00	7.09	8.28	9.41	10.57	11.70	12.91		14.44	2 / 3			
reaction time		interval		1.10	1.09	1.11	1.09	1.19	1.13	1.16	1.13	1.21	1.53			3.30	3.41	3.50
wind	1.2 m/s	velocity	5.08	8.31	8.39	8.23	8.39	7.68	8.09	7.88	8.09	7.55	9.16	7.62		8.31	8.04	7.83

Kulebyakin, Vyacheslav (URS) (1950)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1975 International "Pravda'" Sportfest (Sotschi, URS) — Artyschenko (1977) - zwischen den hürden geht es um die sekunde, teil 1

date	30-May-75	time	2.23	3.33	4.49	5.58	6.63	7.70	8.79	9.92	10.98	12.07		13.80	/ 2			
reaction time		interval		1.10	1.16	1.09	1.05	1.07	1.09	1.13	1.06	1.09	1.73			3.35	3.21	3.28
wind	-0.2 m/s	velocity	6.15	8.31	7.88	8.39	8.70	8.54	8.39	8.09	8.62	8.39	8.10	7.97		8.19	8.54	8.36

Heat ??? - 1975 International "Pravda'" Sportfest (Sotschi, URS) — Artyschenko (1977) - zwischen den hürden geht es um die sekunde, teil 1

date	30-May-75	time	2.40	3.33	4.49	5.58	6.63	7.70	8.79	9.92	10.98	12.07		13.59	???			
reaction time		interval		1.14	1.12	1.12	1.10	1.08	1.12	1.14	1.16	1.22	1.52			3.18	3.21	3.28
wind	???	velocity	5.72	8.02	8.16	8.16	8.31	8.46	8.16	8.02	7.88	7.49	9.22	8.09		8.62	8.54	8.36

Kumada, Ryo (JPN) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2017 Mito Invitational (Mito, JPN) — *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.77	3.93	5.05	6.16	7.30	8.42	9.55	10.67	11.83	12.99		14.42	9 / 4			
reaction time		interval	*7 steps*	1.16	1.12	1.11	1.14	1.12	1.13	1.12	1.16	1.16	1.43			3.39	3.39	3.44
wind	-2.5 m/s	velocity	4.95	7.88	8.16	8.23	8.02	8.16	8.09	8.16	7.88	7.88	9.80	7.63		8.09	8.09	7.97

Kumagai, Gen (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN) — *(2017) - tfdata-store.com/2017/04/07/post-249/*

date	06-Apr-17	time	2.71	3.89	5.06	6.27	7.46	8.69	9.91	11.08	12.33	13.58		15.11	3 / 7			
reaction time		interval		1.18	1.17	1.21	1.19	1.23	1.22	1.17	1.25	1.25	1.53			3.56	3.64	3.67
wind	-1.8 m/s	velocity	5.06	7.75	7.81	7.55	7.68	7.43	7.49	7.81	7.31	7.31	9.16	7.28		7.70	7.53	7.47

Kumagai, Kai (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

U20 FINAL - 2018 National Sports Festival (Fukui, JPN) (99cm) — *Joshi (2018) - research on athlete performance and technique- 2018 data book*

date	07-Oct-18	time	2.62	3.73	4.80	5.86	6.93	8.02	9.10	10.19	11.29	12.40		13.84	7 / 7			
reaction time	0.147	interval		1.11	1.07	1.06	1.07	1.09	1.08	1.09	1.10	1.11	1.44			3.24	3.24	3.30
wind	1.5 m/s	velocity	5.24	8.23	8.54	8.62	8.54	8.39	8.46	8.39	8.31	8.23	9.74	7.95		8.46	8.46	8.31

Kundert, Andreas (SUI) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2008 Swiss National Championships (Fribourg, SUI) — *Weber (2008) - wettkampfauswertung 110m hürden*

date	03-Aug-08	time	2.67	3.74	4.78	5.83	6.86	7.92	8.97	10.03	11.09	12.15		13.53	5 / 1			
reaction time		interval		1.07	1.04	1.05	1.03	1.06	1.05	1.06	1.06	1.06	1.38			3.16	3.14	3.18
wind	1.0 m/s	velocity	5.14	8.54	8.79	8.70	8.87	8.62	8.70	8.62	8.62	8.62	10.16	8.13		8.68	8.73	8.62

Kuriki, Anthony Tyrell (JPN) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2020 All Japan Corporate Championships (Kumagaya, JPN) — *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	20-Sep-20	time	2.68	3.77	4.85	5.92	6.97	8.05	9.11	10.20	11.30	12.43		13.92	9 / 4			
reaction time	0.130	interval		1.09	1.08	1.07	1.05	1.08	1.06	1.09	1.10	1.13	1.49			3.24	3.19	3.32
wind	0.1 m/s	velocity	5.12	8.39	8.46	8.54	8.70	8.46	8.62	8.39	8.31	8.09	9.41	7.90		8.46	8.60	8.26

FINAL - 2020 Athlete Night Games (Fukui, JPN) — *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	29-Aug-20	time	2.65	3.72	4.77	5.83	6.85	7.90	8.95	10.04	11.10	12.19		13.64	2 / 8			
reaction time		interval	7 steps	1.07	1.05	1.06	1.02	1.05	1.05	1.09	1.06	1.09	1.45			3.18	3.12	3.24
wind	1.4 m/s	velocity	5.18	8.54	8.70	8.62	8.96	8.70	8.70	8.39	8.62	8.39	9.67	8.06		8.62	8.79	8.46

FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN) — *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	23-Aug-20	time	2.63	3.72	4.79	5.85	6.91	7.97	9.05	10.13	11.21	12.31		13.79	3 / 4			
reaction time	0.108	interval	7 steps	1.09	1.07	1.06	1.06	1.06	1.08	1.08	1.08	1.10	1.48			3.22	3.20	3.26
wind	-0.4 m/s	velocity	5.22	8.39	8.54	8.62	8.62	8.62	8.46	8.46	8.46	8.31	9.47	7.98		8.52	8.57	8.41

FINAL - 2019 Japanese World Championships Trials (Fujiyoshida, JPN) — *Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*

date	01-Sep-19	time	2.60	3.69	4.73	5.77	6.82	7.86	8.91	9.97	11.03	12.10		13.59	8 / 5			
reaction time		interval	7 steps	1.09	1.04	1.04	1.05	1.04	1.05	1.06	1.06	1.07	1.49	**PB**		3.17	3.14	3.19
wind	1.4 m/s	velocity	5.28	8.39	8.79	8.79	8.70	8.79	8.70	8.62	8.62	8.54	9.41	8.09		8.65	8.73	8.60

FINAL - 2019 Japanese National Championships (Fukuoka, JPN) — *Yamanaka (2019) - research on athlete performance and technique- 2019 data book*

date	30-Jun-19	time	2.64	3.74	4.79	5.87	6.94	8.01	9.10	10.20	11.30	12.42		13.92	3 / 5			
reaction time	0.136	interval	7 steps	1.10	1.05	1.08	1.07	1.07	1.09	1.10	1.10	1.12	1.50			3.23	3.23	3.32
wind	-0.6 m/s	velocity	5.20	8.31	8.70	8.46	8.54	8.54	8.39	8.31	8.31	8.16	9.35	7.90		8.49	8.49	8.26

FINAL - 2019 Asian Grand Prix 2 (Chongqing, CHN) — *CAA Hurdle Development (2019)*

date	07-Jun-19	time	2.60	3.70	4.74	5.79	6.82	7.86	8.92	9.99	11.07	12.17		13.62	4 / 3			
reaction time	0.130	interval	7 steps	1.10	1.04	1.05	1.03	1.04	1.06	1.07	1.08	1.10	1.45			3.19	3.13	3.25
wind	1.2 m/s	velocity	5.28	8.31	8.79	8.70	8.87	8.79	8.62	8.54	8.46	8.31	9.67	8.08		8.60	8.76	8.44

A FINAL - 2018 National Sports Festival (Fukui, JPN) — *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	08-Oct-18	time	2.64	3.70	4.78	5.87	6.92	8.00	9.06	10.15	11.23	12.30		13.77	8 / 5			
reaction time	0.129	interval		1.06	1.08	1.09	1.05	1.08	1.06	1.09	1.08	1.07	1.47			3.23	3.19	3.24
wind	1.2 m/s	velocity	5.20	8.62	8.46	8.39	8.70	8.46	8.62	8.39	8.46	8.54	9.54	7.99		8.49	8.60	8.46

FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN) — *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	20-May-18	time	2.64	3.71	4.78	5.83	6.89	7.95	9.01	10.09	11.17	12.25		13.64	3 / 5			
reaction time	0.134	interval	7 steps	1.07	1.07	1.05	1.06	1.06	1.06	1.08	1.08	1.08	1.39			3.19	3.18	3.24

wind	-0.4 m/s	velocity	5.20	8.54	8.54	8.70	8.62	8.62	8.62	8.46	8.46	8.46	10.09	8.06		8.60	8.62	8.46

FINAL - 2018 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	29-Apr-18	time	2.66	3.73	4.77	5.82	6.86	7.92	8.98	10.04	11.12	12.22		13.64	4 / 4			
reaction time		interval		1.07	1.04	1.05	1.04	1.06	1.06	1.06	1.08	1.10	1.42			3.16	3.16	3.24
wind	2.6 m/s	velocity	5.16	8.54	8.79	8.70	8.79	8.62	8.62	8.62	8.46	8.31	9.87	8.06		8.68	8.68	8.46

FINAL - 2017 All Star Night (Hiratsuka, JPN) *(2017) - tfdata-store.com/2017/07/26/post-1072/*

date	22-Jul-17	time	2.62	3.72	4.77	5.82	6.87	7.92	8.98	10.06	11.12	12.19		13.60	3 / 3			
reaction time	0.128	interval	*7 steps*	1.10	1.05	1.05	1.05	1.05	1.06	1.08	1.06	1.07	1.41			3.20	3.16	3.21
wind	1.8 m/s	velocity	5.24	8.31	8.70	8.70	8.70	8.70	8.62	8.46	8.62	8.54	9.94	8.09		8.57	8.68	8.54

FINAL - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	25-Jun-17	time	2.67	3.74	4.81	5.86	6.93	8.00	9.07	10.16	11.25	12.36		13.80	2 / 6			
reaction time	0.126	interval	*7 steps*	1.07	1.07	1.05	1.07	1.07	1.07	1.09	1.09	1.11	1.44			3.19	3.21	3.29
wind	-0.2 m/s	velocity	5.14	8.54	8.54	8.70	8.54	8.54	8.54	8.39	8.39	8.23	9.74	7.97		8.60	8.54	8.33

Semi-Final 1 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.64	3.71	4.79	5.85	6.90	7.94	9.00	10.07	11.16	12.27		13.69	8 / 4			
reaction time	0.145	interval	*7 steps*	1.07	1.08	1.06	1.05	1.04	1.06	1.07	1.09	1.11	1.42			3.21	3.15	3.27
wind	0.6 m/s	velocity	5.20	8.54	8.46	8.62	8.70	8.79	8.62	8.54	8.39	8.23	9.87	8.04		8.54	8.70	8.39

Heat 1 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.66	3.73	4.79	5.85	6.90	7.95	9.01	10.08	11.16	12.26		13.68	5 / 3			
reaction time	0.140	interval	*7 steps*	1.07	1.06	1.06	1.05	1.05	1.06	1.07	1.08	1.10	1.42			3.19	3.16	3.25
wind	1.3 m/s	velocity	5.16	8.54	8.62	8.62	8.70	8.70	8.62	8.54	8.46	8.31	9.87	8.04		8.60	8.68	8.44

FINAL - 2017 Mikio Oda Memorial (Hiroshima, JPN) *(2017) - tfdata-store.com/2017/05/01/458/*

date	29-Apr-17	time	2.66	3.75	4.83	5.90	6.98	8.06	9.16	10.25	11.36	12.48		13.95	8 / 7			
reaction time		interval	*7 steps*	1.09	1.08	1.07	1.08	1.08	1.10	1.09	1.11	1.12	1.47			3.24	3.26	3.32
wind	1.5 m/s	velocity	5.16	8.39	8.46	8.54	8.46	8.46	8.31	8.39	8.23	8.16	9.54	7.89		8.46	8.41	8.26

FINAL - 2016 Kanto Student Championships (Sagamihara, JPN) *(2016.09.17) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	17-Sep-16	time	2.67	3.76	4.84	5.91	6.98	8.06	9.12	10.19	11.30	12.39		13.82	4 / 1			
reaction time		interval	*7 steps*	1.09	1.08	1.07	1.07	1.08	1.06	1.07	1.11	1.09	1.43			3.24	3.21	3.27
wind	3.2 m/s	velocity	5.14	8.39	8.46	8.54	8.54	8.46	8.62	8.54	8.23	8.39	9.80	7.96		8.46	8.54	8.39

FINAL - 2016 Japanese University Championships (Kumagaya, JPN) *(2016.09.06) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Sep-16	time	2.69	3.80	4.89	5.98	7.08	8.17	9.27	10.39	11.52	12.68		14.11	4 / 3			
reaction time	0.142	interval	*7 steps*	1.11	1.09	1.09	1.10	1.09	1.10	1.12	1.13	1.16	1.43			3.29	3.29	3.41
wind	-1.9 m/s	velocity	5.10	8.23	8.39	8.39	8.31	8.39	8.31	8.16	8.09	7.88	9.80	7.80		8.33	8.33	8.04

Semi-Final 2 - 2016 Japanese University Championships (Kumagaya, JPN) *(2016.09.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Sep-16	time	2.65	3.75	4.83	5.91	6.99	8.09	9.19	10.27	11.37	12.48		13.91	5 / 1			
reaction time	0.135	interval	*7 steps*	1.10	1.08	1.08	1.08	1.10	1.10	1.08	1.10	1.11	1.43			3.26	3.28	3.29
wind	0.7 m/s	velocity	5.18	8.31	8.46	8.46	8.46	8.31	8.31	8.46	8.31	8.23	9.80	7.91		8.41	8.36	8.33

FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN) (99cm) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	16-Oct-15	time	2.67	3.79	4.89	5.98	7.05	8.14	9.25	10.35	11.46	12.58		14.07	4 / 3			
reaction time		interval		1.12	1.10	1.09	1.07	1.09	1.11	1.10	1.11	1.12	1.49	**PB**		3.31	3.27	3.33
wind	0.1 m/s	velocity	5.14	8.16	8.31	8.39	8.54	8.39	8.23	8.31	8.23	8.16	9.41	7.82		8.28	8.39	8.23

Kurokawa, Kazuki (JPN) (2001)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (99cm) *Kijima (2019) - research on athlete performance and technique- 2019 data book*

date	18-Oct-19	time	2.59	3.68	4.74	5.79	6.85	7.90	8.99	10.08	11.17	12.25		13.73	6 / 2			
reaction time	0.131	interval	7 steps	1.09	1.06	1.05	1.06	1.05	1.09	1.09	1.09	1.08	1.48			3.20	3.20	3.26
wind	-0.6 m/s	velocity	5.30	8.39	8.62	8.70	8.62	8.70	8.39	8.39	8.39	8.46	9.47	8.01		8.57	8.57	8.41

FINAL - 2019 National Sports Festival (Hitachinaka, JPN) (99cm) *Enomoto (2019) - research on athlete performance and technique- 2019 data book*

date	06-Oct-19	time	2.61	3.69	4.75	5.78	6.80	7.83	8.88	9.92	10.97	12.02		13.49	9 / 3			
reaction time	0.157	interval		1.08	1.06	1.03	1.02	1.03	1.05	1.04	1.05	1.05	1.47			3.17	3.10	3.14
wind	2.7 m/s	velocity	5.26	8.46	8.62	8.87	8.96	8.87	8.70	8.79	8.70	8.70	9.54	8.15		8.65	8.85	8.73

FINAL - 2019 Japanese National High School Championships (Okinawa, JPN) (99cm) *Kota (2019) - 72nd high school champs: JAF scientific committee - biomechanics data*

date	08-Aug-19	time	2.72	3.90	5.03	6.19	7.35	8.52	9.68	10.84	12.01	13.22		14.76	4 / 5			
reaction time		interval		1.18	1.13	1.16	1.16	1.17	1.16	1.16	1.17	1.21	1.54	**PB**		3.47	3.49	3.54
wind	-3.0 m/s	velocity	5.04	7.75	8.09	7.88	7.88	7.81	7.88	7.88	7.81	7.55	9.10	7.45		7.90	7.86	7.75

Kuusiniemi, Santeri (FIN) (1998)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

FINAL - 2024 European Athletics Championships (Roma, ITA) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	08-Jun-24	time	2.65	3.76	4.78	5.83	6.86	7.96	9.00	10.07	11.20	12.33		13.84	1 / 7			
reaction time	0.157	interval		1.11	1.02	1.05	1.03	1.10	1.04	1.07	1.13	1.13	1.51			3.18	3.17	3.33
wind	0.6 m/s	velocity	5.18	8.23	8.96	8.70	8.87	8.31	8.79	8.54	8.09	8.09	9.28	7.95		8.62	8.65	8.23

Kwaou-Mathey, Just (FRA) (1999)			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2025 European Athletics Indoor Championships (Apeldoorn, NED)																		
date	07-Mar-25	time	2.42	3.45	4.46	5.46	6.48							7.50	4 / 3			
reaction time	0.165	interval	7 steps	1.03	1.01	1.00	1.02						1.02			3.04		
		velocity	5.67	8.87	9.05	9.14	8.96						9.53	8.00		9.02		
Semi-Final 2 - 2025 European Athletics Indoor Championships (Apeldoorn, NED)																		
date	07-Mar-25	time	2.43	3.49	4.49	5.48	6.48							7.49	5 / 2			
reaction time	0.157	interval	7 steps	1.06	1.00	0.99	1.00						1.01			3.05		
		velocity	5.65	8.62	9.14	9.23	9.14						9.62	8.01		8.99		
FINAL - 2024 World Athletics Indoor Championships (Glasgow, GBR) (TV Analysis)																		
date	02-Mar-24	time	2.56	3.57	4.59	5.58	6.59							7.47	7 / 3			
reaction time	0.149	interval	7 steps	1.01	1.02	0.99	1.01						0.88			3.02		
		velocity	5.36	9.05	8.96	9.23	9.05						11.05	8.03		9.08		
FINAL - 2024 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis)																		
date	10-Feb-24	time	2.44	3.48	4.47	5.46	6.46							7.43	4 / 2			
reaction time	0.181	interval	7 steps	1.04	0.99	0.99	1.00						0.97	PB		3.02		
		velocity	5.62	8.79	9.23	9.23	9.14						10.02	8.08		9.08		
FINAL - 2023 Prefontaine Classic (Eugene, OR)																		
date	17-Sep-23	time	2.45	3.53	4.56	5.57	6.59	7.60	8.63	9.69	10.75	11.85		13.46	1 / 9			
reaction time	0.159	interval	7 steps	1.08	1.03	1.01	1.02	1.01	1.03	1.06	1.06	1.10	1.61			3.12	3.06	3.22
wind	0.9 m/s	velocity	5.60	8.46	8.87	9.05	8.96	9.05	8.87	8.62	8.62	8.31	8.71	8.17		8.79	8.96	8.52
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis)																		
date	21-Aug-23	time	2.52	3.56	4.60	5.62	6.62	7.65	8.65	9.69	10.73	11.84		13.31	2 / 3			
reaction time	0.165	interval	7 steps	1.04	1.04	1.02	1.00	1.03	1.00	1.04	1.04	1.11	1.47			3.10	3.03	3.19
wind	-0.2 m/s	velocity	5.44	8.79	8.79	8.96	9.14	8.87	9.14	8.79	8.79	8.23	9.54	8.26		8.85	9.05	8.60
Heat 5 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis)																		
date	20-Aug-23	time	2.55	3.57	4.60	5.60	6.66	7.71	8.75	9.78	10.90	11.94		13.42	3 / 5			
reaction time	0.160	interval	7 steps	1.02	1.03	1.00	1.06	1.05	1.04	1.03	1.12	1.04	1.48			3.05	3.15	3.19
wind	-0.9 m/s	velocity	5.38	8.96	8.87	9.14	8.62	8.70	8.79	8.87	8.16	8.79	9.47	8.20		8.99	8.70	8.60
FINAL - 2023 French National Championships (Albi, FRA) (TV Analysis)																		
date	29-Jul-23	time	2.54	3.56	4.56	5.56	6.58	7.60	8.60	9.64	10.70	11.74		13.19	3 / 3			
reaction time	0.206	interval	7 steps	1.02	1.00	1.00	1.02	1.02	1.00	1.04	1.06	1.04	1.45			3.02	3.04	3.14
wind	2.3 m/s	velocity	5.40	8.96	9.14	9.14	8.96	8.96	9.14	8.79	8.62	8.79	9.67	8.34		9.08	9.02	8.73
FINAL - 2023 Kamila Skolimowska Memorial (Silesia, POL)																		
date	16-Jul-23	time	2.39	3.46	4.50	5.53	6.55	7.57	8.59	9.62	10.65	11.71		13.26	7 / 2			
reaction time	0.157	interval	7 steps	1.07	1.04	1.03	1.02	1.02	1.02	1.03	1.03	1.06	1.55			3.14	3.06	3.12
wind	0.3 m/s	velocity	5.74	8.54	8.79	8.87	8.96	8.96	8.96	8.87	8.87	8.62	9.05	8.30		8.73	8.96	8.79
Heat 1 - 2023 Kamila Skolimowska Memorial (Silesia, POL)																		
date	16-Jul-23	time	2.47	3.56	4.59	5.60	6.61	7.62	8.63	9.65	10.68	11.72		13.27	6 / 2			
reaction time	0.169	interval	7 steps	1.09	1.03	1.01	1.01	1.01	1.01	1.02	1.03	1.04	1.55			3.13	3.03	3.09
wind	0.3 m/s	velocity	5.55	8.39	8.87	9.05	9.05	9.05	9.05	8.96	8.87	8.79	9.05	8.29		8.76	9.05	8.87
FINAL - 2023 Athletissima (Lausanne, SUI)																		
date	30-Jun-23	time	2.43	3.50	4.53	5.53	6.55	7.56	8.60	9.65	10.70	11.79		13.37	3 / 3			
reaction time	0.134	interval	7 steps	1.07	1.03	1.00	1.02	1.01	1.04	1.05	1.05	1.09	1.58			3.10	3.07	3.19
wind	-1.0 m/s	velocity	5.65	8.54	8.87	9.14	8.96	9.05	8.79	8.70	8.70	8.39	8.87	8.23		8.85	8.93	8.60
FINAL - 2023 Meeting de Paris (Paris, FRA)																		
date	09-Jun-23	time	2.40	3.45	4.45	5.43	6.43	7.43	8.44	9.46	10.50	11.55		13.09	7 / 2			
reaction time	0.171	interval	7 steps	1.05	1.00	0.98	1.00	1.00	1.01	1.02	1.04	1.05	1.54	PB		3.03	3.01	3.11
wind	-0.5 m/s	velocity	5.72	8.70	9.14	9.33	9.14	9.14	9.05	8.96	8.79	8.70	9.10	8.40		9.05	9.11	8.82
Heat 2 - 2023 Meeting de Paris (Paris, FRA)																		
date	09-Jun-23	time	2.40	3.46	4.47	5.47	6.47	7.48	8.51	9.55	10.61	11.67		13.25	5 / 3			
reaction time	0.171	interval	7 steps	1.06	1.01	1.00	1.00	1.01	1.03	1.04	1.06	1.06	1.58	PB		3.07	3.04	3.16
wind	-0.6 m/s	velocity	5.72	8.62	9.05	9.14	9.14	9.05	8.87	8.79	8.62	8.62	8.87	8.30		8.93	9.02	8.68
FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA) (TV Analysis)																		
date	02-Jun-23	time	2.54	3.57	4.60	5.63	6.63	7.66	8.68	9.74	10.78	11.84		13.35	1 / 5			
reaction time	0.161	interval	7 steps	1.03	1.03	1.03	1.00	1.03	1.02	1.06	1.04	1.06	1.51			3.09	3.05	3.16
wind	-0.2 m/s	velocity	5.40	8.87	8.87	8.87	9.14	8.87	8.96	8.62	8.79	8.62	9.28	8.24		8.87	8.99	8.68
FINAL - 2022 Weltklasse (Zürich, SUI) (TV Analysis)																		

Omega Timing (2025) - european athletics indoor championships results book

Omega Timing (2025) - european athletics indoor championships results book

Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record

Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record

Omega Timing (2023) - diamond league race analysis

Henson (2023) - Athlete First: 2023 year end hurdle report

Henson (2023) - Athlete First: 2023 year end hurdle report

Henson (2023) - Athlete First: 2023 year end hurdle report

Omega Timing (2023) - diamond league race analysis

Omega Timing (2023) - diamond league race analysis

Omega Timing (2023) - diamond league race analysis

Omega Timing (2023) - diamond league race analysis

Omega Timing (2023) - diamond league race analysis

Omega Timing (2023) - diamond league race analysis

Henson (2023) - Athlete First: 2023 year end hurdle report

Henson (2022) - Athlete First: 2022 year end hurdle report

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

date	08-Sep-22	time	2.58	3.64	4.70	5.74	6.80	7.84	8.88	9.98	11.01	12.13		13.73	2 / 8			
reaction time	0.150	interval	7 steps	1.06	1.06	1.04	1.06	1.04	1.04	1.10	1.03	1.12	1.60			3.16	3.14	3.25
wind	-1.0 m/s	velocity	5.32	8.62	8.62	8.79	8.62	8.79	8.79	8.31	8.87	8.16	8.76	8.01		8.68	8.73	8.44

FINAL - 2022 European Athletics Championships (Munich, GER) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Aug-22	time	2.56	3.58	4.58	5.58	6.58	7.58	8.64	9.70	10.76	11.86		13.33	3 / 3			
reaction time	0.178	interval	7 steps	1.02	1.00	1.00	1.00	1.00	1.06	1.06	1.06	1.10	1.47			3.02	3.06	3.22
wind	-0.2 m/s	velocity	5.36	8.96	9.14	9.14	9.14	9.14	8.62	8.62	8.62	8.31	9.54	8.25		9.08	8.96	8.52

FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	10-Aug-22	time	2.53	3.63	4.73	5.73	6.76	7.83	8.90	10.00	11.06	12.16		13.78	1 / 8			
reaction time	0.144	interval	7 steps	1.10	1.10	1.00	1.03	1.07	1.07	1.10	1.06	1.10	1.62			3.20	3.17	3.26
wind	0.6 m/s	velocity	5.42	8.31	8.31	9.14	8.87	8.54	8.54	8.31	8.62	8.31	8.65	7.98		8.57	8.65	8.41

Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.60	3.63	4.65	5.65	6.67	7.67	8.67	9.70	10.76	11.83		13.25	4 / 5			
reaction time	0.148	interval	7 steps	1.03	1.02	1.00	1.02	1.00	1.00	1.03	1.06	1.07	1.42			3.05	3.02	3.16
wind	2.5 m/s	velocity	5.28	8.87	8.96	9.14	8.96	9.14	9.14	8.87	8.62	8.54	9.87	8.30		8.99	9.08	8.68

Heat 4 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.56	3.64	4.66	5.66	6.66	7.70	8.70	9.73	10.76	11.86		13.32	2 / 3			
reaction time	0.150	interval	7 steps	1.08	1.02	1.00	1.00	1.04	1.00	1.03	1.03	1.10	1.46			3.10	3.04	3.16
wind	0.2 m/s	velocity	5.36	8.46	8.96	9.14	9.14	8.79	9.14	8.87	8.87	8.31	9.60	8.26		8.85	9.02	8.68

FINAL - 2022 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	18-Jun-22	time	2.56	3.60	4.62	5.62	6.62	7.66	8.66	9.70	10.74	11.80		13.27	2 / 3			
reaction time	0.169	interval	7 steps	1.04	1.02	1.00	1.00	1.04	1.00	1.04	1.04	1.06	1.47	PB		3.06	3.04	3.14
wind	-0.2 m/s	velocity	5.36	8.79	8.96	9.14	9.14	8.79	9.14	8.79	8.79	8.62	9.54	8.29		8.96	9.02	8.73

FINAL - 2021 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	28-Aug-21	time	2.60	3.64	4.68	5.72	6.74	7.76	8.78	9.84	10.92	12.00		13.50	1 / 7			
reaction time	0.161	interval	7 steps	1.04	1.04	1.04	1.02	1.02	1.02	1.06	1.08	1.08	1.50			3.12	3.06	3.22
wind	0.7 m/s	velocity	5.28	8.79	8.79	8.79	8.96	8.96	8.96	8.62	8.46	8.46	9.35	8.15		8.79	8.96	8.52

FINAL - 2021 Meeting Elite en Salle de L'Eure (Val-de-Reuil, FRA) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	14-Feb-21	time	2.60	3.68	4.72	5.74	6.82							7.83	1 / 5			
reaction time	0.168	interval	7 steps	1.08	1.04	1.02	1.08						1.01			3.14		
		velocity	5.28	8.46	8.79	8.96	8.46						9.62	7.66		8.73		

Heat 2 - 2021 Meeting Elite en Salle de L'Eure (Val-de-Reuil, FRA) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	14-Feb-21	time	2.68	3.76	4.80	5.86	6.90							7.83	2 / 3			
reaction time	0.158	interval	7 steps	1.08	1.04	1.06	1.04						0.93			3.18		
		velocity	5.12	8.46	8.79	8.62	8.79						10.45	7.66		8.62		

FINAL - 2020 French National Championships (Albi, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	13-Sep-20	time	2.63	3.71	4.69	5.77	6.75	7.87	8.90	9.95	11.00	12.08		13.61	3 / 3			
reaction time	0.199	interval	7 steps	1.08	0.98	1.08	0.98	1.12	1.03	1.05	1.05	1.08	1.53	PB		3.14	3.13	3.18
wind	0.0 m/s	velocity	5.22	8.46	9.33	8.46	9.33	8.16	8.87	8.70	8.70	8.46	9.16	8.08		8.73	8.76	8.62

FINAL - 2020 Meeting Pro Athlé Tour de Marseille (Marseille, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	03-Sep-20	time	2.70	3.80	4.91	5.89	7.00	8.04	9.05	10.20	11.31	12.39		13.99	2 / 6			
reaction time		interval	7 steps	1.10	1.11	0.98	1.11	1.04	1.01	1.15	1.11	1.08	1.60			3.19	3.16	3.34
wind	-0.3 m/s	velocity	5.08	8.31	8.23	9.33	8.23	8.79	9.05	7.95	8.23	8.46	8.76	7.86		8.60	8.68	8.21

Kyogoku, Fumiya (JPN)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 2018 Shimane High School Championships (Izumo, JPN)															*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*			
date	27-May-18	time	2.82	3.98	5.15	6.32	7.50	8.67	9.92	11.17	12.40	13.63		15.28	5 / 1			
reaction time		interval		1.16	1.17	1.17	1.18	1.17	1.25	1.25	1.23	1.23	1.65			3.50	3.60	3.71
wind	1.2 m/s	velocity	4.87	7.88	7.81	7.81	7.75	7.81	7.31	7.31	7.43	7.43	8.50	7.20		7.83	7.62	7.39

FINAL - 2017 Shimane High School Championships (Izumo, JPN) *Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*

date	28-May-17	time	2.87	4.07	5.23	6.40	7.57	8.73	9.90	11.13	12.37	13.60		15.20	8 / 2			
reaction time		interval		1.20	1.16	1.17	1.17	1.16	1.17	1.23	1.24	1.23	1.60			3.53	3.50	3.70
wind	0.3 m/s	velocity	4.78	7.62	7.88	7.81	7.81	7.88	7.81	7.43	7.37	7.43	8.76	7.24		7.77	7.83	7.41

Lai Junjie (CHN) (2003)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Heat 4 - 2021 Chinese National Championships (Chongqing, CHN)															*CAA Hurdle Development (2021)*			
date	25-Jun-21	time	2.75	3.90	5.04	6.16	7.29	8.42	9.56	10.74	11.94	13.16		14.78	9 / 6			
reaction time	0.181	interval		1.15	1.14	1.12	1.13	1.13	1.14	1.18	1.20	1.22	1.62			3.41	3.40	3.60
wind	-0.2 m/s	velocity	4.99	7.95	8.02	8.16	8.09	8.09	8.02	7.75	7.62	7.49	8.65	7.44		8.04	8.06	7.62

FINAL - 2021 National Grand Prix (Chengdu, CHN) *CAA Hurdle Development (2021)*

date	02-Apr-21	time	2.78	3.95	5.06	6.18	7.27	8.38	9.48	10.60	11.75	12.90		14.43	3 / 3			

reaction time	0.176	interval		1.17	1.11	1.12	1.09	1.11	1.10	1.12	1.15	1.15	1.53			3.40	3.30	3.42
wind	-0.1 m/s	velocity	4.94	7.81	8.23	8.16	8.39	8.23	8.31	8.16	7.95	7.95	9.16	7.62		8.06	8.31	8.02

Heat 2 - 2021 National Grand Prix (Chengdu, CHN) *CAA Hurdle Development (2021)*

date	02-Apr-21	time	2.72	3.88	5.02	6.10	7.20	8.30	9.42	10.56	11.68	12.84		14.38	3 / 2			
reaction time	0.189	interval		1.16	1.14	1.08	1.10	1.10	1.12	1.14	1.12	1.16	1.54	PB		3.38	3.32	3.42
wind	0.3 m/s	velocity	5.04	7.88	8.02	8.46	8.31	8.31	8.16	8.02	8.16	7.88	9.10	7.94		8.11	8.26	8.02

B FINAL - 2021 National Indoor Grand Prix (Chengdu, CHN) *CAA Hurdle Development (2021)*

date	13-Mar-21	time	2.80	3.98	5.14	6.28	7.44							8.48	5 / 4			
reaction time	0.197	interval		1.18	1.16	1.14	1.16						1.04			3.48		
		velocity	4.90	7.75	7.88	8.02	7.88						9.35	7.08		7.88		

Lakka, Elmo (FIN) (1993)			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 1 - 2025 European Athletics Indoor Championships (Apeldoorn, NED)															*European Athletics (2025) - european athletics indoor championships results book*			
date	07-Mar-25	time	2.41	3.51	4.57	5.66	6.72							7.81	8 / 7			
reaction time	0.125	interval	7 steps	1.10	1.06	1.09	1.06						1.09			3.25		
		velocity	5.69	8.31	8.62	8.39	8.62						8.92	7.68		8.44		

Repechage 1 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	06-Aug-24	time	2.44	3.53	4.58	5.61	6.65	7.70	8.76	9.84	10.94	12.07		13.75	3 / 7			
reaction time	0.140	interval	7 steps	1.09	1.05	1.03	1.04	1.05	1.06	1.08	1.10	1.13	1.68			3.17	3.15	3.31
wind	0.2 m/s	velocity	5.62	8.39	8.70	8.87	8.79	8.70	8.62	8.46	8.31	8.09	8.35	8.00		8.65	8.70	8.28

Heat 5 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.42	3.51	4.56	5.59	6.62	7.67	8.73	9.80	10.89	12.05		13.84	4 / 7			
reaction time	0.125	interval	7 steps	1.09	1.05	1.03	1.03	1.05	1.06	1.07	1.09	1.16	1.79			3.17	3.14	3.32
wind	0.7 m/s	velocity	5.67	8.39	8.70	8.87	8.87	8.70	8.62	8.54	8.39	7.88	7.83	7.95		8.65	8.73	8.26

Heat 2 - 2022 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	17-Feb-22	time	2.53	3.62	4.72	5.80	6.85							7.98	8 / 7			
reaction time	0.152	interval	7 steps	1.09	1.10	1.08	1.05						1.13			3.27		
		velocity	5.42	8.39	8.31	8.46	8.70						8.60	7.52		8.39		

Semi-Final 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.60	3.68	4.73	5.79	6.85	7.89	8.93	10.00	11.11	12.19		13.67	3 / 7			
reaction time	0.139	interval	7 steps	1.08	1.05	1.06	1.06	1.04	1.04	1.07	1.11	1.08	1.48			3.19	3.14	3.26
wind	0.1 m/s	velocity	5.28	8.46	8.70	8.62	8.62	8.79	8.79	8.54	8.23	8.46	9.47	8.05		8.60	8.73	8.41

Heat 5 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.61	3.66	4.69	5.68	6.70	7.73	8.77	9.81	10.87	11.98		13.48	6 / 5			
reaction time	0.145	interval	7 steps	1.05	1.03	0.99	1.02	1.03	1.04	1.04	1.06	1.11	1.50			3.07	3.09	3.21
wind	-0.1 m/s	velocity	5.26	8.70	8.87	9.23	8.96	8.87	8.79	8.79	8.62	8.23	9.35	8.16		8.93	8.87	8.54

FINAL - 2021 Villa de Madrid (Madrid, ESP) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Feb-21	time	2.45	3.50	4.58	5.65	6.69							7.77	7 / 8			
reaction time		interval	7 steps	1.05	1.08	1.07	1.04						1.08			3.20		
		velocity	5.60	8.70	8.46	8.54	8.79						9.00	7.72		8.57		

Heat 1 - 2021 Villa de Madrid (Madrid, ESP) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Feb-21	time	2.50	3.56	4.60	5.67	6.70							7.75	6 / 3			
reaction time	0.142	interval	7 steps	1.06	1.04	1.07	1.03						1.05			3.17		
		velocity	5.49	8.62	8.79	8.54	8.87						9.26	7.74		8.65		

FINAL - 2020 Paavo Nurmi Games (Turku, FIN) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	11-Aug-20	time	2.62	3.70	4.77	5.84	6.87	7.91	9.01	10.08	11.18	12.28		13.79	4 / 5			
reaction time	0.186	interval		1.08	1.07	1.07	1.03	1.04	1.10	1.07	1.10	1.10	1.51			3.22	3.17	3.27
wind	1.1 m/s	velocity	5.24	8.46	8.54	8.54	8.87	8.79	8.31	8.54	8.31	8.31	9.28	7.98		8.52	8.65	8.39

LePage, Pierce (CAN) (1996)			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 3 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis)															*Henson (2024) - Athlete First: 2023 year end hurdle report*			
date	26-Aug-23	time	2.65	3.76	4.82	5.90	6.98	8.02	9.08	10.16	11.25	12.36		13.77	3 / 2			
reaction time	0.183	interval	7 steps	1.11	1.06	1.08	1.08	1.04	1.06	1.08	1.09	1.11	1.41	PB		3.25	3.18	3.28
wind	0.2 m/s	velocity	5.18	8.23	8.62	8.46	8.46	8.79	8.62	8.46	8.39	8.23	9.94	7.99		8.44	8.62	8.36

Decathlon - Heat 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2022 year end hurdle report*

date	24-Jul-22	time	2.66	3.76	4.82	5.86	6.92	8.00	9.05	10.15	11.22	12.35		13.78	5 / 1			
reaction time	0.154	interval	7 steps	1.10	1.06	1.04	1.06	1.08	1.05	1.10	1.07	1.13	1.43	PB		3.20	3.19	3.30
wind	1.1 m/s	velocity	5.16	8.31	8.62	8.79	8.62	8.46	8.70	8.31	8.54	8.09	9.80	7.98		8.57	8.60	8.31

Decathlon - Heat 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	05-Aug-21	time	2.72	3.88	4.95	6.10	7.20	8.32	9.48	10.58	11.75	12.90		14.39	5 / 5			
reaction time	0.168	interval	7 steps	1.16	1.07	1.15	1.10	1.12	1.16	1.10	1.17	1.15	1.49			3.38	3.38	3.42

wind	-1.0 m/s	velocity	5.04	7.88	8.54	7.95	8.31	8.16	7.88	8.31	7.81	7.95	9.41	7.64		8.11	8.11	8.02

Lararaudeuse, Jeremie (MRI) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date 03-Aug-21 time	2.56	3.64	4.73	5.76	6.84	7.88	9.00	10.08	11.24	12.44		14.03	1 / 7			
reaction time 0.132 interval		1.08	1.09	1.03	1.08	1.04	1.12	1.08	1.16	1.20	1.59	PB		3.20	3.24	3.44
wind -0.1 m/s velocity	5.36	8.46	8.39	8.87	8.46	8.79	8.16	8.46	7.88	7.62	8.82	7.84		8.57	8.46	7.97

Larrinaga, Abdel-Kader (POL) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 3 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)													*Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*			
date 20-Mar-22 time	2.56	3.63	4.66	5.70	6.76							7.70	2 / 8			
reaction time 0.137 interval 7 steps	1.07	1.03	1.04	1.06							0.94			3.14		
velocity	5.36	8.54	8.87	8.79	8.62						10.34	7.79		8.73		

Lavanne, Cédric (FRA) (1980)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 3 - 2002 European Championships (Munich, GER)													*Graubner (2009) - http://www.fgs.uni-halle.de*			
date 09-Aug-02 time	2.65	3.73	4.76	5.81	6.84	7.87	8.91	9.98	11.03	12.13		13.58	/ 2			
reaction time 0.142 interval		1.08	1.03	1.05	1.03	1.03	1.04	1.07	1.05	1.10	1.45	PB		3.16	3.10	3.22
wind 2.0 m/s velocity	5.18	8.46	8.87	8.70	8.87	8.87	8.79	8.54	8.70	8.31	9.67	8.10		8.68	8.85	8.52

Laviolette, Jeanice (FRA) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2021 Meeting Elite en Salle de L'Eure (Val-de-Reuil, FRA) (TV Analysis)													*Henson (2021) - men's 60m hurdles world record season - Grant Holloway*			
date 14-Feb-21 time	2.60	3.68	4.74	5.84	6.90							8.01	2 / 6			
reaction time 0.158 interval		1.08	1.06	1.10	1.06						1.11			3.24		
velocity	5.28	8.46	8.62	8.31	8.62						8.76	7.49		8.46		
FINAL - 2020 French National Championships (Albi, FRA) (TV Analysis)													*Henson (2020) - Athlete First: 2020 year end hurdle report*			
date 13-Sep-20 time	2.56	3.64	4.69	5.74	6.71	7.76	8.81	9.83	10.87	11.95		13.52	5 / 2			
reaction time 0.222 interval 7 steps	1.08	1.05	1.05	0.97	1.05	1.05	1.02	1.04	1.08	1.57	PB			3.18	3.07	3.14
wind 0.0 m/s velocity	5.36	8.46	8.70	8.70	9.42	8.70	8.70	8.96	8.79	8.46	8.93	8.14		8.62	8.93	8.73

Leaston, Justin (USA) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2022 NCAA Championships (Eugene, OR) (TV Analysis)													*Henson (2022) - Athlete First: 2022 year end hurdle report*			
date 10-Jun-22 time	2.52	3.58	4.63	5.66	6.70	7.74	8.77	9.83	10.89	11.98		13.50	3 / 7			
reaction time interval		1.06	1.05	1.03	1.04	1.04	1.03	1.06	1.06	1.09	1.52			3.14	3.11	3.21
wind 0.0 m/s velocity	5.44	8.62	8.70	8.87	8.79	8.79	8.87	8.62	8.62	8.39	9.22	8.15		8.73	8.82	8.54

Lecoeur, Romain (FRA) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2024 Meeting de Paris (Paris, FRA)													*Omega Timing (2024) - diamond league race analysis*			
date 07-Jul-24 time	2.51	3.60	4.62	5.63	6.66	7.69	8.72	9.75	10.80	11.86		13.47	1 / 8			
reaction time 0.177 interval 7 steps	1.09	1.02	1.01	1.03	1.03	1.03	1.03	1.05	1.06	1.61				3.12	3.09	3.14
wind 0.1 m/s velocity	5.47	8.39	8.96	9.05	8.87	8.87	8.87	8.87	8.70	8.62	8.71	8.17		8.79	8.87	8.73
FINAL - 2023 French National Championships (Albi, FRA) (TV Analysis)													*Henson (2023) - Athlete First: 2023 year end hurdle report*			
date 29-Jul-23 time	2.56	3.60	4.64	5.68	6.70	7.74	8.78	9.82	10.90	12.00		13.51	1 / 6			
reaction time 0.203 interval 7 steps	1.04	1.04	1.04	1.02	1.04	1.04	1.04	1.04	1.08	1.10	1.51			3.12	3.10	3.22
wind 2.3 m/s velocity	5.36	8.79	8.79	8.79	8.96	8.79	8.79	8.79	8.46	8.31	9.28	8.14		8.79	8.85	8.52
Heat 1 - 2021 Meeting Elite en Salle de L'Eure (Val-de-Reuil, FRA) (TV Analysis)													*Henson (2021) - men's 60m hurdles world record season - Grant Holloway*			
date 14-Feb-21 time	2.60	3.74	4.82	5.92	6.98							8.01	2 / 3			
reaction time 0.116 interval 7 steps	1.14	1.08	1.10	1.06							1.03			3.32		
velocity	5.28	8.02	8.46	8.31	8.62						9.44	7.49		8.26		

Lee Jung-Joon (KOR) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Korean National Championships (Kimchun, KOR)													*Hong (2018) - performance of men's 110m hurdles using rhythmic units*			
date 02-Jun-17 time	2.62	3.72	4.82	5.92	6.95	8.05	9.12	10.19	11.29	12.39		13.86	/ 2			
reaction time interval		1.10	1.10	1.10	1.03	1.10	1.07	1.07	1.10	1.10	1.47			3.30	3.20	3.27
wind 2.6 m/s velocity	5.24	8.31	8.31	8.31	8.87	8.31	8.54	8.54	8.31	8.31	9.54	7.94		8.31	8.57	8.39
FINAL - 2008 Seiko Super Grand Prix (Kawasaki, JPN)													*Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles*			
date 23-Sep-08 time	2.48	3.57	4.65	5.71	6.78	7.83	8.87	9.95	11.03	12.10		13.71	/ 1			
reaction time interval		1.09	1.08	1.06	1.07	1.05	1.04	1.08	1.08	1.07	1.61			3.23	3.16	3.23
wind -0.7 m/s velocity	5.53	8.39	8.46	8.62	8.54	8.70	8.79	8.46	8.46	8.54	8.71	8.02		8.49	8.68	8.49
Heat 1 - 2008 Nambu Chuhei Memorial (Harodate, JPN)													*Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles*			
date 06-Jul-08 time	2.52	3.61	4.67	5.73	6.78	7.84	8.92	10.01	11.09	12.21		13.89	/ 1			
reaction time interval		1.09	1.06	1.06	1.05	1.06	1.08	1.09	1.08	1.12	1.68			3.21	3.19	3.29
wind 0.2 m/s velocity	5.44	8.39	8.62	8.62	8.70	8.62	8.46	8.39	8.46	8.16	8.35	7.92		8.54	8.60	8.33

Lei Yiwen (CHN) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
A-FINAL - 2019 Chinese Indoor National Grand Prix 3 (Xi'an, CHN)													*CAA Hurdle Development (2019)*			
date 28-Feb-19 time	2.64	3.74	4.86	5.96	7.08							8.06	2 / 3			
reaction time interval		1.10	1.12	1.10	1.12						0.98			3.32		

		velocity	5.20	8.31	8.16	8.31	8.16						9.92	7.44		8.26	

Lemonious, Phillip (JAM) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2023 NCAA Championships (Austin, TX) (TV Analysis)													*Henson (2023) - Athlete First: 2023 year end hurdle report*			
date 09-Jun-23	time	2.50	3.54	4.57	5.57	6.60	7.61	8.65	9.69	10.72	11.76		13.24	5 / 1			
reaction time	interval	7 steps	1.04	1.03	1.00	1.03	1.01	1.04	1.04	1.03	1.04	1.48			3.07	3.08	3.11
wind 1.8 m/s	velocity	5.49	8.79	8.87	9.14	8.87	9.05	8.79	8.79	8.87	8.79	9.47	8.31		8.93	8.90	8.82
FINAL - 2021 NCAA Championships (Eugene, OR) (TV Analysis)													*Henson (2021) - Athlete First: 2021 year end hurdle report*			
date 11-Jun-21	time	2.57	3.60	4.70	5.70	6.73	7.73	8.77	9.80	10.83	11.90		13.39	5 / 3			
reaction time 0.150	interval	7 steps	1.03	1.10	1.00	1.03	1.00	1.04	1.03	1.03	1.07	1.49	**PB**		3.13	3.07	3.13
wind -0.6 m/s	velocity	5.34	8.87	8.31	9.14	8.87	9.14	8.79	8.87	8.87	8.54	9.41	8.22		8.76	8.93	8.76

Levin, Anton (SWE) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL 2 - 2017 Windsprint (Sundsvall, SWE)													*(2017) - www.windsprint/Splittider/*			
date 30-Jul-17	time	2.68	3.78	4.87	5.95	7.03	8.14	9.23	10.34	11.47	12.61		14.09	/ 1			
reaction time	interval		1.10	1.09	1.08	1.08	1.11	1.09	1.11	1.13	1.14	1.48			3.27	3.28	3.38
wind 1.0 m/s	velocity	5.12	8.31	8.39	8.46	8.46	8.23	8.39	8.23	8.09	8.02	9.47	7.81		8.39	8.36	8.11
FINAL - 2017 Windsprint (Sundsvall, SWE)													*(2017) - www.windsprint/Splittider/*			
date 30-Jul-17	time	2.66	3.78	4.87	5.93	7.02	8.10	9.20	10.33	11.43	12.56		14.06	/ 1			
reaction time	interval		1.12	1.09	1.06	1.09	1.08	1.10	1.13	1.10	1.13	1.50			3.27	3.27	3.36
wind 1.0 m/s	velocity	5.16	8.16	8.39	8.62	8.39	8.46	8.31	8.09	8.31	8.09	9.35	7.82		8.39	8.39	8.16

Levy, Ronald (JAM) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2022 Müller Indoor Grand Prix (Birmingham, GBR) (TV Analysis)													*Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*			
date 19-Feb-22	time	2.52	3.60	4.68	5.75	6.81							7.87	1 / 8			
reaction time 0.146	interval	7 steps	1.08	1.08	1.07	1.06						1.06			3.23		
	velocity	5.44	8.46	8.46	8.54	8.62						9.17	7.62		8.49		
FINAL - 2021 Boris Hanžeković Memorial (Zagreb, CRO) (TV Analysis)													*Henson (2021) - Athlete First: 2021 year end hurdle report*			
date 14-Sep-21	time	2.48	3.52	4.52	5.52	6.50	7.50	8.50	9.53	10.56	11.63		13.11	4 / 2			
reaction time 0.156	interval	7 steps	1.04	1.00	1.00	0.98	1.00	1.00	1.03	1.03	1.07	1.48			3.04	2.98	3.13
wind 0.7 m/s	velocity	5.53	8.79	9.14	9.14	9.33	9.14	9.14	8.87	8.87	8.54	9.47	8.39		9.02	9.20	8.76
FINAL - 2021 Weltklasse (Zürich, SUI) (TV Analysis)													*Henson (2021) - Athlete First: 2021 year end hurdle report*			
date 09-Sep-21	time	2.46	3.50	4.54	5.54	6.56	7.58	8.58	9.58	10.62	11.66		13.06	7 / 2			
reaction time 0.128	interval	7 steps	1.04	1.04	1.00	1.02	1.02	1.00	1.00	1.04	1.04	1.40			3.08	3.04	3.08
wind 0.6 m/s	velocity	5.58	8.79	8.79	9.14	8.96	8.96	9.14	9.14	8.79	8.79	10.01	8.42		8.90	9.02	8.90
FINAL - 2021 Meeting de Paris (Paris, FRA) (TV Analysis)													*Henson (2021) - Athlete First: 2021 year end hurdle report*			
date 28-Aug-21	time	2.48	3.54	4.58	5.60	6.60	7.62	8.64	9.68	10.72	11.78		13.24	4 / 4			
reaction time 0.144	interval	7 steps	1.06	1.04	1.02	1.00	1.02	1.02	1.04	1.04	1.06	1.46			3.12	3.04	3.14
wind 0.7 m/s	velocity	5.53	8.62	8.79	8.96	9.14	8.96	8.96	8.79	8.79	8.62	9.60	8.31		8.79	9.02	8.73
FINAL - 2021 Athletissima (Lausanne, SUI) (TV Analysis)													*Henson (2021) - Athlete First: 2021 year end hurdle report*			
date 26-Aug-21	time	2.48	3.56	4.60	5.64	6.68	7.70	8.72	9.76	10.80	11.86		13.40	4 / 5			
reaction time 0.113	interval	7 steps	1.08	1.04	1.04	1.04	1.02	1.02	1.04	1.04	1.06	1.54			3.16	3.08	3.14
wind 2.5 m/s	velocity	5.53	8.46	8.79	8.79	8.79	8.96	8.96	8.79	8.79	8.62	9.10	8.21		8.68	8.90	8.73
FINAL - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2021) - Athlete First: 2021 year end hurdle report*			
date 06-Aug-21	time	2.46	3.50	4.54	5.56	6.58	7.60	8.60	9.62	10.66	11.72		13.10	5 / 3			
reaction time 0.146	interval	7 steps	1.04	1.04	1.02	1.02	1.02	1.00	1.02	1.04	1.06	1.38			3.10	3.04	3.12
wind -0.5 m/s	velocity	5.58	8.79	8.79	8.96	8.96	8.96	9.14	8.96	8.79	8.62	10.16	8.40		8.85	9.02	8.79
Semi-Final 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date 04-Aug-21	time	2.47	3.55	4.58	5.58	6.60	7.64	8.65	9.66	10.69	11.72		13.23	7 / 1			
reaction time 0.154	interval	7 steps	1.08	1.03	1.00	1.02	1.04	1.01	1.01	1.03	1.03	1.51			3.11	3.07	3.07
wind 0.3 m/s	velocity	5.55	8.46	8.87	9.14	8.96	8.79	9.05	9.05	8.87	8.87	9.28	8.31		8.82	8.93	8.93
Heat 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date 03-Aug-21	time	2.47	3.62	4.62	5.62	6.62	7.60	8.62	9.65	10.69	11.74		13.17	4 / 1			
reaction time 0.129	interval	7 steps	1.15	1.00	1.00	1.00	0.98	1.02	1.03	1.04	1.05	1.43			3.15	3.00	3.12
wind 0.0 m/s	velocity	5.55	7.95	9.14	9.14	9.14	9.33	8.96	8.87	8.79	8.70	9.80	8.35		8.70	9.14	8.79
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR) (TV Analysis)													*Henson (2021) - Athlete First: 2021 year end hurdle report*			
date 13-Jul-21	time	2.54	3.60	4.64	5.66	6.66	7.68	8.70	9.70	10.76	11.82		13.22	4 / 1			
reaction time 0.150	interval	7 steps	1.06	1.04	1.02	1.00	1.02	1.02	1.00	1.06	1.06	1.40			3.12	3.04	3.12
wind 0.8 m/s	velocity	5.40	8.62	8.79	8.96	9.14	8.96	8.96	9.14	8.62	8.62	10.01	8.32		8.79	9.02	8.79
FINAL - 2021 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis)													*Henson (2021) - Athlete First: 2021 year end hurdle report*			
date 06-Jul-21	time	2.43	3.46	4.52	5.57	6.59	7.61	8.65	9.68	10.70	11.74		13.25	3 / 4			
reaction time 0.140	interval	7 steps	1.03	1.06	1.05	1.02	1.02	1.04	1.03	1.02	1.04	1.51			3.14	3.08	3.09

wind	-0.1 m/s	velocity	5.65	8.87	8.62	8.70	8.96	8.96	8.79	8.87	8.96	8.79	9.28	8.30		8.73	8.90	8.87

Heat 1 - 2021 Jamaican National Championships (Kingston, JAM) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.53	3.53	4.56	5.56	6.53	7.53	8.53	9.53	10.56	11.60		13.08	5 / 2			
reaction time		interval	7 steps	1.00	1.03	1.00	0.97	1.00	1.00	1.00	1.03	1.04	1.48			3.03	2.97	3.07
wind	1.3 m/s	velocity	5.42	9.14	8.87	9.14	9.42	9.14	9.14	9.14	8.87	8.79	9.47	8.41		9.05	9.23	8.93

Semi-Final 1 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.62	3.70	4.74	5.78	6.80	7.82	8.86	9.90	10.96	12.04		13.60	7 / ~~7~~			
reaction time	0.163	interval	7 steps	1.08	1.04	1.04	1.02	1.02	1.04	1.04	1.06	1.08	1.56	DQ		3.16	3.08	3.18
wind	1.1 m/s	velocity	5.24	8.46	8.79	8.79	8.96	8.96	8.79	8.79	8.62	8.46	8.99	8.09		8.68	8.90	8.62

FINAL - 2019 AG Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	06-Sep-19	time	2.50	3.54	4.60	5.64	6.66	7.66	8.68	9.72	10.78	11.82		13.31	3 / 2			
reaction time	0.134	interval	7 steps	1.04	1.06	1.04	1.02	1.00	1.02	1.04	1.06	1.04	1.49			3.14	3.04	3.14
wind	0.0 m/s	velocity	5.49	8.79	8.62	8.79	8.96	9.14	8.96	8.79	8.62	8.79	9.41	8.26		8.73	9.02	8.73

FINAL - 2019 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	24-Aug-19	time	2.52	3.56	4.60	5.62	6.64	7.66	8.70	9.70	10.74	11.78		13.22	8 / 4			
reaction time	0.151	interval	7 steps	1.04	1.04	1.02	1.02	1.02	1.04	1.00	1.04	1.04	1.44			3.10	3.08	3.08
wind	0.8 m/s	velocity	5.44	8.79	8.79	8.96	8.96	8.96	8.79	9.14	8.79	8.79	9.74	8.32		8.85	8.90	8.90

FINAL - 2019 Müller Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	21-Jul-19	time	2.43	3.51	4.56	5.61	6.63	7.70	8.73	9.82	10.92	11.99		13.60	2 / 7			
reaction time	0.165	interval	7 steps	1.08	1.05	1.05	1.02	1.07	1.03	1.09	1.10	1.07	1.61			3.18	3.12	3.26
wind	0.4 m/s	velocity	5.65	8.46	8.70	8.70	8.96	8.54	8.87	8.39	8.31	8.54	8.71	8.09		8.62	8.79	8.41

FINAL - 2019 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	05-Jul-19	time	2.46	3.50	4.52	5.50	6.50	7.50	8.50	9.52	10.68	11.72		13.25	6 / 3			
reaction time	0.138	interval	7 steps	1.04	1.02	0.98	1.00	1.00	1.00	1.02	1.16	1.04	1.53			3.04	3.00	3.22
wind	1.0 m/s	velocity	5.58	8.79	8.96	9.33	9.14	9.14	9.14	8.96	7.88	8.79	9.16	8.30		9.02	9.14	8.52

FINAL - 2019 Prefontaine Classic (Stanford, CA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	30-Jun-19	time	2.60	3.63	4.66	5.73	6.73	7.73	8.75	9.78	10.83	11.86		13.30	6 / 4			
reaction time	0.224	interval	7 steps	1.03	1.03	1.07	1.00	1.00	1.02	1.03	1.05	1.03	1.44			3.13	3.02	3.11
wind	0.3 m/s	velocity	5.28	8.87	8.87	8.54	9.14	9.14	8.96	8.87	8.70	8.87	9.74	8.27		8.76	9.08	8.82

FINAL - 2018 IAAF Continental Cup (Ostrava, CZE) (TV Analysis) *Henson (2021) - Athlete First: 2018 year end hurdle report*

date	09-Sep-18	time	2.46	3.50	4.52	5.54	6.54	7.56	8.58	9.60	10.62	11.68		13.12	3 / 2			
reaction time	0.115	interval	7 steps	1.04	1.02	1.02	1.00	1.02	1.02	1.02	1.02	1.06	1.44			3.08	3.04	3.10
wind	0.9 m/s	velocity	5.58	8.79	8.96	8.96	9.14	8.96	8.96	8.96	8.96	8.62	9.74	8.38		8.90	9.02	8.85

FINAL - 2018 AG Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	31-Aug-18	time	2.50	3.56	4.60	5.62	6.62	7.64	8.68	9.74	10.86	11.96		13.47	4 / 7			
reaction time	0.148	interval	7 steps	1.06	1.04	1.02	1.00	1.02	1.04	1.06	1.12	1.10	1.51			3.12	3.06	3.28
wind	-0.1 m/s	velocity	5.49	8.62	8.79	8.96	9.14	8.96	8.79	8.62	8.16	8.31	9.28	8.17		8.79	8.96	8.36

FINAL - 2018 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	18-Aug-18	time	2.42	3.54	4.56	5.58	6.58	7.58	8.62	9.62	10.66	11.72		13.22	3 / 2			
reaction time	0.132	interval	7 steps	1.12	1.02	1.02	1.00	1.00	1.04	1.00	1.04	1.06	1.50			3.16	3.04	3.10
wind	1.3 m/s	velocity	5.67	8.16	8.96	8.96	9.14	9.14	8.79	9.14	8.79	8.62	9.35	8.32		8.68	9.02	8.85

FINAL - 2018 Müller Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	22-Jul-18	time	2.48	3.52	4.56	5.54	6.56	7.56	8.56	9.58	10.62	11.70		13.13	5 / 1			
reaction time	0.134	interval	7 steps	1.04	1.04	0.98	1.02	1.00	1.00	1.02	1.04	1.08	1.43			3.06	3.02	3.14
wind	0.2 m/s	velocity	5.53	8.79	8.79	9.33	8.96	9.14	9.14	8.96	8.79	8.46	9.80	8.38		8.96	9.08	8.73

FINAL - 2018 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	30-Jun-18	time	2.46	3.50	4.54	5.58	6.58	7.58	8.60	9.62	10.70	11.76		13.18	3 / 1			
reaction time	0.123	interval	7 steps	1.04	1.04	1.04	1.00	1.00	1.02	1.02	1.08	1.06	1.42			3.12	3.02	3.16
wind	1.5 m/s	velocity	5.58	8.79	8.79	8.79	9.14	9.14	8.96	8.96	8.46	8.62	9.87	8.35		8.79	9.08	8.68

FINAL - 2018 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	26-May-18	time	2.56	3.60	4.62	5.64	6.66	7.70	8.74	9.76	10.80	11.82		13.26	2 / 5			
reaction time	0.171	interval	7 steps	1.04	1.02	1.02	1.02	1.04	1.04	1.02	1.04	1.02	1.44			3.08	3.10	3.08
wind	3.0 m/s	velocity	5.36	8.79	8.96	8.96	8.96	8.79	8.79	8.96	8.79	8.96	9.74	8.30		8.90	8.85	8.90

FINAL - 2018 Shanghai Diamond League (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	12-May-18	time	2.52	3.56	4.60	5.62	6.66	7.70	8.74	9.78	10.82	11.88		13.33	4 / 4			
reaction time	0.122	interval	7 steps	1.04	1.04	1.02	1.04	1.04	1.04	1.04	1.04	1.06	1.45			3.10	3.12	3.14
wind	0.2 m/s	velocity	5.44	8.79	8.79	8.96	8.79	8.79	8.79	8.79	8.79	8.62	9.67	8.25		8.85	8.79	8.73

FINAL - 2018 Müller Indoor Grand Pirx (Glasgow, GBR) *(2018.05.01) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	25-Feb-18	time	2.54	3.59	4.61	5.63	6.63							7.49	/ 1				
reaction time	0.148	interval		1.05	1.02	1.02	1.00						0.86	PB			3.09		
		velocity	5.40	8.70	8.96	8.96	9.14						11.30	8.01			8.87		

FINAL - 2017 Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	01-Sep-17	time	2.54	3.58	4.62	5.62	6.64	7.68	8.72	9.78	10.86	11.92		13.41	8 / 5				
reaction time	0.108	interval	7 steps	1.04	1.04	1.00	1.02	1.04	1.04	1.06	1.08	1.06	1.49				3.08	3.10	3.20
wind	0.5 m/s	velocity	5.40	8.79	8.79	9.14	8.96	8.79	8.79	8.62	8.46	8.62	9.41	8.20			8.90	8.85	8.57

FINAL - 2017 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	01-Jul-17	time	2.44	3.46	4.50	5.50	6.48	7.50	8.54	9.54	10.58	11.66		13.05	8 / 1				
reaction time	0.133	interval	7 steps	1.02	1.04	1.00	0.98	1.02	1.04	1.00	1.04	1.08	1.39	PB			3.06	3.04	3.12
wind	-0.1 m/s	velocity	5.62	8.96	8.79	9.14	9.33	8.96	8.79	9.14	8.79	8.46	10.09	8.43			8.96	9.02	8.79

FINAL - 2017 Jamaican National Championships (Kingston, JAM) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	24-Jun-17	time	2.43	3.46	4.48	5.50	6.50	7.50	8.52	9.53	10.56	11.62		13.13	5 / 2				
reaction time		interval	7 steps	1.03	1.02	1.02	1.00	1.00	1.02	1.01	1.03	1.06	1.51				3.07	3.02	3.10
wind	0.7 m/s	velocity	5.65	8.87	8.96	8.96	9.14	9.14	8.96	9.05	8.87	8.62	9.28	8.38			8.93	9.08	8.85

FINAL - 2017 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	27-May-17	time	2.44	3.48	4.50	5.52	6.52	7.54	8.54	9.58	10.60	11.64		13.10	1 / 2				
reaction time	0.151	interval	7 steps	1.04	1.02	1.02	1.00	1.02	1.00	1.04	1.02	1.04	1.46	PB			3.08	3.02	3.10
wind	0.9 m/s	velocity	5.62	8.79	8.96	8.96	9.14	8.96	9.14	8.79	8.96	8.79	9.60	8.40			8.90	9.08	8.85

Lewis-Banks, Matthew (USA) (1999)

Heat 3 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	24-Jun-24	time	2.63	3.72	4.79	5.86	6.92	8.05	9.20	10.30	11.56	12.73		14.31	1 / 9			
reaction time		interval		1.09	1.07	1.07	1.06	1.13	1.15	1.10	1.26	1.17	1.58			3.23	3.34	3.53
wind	1.8 m/s	velocity	5.22	8.39	8.54	8.54	8.62	8.09	7.95	8.31	7.25	7.81	8.87	7.69		8.49	8.21	7.77

Li Fuqiang (CHN) (2000)

U20 Heat 3 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	14-Aug-19	time	2.65	3.77	4.90	6.01	7.15	8.26	9.39	10.55	11.68	12.83		14.35	8 / 6			
reaction time	0.162	interval		1.12	1.13	1.11	1.14	1.11	1.13	1.16	1.13	1.15	1.52			3.36	3.38	3.44
wind	0.6 m/s	velocity	5.18	8.16	8.09	8.23	8.02	8.23	8.09	7.88	8.09	7.95	9.22	7.67		8.16	8.11	7.97

Li Guancheng (CHN) (2002)

A FINAL - 2021 National Indoor Grand Prix (Chengdu, CHN) *CAA Hurdle Development (2021)*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	13-Mar-21	time	2.70	3.92	5.08	6.22	7.35							8.34	2 / 3			
reaction time	0.201	interval		1.22	1.16	1.14	1.13						0.99	PB		3.52		
		velocity	5.08	7.49	7.88	8.02	8.09						9.82	7.19		7.79		

Li Haifeng (CHN) (1989)

FINAL - 2017 Chinese National Games (Tianjin, CHN) *Henson (2017) - coaching observations*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	03-Sep-17	time	2.70	3.80	4.91	5.99	7.05	8.15	9.24	10.34	11.48	12.61		14.05	8 / 8			
reaction time		interval		1.10	1.11	1.08	1.06	1.10	1.09	1.10	1.14	1.13	1.44			3.29	3.25	3.37
wind	0.3 m/s	velocity	5.08	8.31	8.23	8.46	8.62	8.31	8.39	8.31	8.02	8.09	9.74	7.83		8.33	8.44	8.14

Li Huaihai (CHN) (1999)

Heat 4 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	25-Jun-21	time	2.68	3.77	4.85	5.94	7.02	8.11	9.21	10.31	11.41	12.56		14.06	8 / 2			
reaction time	0.169	interval	7 steps	1.09	1.08	1.09	1.08	1.09	1.10	1.10	1.10	1.15	1.50			3.26	3.27	3.35
wind	-0.2 m/s	velocity	5.12	8.39	8.46	8.39	8.46	8.39	8.31	8.31	8.31	7.95	9.35	7.82		8.41	8.39	8.19

FINAL - 2020 Chinese Olympic Trials (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	12-Jun-21	time	2.65	3.75	4.84	5.93	7.02	8.11	9.19	10.29	11.39	12.51		14.00	7 / 4				
reaction time	0.139	interval	7 steps	1.10	1.09	1.09	1.09	1.09	1.08	1.10	1.10	1.12	1.49	PB			3.28	3.26	3.32
wind	0.9 m/s	velocity	5.18	8.31	8.39	8.39	8.39	8.39	8.46	8.31	8.31	8.16	9.41	7.86			8.36	8.41	8.26

Heat 1 - 2020 Chinese Olympic Trials (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	12-Jun-21	time	2.55	3.64	4.72	5.79	6.87	7.96	9.04	10.20	11.34	12.50		14.09	8 / 3				
reaction time	0.154	interval	7 steps	1.09	1.08	1.07	1.08	1.09	1.08	1.16	1.14	1.16	1.59				3.24	3.25	3.46
wind	-0.4 m/s	velocity	5.38	8.39	8.46	8.54	8.46	8.39	8.46	7.88	8.02	7.88	8.82	7.81			8.46	8.44	7.92

Heat 2 - 2021 East China District Meeting (Zhaoqing, CHN) *CAA Hurdle Development (2021)*

date	24-Apr-21	time	2.66	3.76	4.86	5.94	7.03	8.13	9.25	10.36	11.51	12.66		14.20	4 / 2				
reaction time	0.162	interval	7 steps	1.10	1.10	1.08	1.09	1.10	1.12	1.11	1.15	1.15	1.54				3.28	3.31	3.41
wind	-1.2 m/s	velocity	5.16	8.31	8.31	8.46	8.39	8.31	8.16	8.23	7.95	7.95	9.10	7.75			8.36	8.28	8.04

FINAL - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.66	3.77	4.86	5.94	7.00	8.07	9.15	10.26	11.40	12.55		14.07	3 / 6				
reaction time	0.171	interval		1.11	1.09	1.08	1.06	1.07	1.08	1.11	1.14	1.15	1.52				3.28	3.21	3.40
wind	0.4 m/s	velocity	5.16	8.23	8.39	8.46	8.62	8.54	8.46	8.23	8.02	7.95	9.22	7.82			8.36	8.54	8.06

Heat 1 - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.69	3.77	4.93	6.03	7.13	8.23	9.32	10.45	11.57	12.72		14.25	3 / 6		
reaction time	0.185	interval		1.08	1.16	1.10	1.10	1.10	1.09	1.13	1.12	1.15	1.53			3.34	3.29	3.40
wind	0.3 m/s	velocity	5.10	8.46	7.88	8.31	8.31	8.31	8.39	8.09	8.16	7.95	9.16	7.72		8.21	8.33	8.06

B-FINAL - 2019 Chinese Indoor National Grand Prix 2 (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	24-Feb-19	time	2.67	3.80	4.89	6.03	7.15							8.15	2 / 3		
reaction time		interval		1.13	1.09	1.14	1.12						1.00	**PB**		3.36	
		velocity	5.14	8.09	8.39	8.02	8.16						9.72	7.36		8.16	

Li Jiming (CHN) (1996)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2019 Chinese National Grand Prix Final (Daqing, CHN)															*CAA Hurdle Development (2019)*			
date	24-Aug-19	time	2.71	3.80	4.89	5.94	6.99	8.06	9.15	10.24	11.35	12.46		13.97	6 / 3			
reaction time	0.213	interval		1.09	1.09	1.05	1.05	1.07	1.09	1.09	1.11	1.11	1.51			3.23	3.21	3.31
wind	-0.1 m/s	velocity	5.06	8.39	8.39	8.70	8.70	8.54	8.39	8.39	8.23	8.23	9.28	7.87		8.49	8.54	8.28

Heat 1 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.70	3.80	4.89	5.97	7.06	8.16	9.26	10.36	11.48	12.64		14.23	8 / 3		
reaction time	0.192	interval		1.10	1.09	1.08	1.09	1.10	1.10	1.10	1.12	1.16	1.59			3.27	3.29	3.38
wind	-0.2 m/s	velocity	5.08	8.31	8.39	8.46	8.39	8.31	8.31	8.31	8.16	7.88	8.82	7.73		8.39	8.33	8.11

FINAL - 2019 Chinese World Championship Trials (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	02-Aug-19	time	2.64	3.73	4.80	5.91	7.00	8.09	9.18	10.29	11.40	12.58		14.14	1 / 6		
reaction time	0.176	interval		1.09	1.07	1.11	1.09	1.09	1.09	1.11	1.11	1.18	1.56			3.27	3.27	3.40
wind	0.0 m/s	velocity	5.20	8.39	8.54	8.23	8.39	8.39	8.39	8.23	8.23	7.75	8.99	7.78		8.39	8.39	8.06

Heat 2 - 2019 Chinese World Championship Trials (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	02-Aug-19	time	2.71	3.85	4.96	6.06	7.17	8.31	9.46	10.63	11.81	13.01		14.69	3 / 4		
reaction time	0.191	interval		1.14	1.11	1.10	1.11	1.14	1.15	1.17	1.18	1.20	1.68			3.35	3.40	3.55
wind	-0.2 m/s	velocity	5.06	8.02	8.23	8.31	8.23	8.02	7.95	7.81	7.75	7.62	8.35	7.49		8.19	8.06	7.72

FINAL - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.65	3.74	4.80	5.87	6.95	8.02	9.12	10.21	11.31	12.46		13.96	1 / 6		
reaction time	0.180	interval		1.09	1.06	1.07	1.08	1.07	1.10	1.09	1.10	1.15	1.50			3.22	3.25	3.34
wind	0.1 m/s	velocity	5.18	8.39	8.62	8.54	8.46	8.54	8.31	8.39	8.31	7.95	9.35	7.88		8.52	8.44	8.21

Heat 2 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.65	3.75	4.80	5.87	6.94	8.01	9.09	10.21	11.34	12.48		14.03	5 / 3		
reaction time	0.182	interval		1.10	1.05	1.07	1.07	1.07	1.08	1.12	1.13	1.14	1.55			3.22	3.22	3.39
wind	0.4 m/s	velocity	5.18	8.31	8.70	8.54	8.54	8.54	8.46	8.16	8.09	8.02	9.05	7.84		8.52	8.52	8.09

FINAL - 2019 Chinese National Grand Prix 4 (Luoyang, CHN) *CAA Hurdle Development (2019)*

date	30-May-19	time	2.70	3.78	4.86	5.92	7.00	8.06	9.17	10.26	11.36	12.47		14.00	5 / 2		
reaction time	0.183	interval		1.08	1.08	1.06	1.08	1.06	1.11	1.09	1.10	1.11	1.53			3.22	3.25	3.30
wind	0.0 m/s	velocity	5.08	8.46	8.46	8.62	8.46	8.62	8.23	8.39	8.31	8.23	9.16	7.86		8.52	8.44	8.31

FINAL - 2019 Chinese National Grand Prix 3 (Jinhau, CHN) *CAA Hurdle Development (2019)*

date	23-May-19	time	2.66	3.74	4.80	5.88	6.92	8.02	9.08	10.16	11.28	12.40		13.89	6 / 3		
reaction time	0.181	interval		1.08	1.06	1.08	1.04	1.10	1.06	1.08	1.12	1.12	1.49			3.22	3.20	3.32
wind	2.5 m/s	velocity	5.16	8.46	8.62	8.46	8.79	8.31	8.62	8.46	8.16	8.16	9.41	7.92		8.52	8.57	8.26

Heat 2 - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.70	3.80	4.90	6.00	7.10	8.22	9.34	10.47	11.64	12.83		14.48	1 / 5		
reaction time	0.179	interval		1.10	1.10	1.10	1.10	1.12	1.12	1.13	1.17	1.19	1.65			3.30	3.34	3.49
wind	0.1 m/s	velocity	5.08	8.31	8.31	8.31	8.31	8.16	8.16	8.09	7.81	7.68	8.50	7.60		8.31	8.21	7.86

Heat 4 - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	08-Apr-19	time	2.73	3.85	4.96	6.06	7.14	8.26	9.37	10.52	11.68	12.87		14.46	6 / 2		
reaction time	0.190	interval		1.12	1.11	1.10	1.08	1.12	1.11	1.15	1.16	1.19	1.59			3.33	3.31	3.50
wind	-0.8 m/s	velocity	5.03	8.16	8.23	8.31	8.46	8.16	8.23	7.95	7.88	7.68	8.82	7.61		8.23	8.28	7.83

B-FINAL - 2019 Chinese Indoor National Grand Prix Final (Hangzhou, CHN) *CAA Hurdle Development (2019)*

date	20-Mar-19	time	2.68	3.80	4.88	5.97	7.04							7.96	3 / 1		
reaction time		interval		1.12	1.08	1.09	1.07						0.92			3.29	
		velocity	5.12	8.16	8.46	8.39	8.54						10.57	7.54		8.33	

A-FINAL - 2019 Chinese Indoor National Grand Prix 1 (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	20-Feb-19	time	2.65	3.79	4.83	5.94	7.02							7.95	4 / 2		
reaction time		interval		1.14	1.04	1.11	1.08						0.93			3.29	
		velocity	5.18	8.02	8.79	8.23	8.46						10.45	7.55		8.33	

FINAL - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	16-Sep-18	time	2.70	3.80	4.87	5.94	7.05	8.12	9.23	10.39	11.53	12.68		14.26	1 / 6			
reaction time		interval		1.10	1.07	1.07	1.11	1.07	1.11	1.16	1.14	1.15	1.58			3.24	3.29	3.45
wind	-0.3 m/s	velocity	5.08	8.31	8.54	8.54	8.23	8.54	8.23	7.88	8.02	7.95	8.87	7.71		8.46	8.33	7.95

Heat 1 - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	15-Sep-18	time	2.67	3.77	4.84	5.91	6.97	8.06	9.14	10.23	11.36	12.51		14.07	4 / 4			
reaction time		interval		1.10	1.07	1.07	1.06	1.09	1.08	1.09	1.13	1.15	1.56			3.24	3.23	3.37
wind	-0.2 m/s	velocity	5.14	8.31	8.54	8.54	8.62	8.39	8.46	8.39	8.09	7.95	8.99	7.82		8.46	8.49	8.14

FINAL - 2018 National Grand Prix Final (Guiyang, CHN) (Altitude) *Zhang (2019) - comparative analysis characteristics Chinese elite men's 110m hurdles in different age groups*

date	17-Jun-18	time	2.70	3.81	4.89	5.97	7.03	8.10	9.18	10.28	11.40	12.58		14.12	3 / 6			
reaction time		interval		1.11	1.08	1.08	1.06	1.07	1.08	1.10	1.12	1.18	1.54			3.27	3.21	3.40
wind	-0.3 m/s	velocity	5.08	8.23	8.46	8.46	8.62	8.54	8.46	8.31	8.16	7.75	9.10	7.79		8.39	8.54	8.06

Li Ning (CHN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 1 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	27-Jun-21	time	2.83	4.04	5.25	6.45	7.67	8.92	10.19	11.46	12.78	14.10		15.84	2 / 5			
reaction time	0.133	interval	7 steps	1.21	1.21	1.20	1.22	1.25	1.27	1.27	1.32	1.32	1.74			3.62	3.74	3.91
wind	0.5 m/s	velocity	4.85	7.55	7.55	7.62	7.49	7.31	7.20	7.20	6.92	6.92	8.06	6.94		7.57	7.33	7.01

Li Shuo (CHN) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 3 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	11-Jul-19	time	2.87	4.07	5.25	6.42	7.59	8.76	9.94	11.13	12.34	13.56		15.19	3 / 3			
reaction time	0.179	interval		1.20	1.18	1.17	1.17	1.17	1.18	1.19	1.21	1.22	1.63			3.55	3.52	3.62
wind	0.0 m/s	velocity	4.78	7.62	7.75	7.81	7.81	7.81	7.75	7.68	7.55	7.49	8.60	7.24		7.72	7.79	7.57

Li Tong (CHN) (1967)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 1992 Fresno Relays (Fresno, CA) *Wang (2009) - research of training characteristic during different stages in the development of 110m hurdles*

date	04-Apr-92	time	2.54	3.64	4.67	5.71	6.76	7.83	8.90	9.99	11.09	12.21		13.59	/ 1			
reaction time		interval		1.10	1.03	1.04	1.05	1.07	1.07	1.09	1.10	1.12	1.38			3.17	3.19	3.31
wind	0.0 m/s	velocity	5.40	8.31	8.87	8.79	8.70	8.54	8.54	8.39	8.31	8.16	10.16	8.09		8.65	8.60	8.28

Li Xiaodong (CHN) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 1 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	27-Jun-21	time	2.73	3.90	5.02	6.14	7.27	8.39	9.52	10.68	11.84	13.01		14.55	7 / 1			
reaction time	0.154	interval		1.17	1.12	1.12	1.13	1.12	1.13	1.16	1.16	1.17	1.54			3.41	3.38	3.49
wind	0.5 m/s	velocity	5.03	7.81	8.16	8.16	8.09	8.16	8.09	7.88	7.88	7.81	9.10	7.56		8.04	8.11	7.86

Decathlon - Heat 2 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.79	3.94	5.09	6.26	7.41	8.58	9.78	10.94	12.11	13.30		14.86	4 / 1			
reaction time	0.165	interval		1.15	1.15	1.17	1.15	1.17	1.20	1.16	1.17	1.19	1.56			3.47	3.52	3.52
wind	?? m/s	velocity	4.92	7.95	7.95	7.81	7.95	7.81	7.62	7.88	7.81	7.68	8.99	7.40		7.90	7.79	7.79

Decathlon - Heat 3 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	11-Jul-19	time	2.74	3.90	5.05	6.19	7.34	8.50	9.66	10.87	12.06	13.26		14.79	2 / 2			
reaction time	0.153	interval		1.16	1.15	1.14	1.15	1.16	1.16	1.21	1.19	1.20	1.53			3.45	3.47	3.60
wind	0.0 m/s	velocity	5.01	7.88	7.95	8.02	7.95	7.88	7.88	7.55	7.68	7.62	9.16	7.44		7.95	7.90	7.62

Lichtenegger, Elmar (AUT) (1974)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 5 - 2002 European Championships (Munich, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	09-Aug-02	time	2.57	3.62	4.65	5.67	6.70	7.75	8.82	9.88	10.97	12.07		13.53	/ 2			
reaction time	0.150	interval		1.05	1.03	1.02	1.03	1.05	1.07	1.06	1.09	1.10	1.46			3.10	3.15	3.25
wind	0.0 m/s	velocity	5.34	8.70	8.87	8.96	8.87	8.70	8.54	8.62	8.39	8.31	9.60	8.13		8.85	8.70	8.44

Semi-Final 1 - 1999 IAAF World Championships (Sevilla, ESP) *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	24-Aug-99	time	2.55	3.57	4.62	5.66	6.69	7.73	8.78	9.85	10.90	12.00		13.52	5 / 8			
reaction time	0.133	interval		1.02	1.05	1.04	1.03	1.04	1.05	1.07	1.05	1.10	1.52			3.11	3.12	3.22
wind	0.0 m/s	velocity	5.38	8.96	8.70	8.79	8.87	8.79	8.70	8.54	8.70	8.31	9.22	8.14		8.82	8.79	8.52

Lin Ken (CHN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.69	3.78	4.88	6.02	7.10	8.22	9.37	10.50	11.67	12.84		14.41	2 / 7			
reaction time	0.190	interval		1.09	1.10	1.14	1.08	1.12	1.15	1.13	1.17	1.17	1.57	PB		3.33	3.35	3.47
wind	-1.0 m/s	velocity	5.10	8.39	8.31	8.02	8.46	8.16	7.95	8.09	7.81	7.81	8.93	7.63		8.23	8.19	7.90

Lindén, Samuel (SWE) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2008 Windsprint (Sundsvall, SWE) *(2008) - www.ssg.se/en/Windsprint/Split-times/*

date	06-Jul-08	time		3.97			7.42			10.93				14.97	2 / 4			
reaction time		interval					3.45			3.51			4.04					
wind	0.5 m/s	velocity		5.76			7.95			7.81			8.00	7.35				

Lindhart, David (CZE) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2013 Czech Republic National Championships (Tábor, CZE) *Feher (2013) - Final report from the men's & women's Czech Republic national championships*

date	15-Jun-13	time	2.97	4.20	5.42	6.65	7.84	9.07	10.30	11.55	12.81			15.79	7 / 6		
reaction time	0.262	interval		1.23	1.22	1.23	1.19	1.23	1.23	1.25	1.26					3.68	3.65
wind	-0.6 m/s	velocity	4.62	7.43	7.49	7.43	7.68	7.43	7.43	7.31	7.25			6.97		7.45	7.51

Heat 1 - 2012 Czech Republic National Indoor Championships (Praha, CZE) *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

date	25-Feb-12	time	2.92	4.15	5.37	6.60	7.83							8.93	8 / 8		
reaction time	0.175	interval		1.23	1.22	1.23	1.23						1.10			3.68	
		velocity	4.70	7.43	7.49	7.43	7.43						8.84	6.72		7.45	

Lindsey, Justin (USA) (1979)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Heat 1 - 2007 USATF National Championships (Indianapolis, IN)															*USATF Men's Hurdle Development (2007)*			
date	23-Jun-07	time	2.65	3.70	4.80	5.84	6.92	7.99	9.09	10.19	11.29	12.39		13.88	6 / 8			
reaction time		interval		1.05	1.10	1.04	1.08	1.07	1.10	1.10	1.10	1.10	1.49			3.19	3.25	3.30
wind	0.1 m/s	velocity	5.18	8.70	8.31	8.79	8.46	8.54	8.31	8.31	8.31	8.31	9.41	7.93		8.60	8.44	8.31

Liu Bowen (CHN) (2001)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 2024 Chinese National Championships (Quzhou, CHN)															*Shandong Athletics Sport Science (2024)*			
date	16-Sep-24	time	2.60	3.69	4.74	5.81	6.87	7.96	9.06	10.16	11.29	12.41		13.98	9 / 8			
reaction time	0.193	interval		1.09	1.05	1.07	1.06	1.09	1.10	1.10	1.13	1.12	1.57			3.21	3.25	3.35
wind	0.2 m/s	velocity	5.28	8.39	8.70	8.54	8.62	8.39	8.31	8.31	8.09	8.16	8.93	7.87		8.54	8.44	8.19
Heat 4 - 2021 Chinese National Championships (Chongqing, CHN)															*CAA Hurdle Development (2021)*			
date	25-Jun-21	time	2.60	3.70	4.80	5.91	6.99	8.11	9.22	10.33	11.48	12.65		14.19	7 / 3			
reaction time	0.201	interval		1.10	1.10	1.11	1.08	1.12	1.11	1.11	1.15	1.17	1.54			3.31	3.31	3.43
wind	-0.2 m/s	velocity	5.28	8.31	8.31	8.23	8.46	8.16	8.23	8.23	7.95	7.81	9.10	7.75		8.28	8.28	7.99
Heat 1 - 2020 Chinese Olympic Trials (Shaoxing, CHN)															*CAA Hurdle Development (2021)*			
date	12-Jun-21	time	2.51	3.60	4.72	5.84	6.94	8.07	9.18	10.32	11.46	12.65		14.30	3 / 5			
reaction time	0.148	interval		1.09	1.12	1.12	1.10	1.13	1.11	1.14	1.14	1.19	1.65			3.33	3.34	3.47
wind	-0.4 m/s	velocity	5.47	8.39	8.16	8.16	8.31	8.09	8.23	8.02	8.02	7.68	8.50	7.69		8.23	8.21	7.90
FINAL - 2021 Philippe Cup Athletics Invitational (Wuhan, CHN)															*CAA Hurdle Development (2021)*			
date	19-May-21	time	2.67	3.77	4.87	5.93	7.02	8.09	9.21	10.33	11.46	12.61		14.14	5 / 3			
reaction time	0.163	interval		1.10	1.10	1.06	1.09	1.07	1.12	1.12	1.13	1.15	1.53	**PB**		3.26	3.28	3.40
wind	1.9 m/s	velocity	5.14	8.31	8.31	8.62	8.39	8.54	8.16	8.16	8.09	7.95	9.16	7.78		8.41	8.36	8.06
Heat 1 - 2021 East China District Meeting (Zhaoqing, CHN)															*CAA Hurdle Development (2021)*			
date	24-Apr-21	time	2.66	3.77	4.92	6.02	7.14	8.29	9.49	10.70	11.90	13.14		14.78	5 / 7			
reaction time	0.164	interval		1.11	1.15	1.10	1.12	1.15	1.20	1.21	1.20	1.24	1.64			3.36	3.47	3.65
wind	-1.1 m/s	velocity	5.16	8.23	7.95	8.31	8.16	7.95	7.62	7.55	7.62	7.37	8.55	7.44		8.16	7.90	7.51
U20 FINAL - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm)															*CAA Hurdle Development (2019)*			
date	14-Aug-19	time	2.54	3.61	4.67	5.69	6.73	7.76	8.80	9.86	10.91	11.99		13.47	5 / 2			
reaction time	0.144	interval		1.07	1.06	1.02	1.04	1.03	1.04	1.06	1.05	1.08	1.48	**PB**		3.15	3.11	3.19
wind	-0.3 m/s	velocity	5.40	8.54	8.62	8.96	8.79	8.87	8.79	8.62	8.70	8.46	9.47	8.17		8.70	8.82	8.60
U20 Heat 3 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm)															*CAA Hurdle Development (2019)*			
date	14-Aug-19	time	2.57	3.61	4.67	5.71	6.74	7.77	8.83	9.89	10.98	12.08		13.66	7 / 2			
reaction time	0.152	interval		1.04	1.06	1.04	1.03	1.03	1.06	1.06	1.09	1.10	1.58			3.14	3.12	3.25
wind	0.6 m/s	velocity	5.34	8.79	8.62	8.79	8.87	8.87	8.62	8.62	8.39	8.31	8.87	8.05		8.73	8.79	8.44

Liu Junqian (CHN) (2003)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 2021 Yangtze River Delta Athletics Meeting (Shaoxing, CHN)															*CAA Hurdle Development (2021)*			
date	08-Apr-21	time	2.68	3.80	4.92	6.04	7.16	8.28	9.40	10.52	11.72	12.90		14.51	8 / 7			
reaction time		interval		1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.20	1.18	1.61			3.36	3.36	3.50
wind	-0.1 m/s	velocity	5.12	8.16	8.16	8.16	8.16	8.16	8.16	8.16	7.62	7.75	8.71	7.58		8.16	8.16	7.83

Liu Junxi (CHN) (2003)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)															*Omega Timing (2025) - diamond league race analysis*			
date	03-May-25	time	2.42	3.48	4.52	5.55	6.56	7.58	8.59	9.62	10.66	11.72		13.30	3 / 5			
reaction time	0.167	interval	7 steps	1.06	1.04	1.03	1.01	1.02	1.01	1.03	1.04	1.06	1.58			3.13	3.04	3.13
wind	0.6 m/s	velocity	5.67	8.62	8.79	8.87	9.05	8.96	9.05	8.87	8.79	8.62	8.87	8.27		8.76	9.02	8.76
FINAL - 2025 Xiamen Diamond League (Xiamen, CHN)															*Omega Timing (2025) - diamond league race analysis*			
date	26-Apr-25	time	2.39	3.45	4.47	5.49	6.51	7.53	8.54	9.58	10.60	11.65		13.24	1 / 3			
reaction time	0.159	interval	7 steps	1.06	1.02	1.02	1.02	1.02	1.01	1.04	1.02	1.05	1.59	**PB**		3.10	3.05	3.11
wind	0.3 m/s	velocity	5.74	8.62	8.96	8.96	8.96	8.96	9.05	8.79	8.96	8.70	8.82	8.31		8.85	8.99	8.82
Race 5 - 2025 Chinese National Grand Prix (Nanjing, CHN)															*Hubei Athletics Sport Science (2025)*			
date	23-Feb-25	time	2.56	3.61	4.64	5.63	6.64							7.47	/ 1			
reaction time	0.151	interval	7 steps	1.05	1.03	0.99	1.01						0.83	**PB**		3.07		
		velocity	5.36	8.70	8.87	9.23	9.05						11.71	8.03		8.93		

FINAL - 2024 Chinese National Championships (Quzhou, CHN) *Shandong Athletics Sport Science (2024)*

date	16-Sep-24	time	2.57	3.62	4.67	5.72	6.76	7.77	8.82	9.88	10.91	11.97		13.41	8 / 2			
reaction time	0.161	interval	7 steps	1.05	1.05	1.05	1.04	1.01	1.05	1.06	1.03	1.06	1.44			3.15	3.10	3.15
wind	0.2 m/s	velocity	5.34	8.70	8.70	8.70	8.79	9.05	8.70	8.62	8.87	8.62	9.74	8.20		8.70	8.85	8.70

Repechage 1 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	06-Aug-24	time	2.38	3.45	4.50	5.54	6.58	7.61	8.67	9.74	10.81	11.92		13.52	8 / 3			
reaction time	0.143	interval	7 steps	1.07	1.05	1.04	1.04	1.03	1.06	1.07	1.07	1.11	1.60			3.16	3.13	3.25
wind	0.2 m/s	velocity	5.76	8.54	8.70	8.79	8.79	8.87	8.62	8.54	8.54	8.23	8.76	8.14		8.68	8.76	8.44

Heat 4 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.40	3.48	4.52	5.52	6.56	7.60	8.66	9.73	10.81	11.91		13.54	2 / 6			
reaction time	0.162	interval	7 steps	1.08	1.04	1.00	1.04	1.04	1.06	1.07	1.08	1.10	1.63			3.12	3.14	3.25
wind	0.3 m/s	velocity	5.72	8.46	8.79	9.14	8.79	8.79	8.62	8.54	8.46	8.31	8.60	8.12		8.79	8.73	8.44

FINAL - 2024 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	29-Apr-24	time	2.64	3.72	4.74	5.78	6.81	7.85	8.90	9.95	11.04	12.12		13.56	2 / 3			
reaction time	0.201	interval	7 steps	1.08	1.02	1.04	1.03	1.04	1.05	1.05	1.09	1.08	1.44			3.14	3.12	3.22
wind	-0.6 m/s	velocity	4.92	7.87	8.33	8.17	8.25	8.17	8.10	8.10	7.80	7.87	9.74	8.11		8.73	8.79	8.52

FINAL - 2024 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2024) - diamond league race analysis*

date	20-Apr-24	time	2.44	3.51	4.55	5.57	6.63	7.65	8.68	9.72	10.78	11.86		13.48	10 / 7			
reaction time	0.159	interval	7 steps	1.07	1.04	1.02	1.06	1.02	1.03	1.04	1.06	1.08	1.62			3.13	3.11	3.18
wind	-0.3 m/s	velocity	5.62	8.54	8.79	8.96	8.62	8.96	8.87	8.79	8.62	8.46	8.65	8.16		8.76	8.82	8.62

Heat 2 - 2022 Chinese National Grand Prix (Huangshi, CHN) *Huo (2022) - research on the technical characteristics of elite chinese 110m hurdlers*

date	15-Jul-22	time	2.57	3.64	4.68	5.73	6.78	7.85	8.92	10.00	11.10	12.19		13.68	/ 1			
reaction time		interval		1.07	1.04	1.05	1.05	1.07	1.07	1.08	1.10	1.09	1.49	PB		3.16	3.19	3.27
wind	-0.2 m/s	velocity	5.34	8.54	8.79	8.70	8.70	8.54	8.54	8.46	8.31	8.39	9.41	8.04		8.68	8.60	8.39

U18 FINAL - 2019 Chinese National Youth Games (Taiyuan, CHN) (91cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.61	3.78										dnf	4 / --			
reaction time		interval		1.17														
wind	-0.1 m/s	velocity	5.26	7.81														

Liu Xiang (CHN) (1983)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2012 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	02-Jun-12	time	2.50	3.52	4.52	5.50	6.48	7.50	8.48	9.48	10.48	11.50		12.87	5 / 1			
reaction time	0.131	interval	7 steps	1.02	1.00	0.98	0.98	1.02	0.98	1.00	1.00	1.02	1.37			3.00	2.98	3.02
wind	2.4 m/s	velocity	5.49	8.96	9.14	9.33	9.33	8.96	9.33	9.14	9.14	8.96	10.23	8.55		9.14	9.20	9.08

FINAL - 2012 Golden Grand Prix (Shanghai, CHN) *Feng (2016) - Liu Xiang's seven-step starting: discussion on the key issues of 110m hurdles technical training*

date	19-May-12	time	2.38	3.38	4.45	5.42	6.42	7.45	8.42	9.46	10.43	11.47		12.97	5 / 1			
reaction time	0.160	interval		1.00	1.07	0.97	1.00	1.03	0.97	1.04	0.97	1.04	1.50			3.04	3.00	3.05
wind	0.4 m/s	velocity	5.76	9.14	8.54	9.42	9.14	8.87	9.42	8.79	9.42	8.79	9.35	8.48		9.02	9.14	8.99

FINAL - 2012 Seiko Golden Grand Prix (Kawasaki, JPN) *Karube (2013) - the analysis of hurdle clearance and interval sprint in men's 110m sprint hurdle*

date	06-May-12	time	2.51	3.57	4.57	5.59	6.58	7.59	8.61	9.62	10.63	11.67		13.09	4 / 1			
reaction time		interval	7 steps	1.06	1.00	1.02	0.99	1.01	1.02	1.01	1.01	1.04	1.42			3.08	3.02	3.06
wind	0.2 m/s	velocity	5.47	8.62	9.14	8.96	9.23	9.05	8.96	9.05	9.05	8.79	9.87	8.40		8.90	9.08	8.96

FINAL - 2012 IAAF World Indoor Championships (Istanbul, TUR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	11-Mar-12	time	2.50	3.52	4.54	5.56	6.58							7.49	3 / 2			
reaction time	0.167	interval	7 steps	1.02	1.02	1.02	1.02						0.91			3.06		
		velocity	5.49	8.96	8.96	8.96	8.96						10.68	8.01		8.96		

FINAL - 2012 Aviva Grand Prix (Birmingham, GBR) *Wang (2012) - analysis of the time characteristics of Liu Xiang in his first 110m hurdles competition of 2012*

date	18-Feb-12	time	2.54	3.54	4.54	5.54	6.51							7.41	/ 1			
reaction time	0.154	interval		1.00	1.00	1.00	0.97						0.90	AR PB		3.00		
		velocity	5.40	9.14	9.14	9.14	9.42						10.80	8.10		9.14		

FINAL - 2011 IAAF World Championships (Daegu, KOR) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	29-Aug-11	time	2.48	3.52	4.52	5.52	6.52	7.51	8.51	9.52	10.54	11.62		13.27	6 / ~~3~~ 2			
reaction time	0.164	interval	7 steps	1.04	1.00	1.00	1.00	0.99	1.00	1.01	1.02	1.08	1.65			3.04	2.99	3.11
wind	-1.1 m/s	velocity	5.53	8.79	9.14	9.14	9.14	9.23	9.14	9.05	8.96	8.46	8.50	8.29		9.02	9.17	8.82

FINAL - 2010 IAAF World Indoor Championships (Doha, QAT) *Kuitunen (2010) - biomencanical analysis of the 14th IAAF World Indoor championships*

date	14-Mar-10	time	2.61	3.67	4.70	5.73	6.77							7.65	7 / 7			
reaction time	0.151	interval		1.06	1.03	1.03	1.04						0.88			3.12		
		velocity	5.26	8.62	8.87	8.87	8.79						11.05	7.84		8.79		

FINAL - 2007 Golden Grand Prix (Shanghai, CHN) *Ma (2008) - analysis of Liu Xiang's time characteristic in men's 110m hurdles during golden grand prix in Shanghai*

date	28-Sep-07	time	2.26	3.22	4.36	5.44	6.40	7.42	8.29	9.32	10.42	11.46		13.21	/ 3			

reaction time	0.164	interval		0.96	1.14	1.08	0.96	1.02	0.87	1.03	1.10	1.04	1.75			3.18	2.85	3.17
wind	-0.4 m/s	velocity	6.07	9.52	8.02	8.46	9.52	8.96	10.51	8.87	8.31	8.79	8.01	8.33		8.62	9.62	8.65

FINAL - 2007 IAAF World Championships (Osaka, JPN) *Ae (2008) - IAAF biomechanics team - a booklet of biomechanics data*

date	31-Aug-07	time	2.57	3.61	4.58	5.58	6.57	7.55	8.55	9.55	10.53	11.57		12.95	9 / 1			
reaction time	0.161	interval		1.04	0.97	1.00	0.99	0.98	1.00	1.00	0.98	1.04	1.38			3.01	2.97	3.02
wind	1.7 m/s	velocity	5.34	8.79	9.42	9.14	9.23	9.33	9.14	9.14	9.33	8.79	10.16	8.49		9.11	9.23	9.08

Semi-Final 3 - 2007 IAAF World Championships (Osaka, JPN) *Shibayama (2008) - analysis of racing patterns in the men's 110m & women's 100m sprint hurdles*

date	30-Aug-07	time	2.63	3.65	4.67	5.67	6.69	7.69	8.71	9.74	10.77	11.82		13.25	6 / 2			
reaction time	0.158	interval		1.02	1.02	1.00	1.02	1.00	1.02	1.03	1.03	1.05	1.43			3.04	3.04	3.11
wind	-1.0 m/s	velocity	5.22	8.96	8.96	9.14	8.96	9.14	8.96	8.87	8.87	8.70	9.80	8.30		9.02	9.02	8.82

Heat 2 - 2007 IAAF World Championships (Osaka, JPN) *Shibayama (2008) - analysis of racing patterns in the men's 110m & women's 100m sprint hurdles*

date	29-Aug-07	time	2.63	3.68	4.71	5.74	6.77	7.79	8.82	9.84	10.89	11.96		13.36	4 / 1			
reaction time	0.141	interval		1.05	1.03	1.03	1.03	1.02	1.03	1.02	1.05	1.07	1.40			3.11	3.08	3.14
wind	-0.6 m/s	velocity	5.22	8.70	8.87	8.87	8.87	8.96	8.87	8.96	8.70	8.54	10.01	8.23		8.82	8.90	8.73

FINAL - 2007 Osaka Grand Prix (Osaka, JPN) *Akirabun (2008) - 2007 speed analysis of the men's & women's 100m, 100m hurdles, & 110m hurdles*

date	05-May-07	time	2.43	3.49	4.51	5.50	6.50	7.50	8.51	9.53	10.55	11.58		13.14	/ 1			
reaction time		interval		1.06	1.02	0.99	1.00	1.00	1.01	1.02	1.02	1.03	1.56			3.07	3.01	3.07
wind	0.8 m/s	velocity	5.65	8.62	8.96	9.23	9.14	9.14	9.05	8.96	8.96	8.87	8.99	8.37		8.93	9.11	8.93

FINAL - 2006 IAAF World Athletic Final (Stuttgart, GER) (TV Analysis) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	09-Sep-06	time	2.57	3.59	4.58	5.57	6.55	7.53	8.54	9.55	10.56	11.57		12.93	5 / 1			
reaction time	0.108	interval		1.02	0.99	0.99	0.98	0.98	1.01	1.01	1.01	1.01	1.36	**CR**		3.00	2.97	3.03
wind	-0.8 m/s	velocity	5.34	8.96	9.23	9.23	9.33	9.33	9.05	9.05	9.05	9.05	10.31	8.51		9.14	9.23	9.05

Race 2 - 2006 Athletissima (Lausanne, SUI) *Xiao (2014) - development process of the characterisitcs about 110m hurdle training in China*

date	11-Jun-06	time	2.52	3.54	4.55	5.56	6.54	7.51	8.49	9.47	10.50	11.53		12.88	2 / 1			
reaction time		interval		1.02	1.01	1.01	0.98	0.97	0.98	0.98	1.03	1.03	1.35	**WR**		3.04	2.93	3.04
wind	1.1 m/s	velocity	5.44	8.96	9.05	9.05	9.33	9.42	9.33	9.33	8.87	8.87	10.39	8.54		9.02	9.36	9.02

FINAL - 2006 Osaka Grand Prix (Osaka, JPN) *Akirabun (2007) - speed analysis of the 100m and hurdles with a laser system*

date	06-May-06	time	2.42	3.48	4.49	5.50	6.51	7.53	8.55	9.58	10.60	11.67		13.22	/ 1			
reaction time		interval		1.06	1.01	1.01	1.01	1.02	1.02	1.03	1.02	1.07	1.55			3.08	3.05	3.12
wind	1.2 m/s	velocity	5.67	8.62	9.05	9.05	9.05	8.96	8.96	8.87	8.96	8.54	9.05	8.32		8.90	8.99	8.79

FINAL - 2005 Chinese National Games (Nanjing, CHN) *Wang (2013) - analysis on the technical characteristics of Liu Xiang's and Shi Dongpeng's 110m Hurdles*

date	20-Oct-05	time	2.60	3.63	4.65	5.64	6.65	7.65	8.65	9.67	10.69	11.71		13.10	/ 1			
reaction time		interval		1.03	1.02	0.99	1.01	1.00	1.00	1.02	1.02	1.02	1.39			3.04	3.01	3.06
wind	0.4 m/s	velocity	5.28	8.87	8.96	9.23	9.05	9.14	9.14	8.96	8.96	8.96	10.09	8.40		9.02	9.11	8.96

FINAL - 2005 Chinese National Grand Prix (Zhongshan, CHN) *Xu (2005) - analysis on Liu Xiang's rhythm between the hurdles in 110m hurdle race*

date	24-Apr-05	time	2.43	3.52	4.56	5.58	6.59	7.59	8.60	9.65	10.71	11.79		13.23	/ 1			
reaction time		interval		1.10	1.04	1.02	1.01	1.00	1.01	1.05	1.06	1.08	1.45			3.15	3.02	3.19
wind	1.4 m/s	velocity	5.66	8.35	8.79	9.00	9.05	9.14	9.05	8.69	8.60	8.50	9.70	8.31		8.70	9.08	8.60

FINAL - 2004 Olympic Games (Athens, GRE) *Ruiz (2004) - las carreras con vallas de juegos olimpicos de atenas '04*

date	27-Aug-04	time	2.41	3.43	4.43	5.42	6.41	7.39	8.39	9.39	10.41	11.44		12.91	4 / 1			
reaction time	0.139	interval		1.02	1.00	0.99	0.99	0.98	1.00	1.00	1.02	1.03	1.47	**=WR / OR**		3.01	2.97	3.05
wind	0.3 m/s	velocity	5.69	8.96	9.14	9.23	9.23	9.33	9.14	9.14	8.96	8.87	9.54	8.52		9.11	9.23	8.99

FINAL - 2004 Chinese National Grand Prix (Tianjin, CHN) *Wang (2016) - comparative analysis of the grey relational grade of segment times and final results of the 110m hurdles*

date	01-Aug-04	time	2.57	3.61	4.62	5.62	6.62	7.63	8.63	9.65	10.67	11.72		13.06	/ 1			
reaction time		interval		1.04	1.01	1.00	1.00	1.01	1.00	1.02	1.02	1.05	1.34	**=PB**		3.05	3.01	3.09
wind	-0.8 m/s	velocity	5.34	8.79	9.05	9.14	9.14	9.05	9.14	8.96	8.96	8.70	10.46	8.42		8.99	9.11	8.87

FINAL - 2003 IAAF World Championships (Paris, FRA) *Xu (2004) - analysis on the hurdling techniques of the excellence chinese male 110m hurdle athletes*

date	30-Aug-03	time	2.58	3.63	4.65	5.65	6.67	7.68	8.70	9.74	10.80	11.85		13.23	5 / 3			
reaction time	0.140	interval		1.05	1.02	1.00	1.02	1.01	1.02	1.04	1.06	1.05	1.38			3.07	3.05	3.15
wind	0.3 m/s	velocity	5.32	8.70	8.96	9.14	8.96	9.05	8.96	8.79	8.62	8.70	10.16	8.31		8.93	8.99	8.70

FINAL - 2003 Athletissima Meeting (Lausanne, SUI) *Xu (2004) - an analysis of Liu Xiang's technique in 100m hurdle final at the Athens Olympic Games*

date	01-Jul-03	time	2.57	3.61	4.63	5.63	6.65	7.65	8.67	9.69	10.73	11.79		13.17	/ 3			
reaction time		interval		1.04	1.02	1.00	1.02	1.00	1.02	1.02	1.04	1.06	1.38			3.06	3.04	3.12
wind	0.0 m/s	velocity	5.34	8.79	8.96	9.14	8.96	9.14	8.96	8.96	8.79	8.62	10.16	8.35		8.96	9.02	8.79

Race 1 - 2003 Chinese National Grand Prix (Nanning, CHN) *Wang (2016) - comparative analysis of the grey relational grade of segment times and final results of the 110m hurdles*

date	05-Apr-03	time	2.63	3.73	4.73	5.73	6.75	7.77	8.82	9.87	10.92	11.98		13.32	/ 1			
reaction time		interval		1.10	1.00	1.00	1.02	1.02	1.05	1.05	1.05	1.06	1.34			3.10	3.09	3.16
wind	0.4 m/s	velocity	5.22	8.31	9.14	9.14	8.96	8.96	8.70	8.70	8.70	8.62	10.46	8.26		8.85	8.87	8.68

FINAL - 2002 Chinese National Grand Prix (Shanghai, CHN) *Huang (2002) - technical research on the men's 110m hurdles at the 9th national games*

date	19-May-02	time	2.59	3.63	4.64	5.69	6.71	7.73	8.76	9.80	10.84	11.91		13.36	/ 1			
reaction time		interval		1.04	1.01	1.05	1.02	1.02	1.03	1.04	1.04	1.07	1.45			3.10	3.07	3.15
wind	0.4 m/s	velocity	5.30	8.79	9.05	8.70	8.96	8.96	8.87	8.79	8.79	8.54	9.67	8.23		8.85	8.93	8.70

FINAL - 2001 Chinese National Grand Prix (Shanghai, CHN) *Fang (2001) - analysis on technical characteristics in Liu Xiang's 110m hurdles*

date	06-May-01	time	2.63	3.73	4.73	5.73	6.75	7.77	8.82	9.87	10.92	11.98		13.32	/ 1			
reaction time		interval		1.10	1.00	1.00	1.02	1.02	1.05	1.05	1.05	1.06	1.34	**WYB17 / PB**		3.10	3.09	3.16
wind	1.9 m/s	velocity	5.22	8.31	9.14	9.14	8.96	8.96	8.70	8.70	8.70	8.62	10.46	8.26		8.85	8.87	8.68

FINAL - 2001 Chinese National Grand Prix (Ningbo, CHN) *Fang (2001) - analysis on technical characteristics in Liu Xiang's 110m hurdles*

date	28-Apr-01	time	2.66	3.74	4.78	5.82	6.85	7.88	8.90	9.92	10.97	12.04		13.45	/ 1			
reaction time		interval		1.08	1.04	1.04	1.03	1.03	1.02	1.02	1.05	1.07	1.41			3.16	3.08	3.14
wind	2.5 m/s	velocity	5.16	8.46	8.79	8.79	8.87	8.87	8.96	8.96	8.70	8.54	9.94	8.18		8.68	8.90	8.73

Llopis, Enrique (ESP) (2000)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)															*Omega Timing (2025) - diamond league race analysis*			
date	03-May-25	time	2.45	3.54	4.54	5.57	6.58	7.59	8.61	9.65	10.68	11.78		13.44	2 / 7			
reaction time	0.136	interval	7 steps	1.09	1.00	1.03	1.01	1.01	1.02	1.04	1.03	1.10	1.66			3.12	3.04	3.17
wind	0.6 m/s	velocity	5.60	8.39	9.14	8.87	9.05	9.05	8.96	8.79	8.87	8.31	8.45	8.18		8.79	9.02	8.65
FINAL - 2025 Xiamen Diamond League (Xiamen, CHN)															*Omega Timing (2025) - diamond league race analysis*			
date	26-Apr-25	time	2.43	3.52	4.56	5.56	6.57	7.57	8.58	9.61	10.65	11.78		13.36	4 / 6			
reaction time	0.148	interval	7 steps	1.09	1.04	1.00	1.01	1.00	1.01	1.03	1.04	1.13	1.58			3.13	3.02	3.20
wind	0.3 m/s	velocity	5.65	8.39	8.79	9.14	9.05	9.14	9.05	8.87	8.79	8.09	8.87	8.23		8.76	9.08	8.57
Semi-Final 1 - 2025 European Athletics Indoor Championships (Apeldoorn, NED)															*European Athletics (2025) - european athletics indoor championships results book*			
date	07-Mar-25	time	2.38	3.44	4.45	5.45	6.45							7.49	5 / 2			
reaction time	0.126	interval	7 steps	1.06	1.01	1.00	1.00						1.04			3.07		
		velocity	5.76	8.62	9.05	9.14	9.14						9.35	8.01		8.93		
FINAL - 2024 Olympic Games (Paris, FRA)															*Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*			
date	08-Aug-24	time	2.59	3.64	4.65	5.65	6.65	7.66	8.67	9.69	10.73	11.80		13.20	3 / 3			
reaction time	0.144	interval	7 steps	1.05	1.01	1.00	1.00	1.01	1.01	1.02	1.04	1.07	1.40			3.06	3.02	3.13
wind	-0.1 m/s	velocity	5.30	8.70	9.05	9.14	9.14	9.05	9.05	8.96	8.79	8.54	10.01	8.33		8.96	9.08	8.76
Semi-Final 1 - 2024 Olympic Games (Paris, FRA)															*Paris 2024 Olympic Games - Results Book (2024)*			
date	07-Aug-24	time	2.41	3.46	4.48	5.48	6.48	7.47	8.49	9.52	10.55	11.61		13.17	5 / 2			
reaction time	0.138	interval	7 steps	1.05	1.02	1.00	1.00	0.99	1.02	1.03	1.03	1.06	1.56			3.07	3.01	3.12
wind	0.1 m/s	velocity	5.69	8.70	8.96	9.14	9.14	9.23	8.96	8.87	8.87	8.62	8.99	8.35		8.93	9.11	8.79
Heat 1 - 2024 Olympic Games (Paris, FRA)															*Paris 2024 Olympic Games - Results Book (2024)*			
date	04-Aug-24	time	2.41	3.48	4.51	5.51	6.51	7.51	8.53	9.56	10.61	11.67		13.28	9 / 2			
reaction time	0.143	interval	7 steps	1.07	1.03	1.00	1.00	1.00	1.02	1.03	1.05	1.06	1.61			3.10	3.02	3.14
wind	0.1 m/s	velocity	5.69	8.54	8.87	9.14	9.14	9.14	8.96	8.87	8.70	8.62	8.71	8.28		8.85	9.08	8.73
FINAL - 2024 Meeting de Paris (Paris, FRA)															*Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*			
date	07-Jul-24	time	2.39	3.47	4.47	5.49	6.49	7.50	8.52	9.55	10.58	11.63		13.21	1 / 4			
reaction time	0.146	interval	7 steps	1.08	1.00	1.02	1.00	1.01	1.02	1.03	1.03	1.05	1.58			3.10	3.03	3.11
wind	-0.6 m/s	velocity	5.74	8.46	9.14	8.96	9.14	9.05	8.96	8.87	8.87	8.70	8.87	8.33		8.85	9.05	8.82
Heat 1 - 2024 Meeting de Paris (Paris, FRA)															*Omega Timing (2024) - diamond league race analysis*			
date	07-Jul-24	time	2.46	3.52	4.51	5.54	6.54	7.55	8.57	9.60	10.63	11.67		13.23	3 / 4			
reaction time	0.144	interval	7 steps	1.06	0.99	1.03	1.00	1.01	1.02	1.03	1.03	1.04	1.56			3.08	3.03	3.10
wind	0.1 m/s	velocity	5.58	8.62	9.23	8.87	9.14	9.05	8.96	8.87	8.87	8.79	8.99	8.31		8.90	9.05	8.85
FINAL - 2024 European Athletics Championships (Roma, ITA) (TV Analysis)															*Henson (2024) - Athlete First: 2024 year end hurdle report*			
date	08-Jun-24	time	2.57	3.58	4.58	5.59	6.58	7.59	8.60	9.62	10.65	11.75		13.16	7 / 2			
reaction time	0.144	interval	7 steps	1.01	1.00	1.01	0.99	1.01	1.01	1.02	1.03	1.10	1.41	**PB**		3.02	3.01	3.15
wind	0.6 m/s	velocity	5.34	9.05	9.14	9.05	9.23	9.05	9.05	8.96	8.87	8.31	9.94	8.36		9.08	9.11	8.70
FINAL - 2024 World Athletics Indoor Championships (Glasgow, GBR) (TV Analysis)															*Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*			
date	02-Mar-24	time	2.57	3.60	4.62	5.62	6.61							7.53	2 / 4			
reaction time	0.137	interval	7 steps	1.03	1.02	1.00	0.99						0.92			3.05		
		velocity	5.34	8.87	8.96	9.14	9.23						10.57	7.97		8.99		
FINAL - 2024 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis)															*Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*			
date	10-Feb-24	time	2.50	3.55	4.58	5.57	6.58							7.62	2 / 6			
reaction time	0.148	interval	7 steps	1.05	1.03	0.99	1.01						1.04	**=NR**		3.07		
		velocity	5.49	8.70	8.87	9.23	9.05						9.35	7.87		8.93		
FINAL - 2023 Weltklasse (Zürich, SUI)															*Omega Timing (2023) - diamond league race analysis*			
date	31-Aug-23	time	2.43	3.51	4.53	5.55	6.55	7.57	8.58	9.63	10.67	11.74		13.31	3 / 2			

reaction time	0.117	interval	7 steps	1.08	1.02	1.02	1.00	1.02	1.01	1.05	1.04	1.07	1.57			3.12	3.03	3.16
wind	-0.1 m/s	velocity	5.65	8.46	8.96	8.96	9.14	8.96	9.05	8.70	8.79	8.54	8.93	8.26		8.79	9.05	8.68

Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.56	3.62	4.64	5.62	6.63	7.65	8.67	9.70	10.76	11.86		13.30	6 / 3			
reaction time	0.146	interval	7 steps	1.06	1.02	0.98	1.01	1.02	1.02	1.03	1.06	1.10	1.44	PB		3.06	3.05	3.19
wind	-0.2 m/s	velocity	5.36	8.62	8.96	9.33	9.05	8.96	8.96	8.87	8.62	8.31	9.74	8.27		8.96	8.99	8.60

Heat 1 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.56	3.60	4.60	5.62	6.63	7.68	8.70	9.73	10.80	11.88		13.33	2 / 2			
reaction time	0.136	interval	7 steps	1.04	1.00	1.02	1.01	1.05	1.02	1.03	1.07	1.08	1.45			3.06	3.08	3.18
wind	-0.3 m/s	velocity	5.36	8.79	9.14	8.96	9.05	8.70	8.96	8.87	8.54	8.46	9.67	8.25		8.96	8.90	8.62

FINAL - 2023 Athletissima (Lausanne, SUI) *Omega Timing (2023) - diamond league race analysis*

date	30-Jun-23	time	2.44	3.52	4.54	5.56	6.57	7.59	8.62	9.67	10.74	11.82		13.43	7 / 5			
reaction time	0.135	interval	7 steps	1.08	1.02	1.02	1.01	1.02	1.03	1.05	1.07	1.08	1.61			3.12	3.06	3.20
wind	-1.0 m/s	velocity	5.62	8.46	8.96	8.96	9.05	8.96	8.87	8.70	8.54	8.46	8.71	8.19		8.79	8.96	8.57

FINAL - 2022 European Athletics Championships (Munich, GER) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Aug-22	time	2.56	3.64	4.84	6.00	7.20	8.36	9.52	10.68	11.84	13.06		14.81	6 / 7			
reaction time	0.145	interval	7 steps	1.08	1.20	1.16	1.20	1.16	1.16	1.16	1.16	1.22	1.75			3.44	3.52	3.54
wind	-0.2 m/s	velocity	5.36	8.46	7.62	7.88	7.62	7.88	7.88	7.88	7.88	7.49	8.01	7.43		7.97	7.79	7.75

Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.56	3.60	4.60	5.63	6.63	7.66	8.70	9.80	10.86	11.96		13.44	2 / 8			
reaction time	0.113	interval	7 steps	1.04	1.00	1.03	1.00	1.03	1.04	1.10	1.06	1.10	1.48			3.07	3.07	3.26
wind	2.5 m/s	velocity	5.36	8.79	9.14	8.87	9.14	8.87	8.79	8.31	8.62	8.31	9.47	8.18		8.93	8.93	8.41

FINAL - 2022 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	17-Feb-22	time	2.55	3.58	4.60	5.60	6.60							7.62	2 / 4			
reaction time	0.163	interval	7 steps	1.03	1.02	1.00	1.00						1.02			3.05		
		velocity	5.38	8.87	8.96	9.14	9.14						9.53	7.87		8.99		

FINAL - 2021 Villa de Madrid (Madrid, ESP) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Feb-21	time	2.45	3.52	4.58	5.62	6.65							7.69	1 / 6			
reaction time		interval	7 steps	1.07	1.06	1.04	1.03						1.04	PB		3.17		
		velocity	5.60	8.54	8.62	8.79	8.87						9.35	7.80		8.65		

Lloyd, Antoine (USA) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 USATF Championships (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	24-Jun-18	time	2.47	3.57	4.63	5.70	6.74	7.77	8.84	9.94	11.04	12.14		13.72	2 / 6			
reaction time		interval	7 steps	1.10	1.06	1.07	1.04	1.03	1.07	1.10	1.10	1.10	1.58			3.23	3.14	3.30
wind	-1.8 m/s	velocity	5.55	8.31	8.62	8.54	8.79	8.87	8.54	8.31	8.31	8.31	8.87	8.02		8.49	8.73	8.31

Long Wei (CHN) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.62	3.71	4.81	5.91	7.01	8.11	9.24	10.34	11.50	12.65		14.17	2 / 6			
reaction time	0.162	interval		1.09	1.10	1.10	1.10	1.10	1.13	1.10	1.16	1.15	1.52	PB		3.29	3.33	3.41
wind	0.5 m/s	velocity	5.24	8.39	8.31	8.31	8.31	8.31	8.09	8.31	7.88	7.95	9.22	7.76		8.33	8.23	8.04

Heat 2 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.77	3.94	5.11	6.27	7.46	8.67	9.86	11.08	12.29	13.51		15.11	2 / 8			
reaction time	0.199	interval		1.17	1.17	1.16	1.19	1.21	1.19	1.22	1.21	1.22	1.60			3.50	3.59	3.65
wind	-0.2 m/s	velocity	4.95	7.81	7.81	7.88	7.68	7.55	7.68	7.49	7.55	7.49	8.76	7.28		7.83	7.64	7.51

Lööv, Filip (SWE) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 4 - 2013 European Indoor Championships (Göteborg, SWE) *Blomkvist (2013) - www.elitlandslag.se/SprintHäck/KortHäck.aspx*

date	01-Mar-13	time	2.66	3.80	4.90	5.97	7.08							8.02	2 / 7			
reaction time	0.167	interval		1.14	1.10	1.07	1.11						0.94			3.31		
		velocity	5.16	8.02	8.31	8.54	8.23						10.34	7.48		8.28		

Junior Final - 2010 ExxonMobil Bislett Games (Olso, NOR) (99cm) *Blomkvist (2010) - www.sub13.se*

date	04-Jun-10	time	2.56	3.62	4.68	5.76	6.84	7.89	9.00	10.08	11.16	12.30		13.95	2 / 3			
reaction time	0.214	interval		1.06	1.06	1.08	1.08	1.05	1.11	1.08	1.08	1.14	1.65			3.20	3.24	3.30
wind	0.3 m/s	velocity	5.36	8.62	8.62	8.46	8.46	8.70	8.23	8.46	8.46	8.02	8.50	7.89		8.57	8.46	8.31

López, Francisco (ESP) (1973)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1998 Spanish National Championships (San Sebastián, ESP) *Ruiz (1998) - campeonato des españa absoluto: análisis de la carreras con villas*

date	02-Aug-98	time	2.64	3.72	4.82	5.94	6.98	8.05	9.12	10.25	11.37	12.52		14.12	5 / 1			
reaction time		interval		1.08	1.10	1.12	1.04	1.07	1.07	1.13	1.12	1.15	1.60			3.30	3.18	3.40
wind	0.1 m/s	velocity	5.20	8.46	8.31	8.16	8.79	8.54	8.54	8.09	8.16	7.95	8.76	7.79		8.31	8.62	8.06

Lovett, Eddie (ISV) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 4 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.58	3.65	4.77	5.85	6.96	8.05	9.13	10.24	11.41	12.62		14.17	9 / 7			
reaction time	0.132	interval		1.07	1.12	1.08	1.11	1.09	1.08	1.11	1.17	1.21	1.55			3.27	3.28	3.49
wind	-0.2 m/s	velocity	5.32	8.54	8.16	8.46	8.23	8.39	8.46	8.23	7.81	7.55	9.05	7.76		8.39	8.36	7.86

FINAL - 2021 American Track League 1 (Fayetteville, AR) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Jan-21	time	2.58	3.67	4.70	5.78	6.85							7.84	7 / 5			
reaction time	0.182	interval		1.09	1.03	1.08	1.07						0.99			3.20		
		velocity	5.32	8.39	8.87	8.46	8.54						9.82	7.65		8.57		

FINAL - 2020 Millrose Games (New York, NY) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	08-Feb-20	time	2.57	3.67	4.74	5.77	6.87							7.85	3 / 6			
reaction time	0.180	interval	7 steps	1.10	1.07	1.03	1.10						0.98			3.20		
		velocity	5.34	8.31	8.54	8.87	8.31						9.92	7.64		8.57		

Semi-Final 3 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.49	3.56	4.62	5.67	6.71	7.77	8.81	9.90	10.99	12.10		13.67	6 / 5			
reaction time	0.180	interval	7 steps	1.07	1.06	1.05	1.04	1.06	1.04	1.09	1.09	1.11	1.57			3.18	3.14	3.29
wind	0.3 m/s	velocity	5.51	8.54	8.62	8.70	8.79	8.62	8.79	8.39	8.39	8.23	8.93	8.05		8.62	8.73	8.33

FINAL - 2017 Müller's Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	09-Jul-17	time	2.52	3.56	4.60	5.64	6.68	7.70	8.74	9.80	10.90	12.00		13.48	3 / 7			
reaction time	0.144	interval	7 steps	1.04	1.04	1.04	1.04	1.02	1.04	1.06	1.10	1.10	1.48			3.12	3.10	3.26
wind	0.0 m/s	velocity	5.44	8.79	8.79	8.79	8.79	8.96	8.79	8.62	8.31	8.31	9.47	8.16		8.79	8.85	8.41

Loyd, Michael (USA) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2003 USATF National Junior Championships (Palo Alto, CA) (99cm) *USATF Women's Sprint Development (2003)*

date	22-Jun-03	time	2.58	3.73	4.82	5.87	6.97	8.09	9.21	10.34	11.48	12.63		14.28	8 / 4			
reaction time		interval		1.15	1.09	1.05	1.10	1.12	1.12	1.13	1.14	1.15	1.65			3.29	3.34	3.42
wind	-0.4 m/s	velocity	5.32	7.95	8.39	8.70	8.31	8.16	8.16	8.09	8.02	7.95	8.50	7.70		8.33	8.21	8.02

Lu Wei (CHN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.83	3.98	5.09	6.26	7.41	8.54	9.67	10.80	11.98	13.18		14.80	6 / 5			
reaction time	0.208	interval		1.15	1.11	1.17	1.15	1.13	1.13	1.13	1.18	1.20	1.62			3.43	3.41	3.51
wind	-0.2 m/s	velocity	4.85	7.95	8.23	7.81	7.95	8.09	8.09	8.09	7.75	7.62	8.65	7.43		7.99	8.04	7.81

U20 FINAL - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.67	3.73	4.77	5.82	6.82	7.86	8.89	9.93	11.01	12.09		13.55	7 / 4			
reaction time	0.170	interval		1.06	1.04	1.05	1.00	1.04	1.03	1.04	1.08	1.08	1.46	PB		3.15	3.07	3.20
wind	-0.3 m/s	velocity	5.14	8.62	8.79	8.70	9.14	8.79	8.87	8.79	8.46	8.46	9.60	8.12		8.70	8.93	8.57

U20 Heat 2 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.71	3.80	4.84	5.89	6.91	7.94	8.99	10.04	11.13	12.21		13.72	6 / 1			
reaction time	0.205	interval		1.09	1.04	1.05	1.02	1.03	1.05	1.05	1.09	1.08	1.51			3.18	3.10	3.22
wind	-0.3 m/s	velocity	5.06	8.39	8.79	8.70	8.96	8.87	8.70	8.70	8.39	8.46	9.28	8.02		8.62	8.85	8.52

Heat 1 - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.77	3.90	5.02	6.11	7.22	8.36	9.50	10.67	11.82	12.98		14.52	7 / 2			
reaction time	0.170	interval		1.13	1.12	1.09	1.11	1.14	1.14	1.17	1.15	1.16	1.54	PB		3.34	3.39	3.48
wind	0.0 m/s	velocity	4.95	8.09	8.16	8.39	8.23	8.02	8.02	7.81	7.95	7.88	9.10	7.58		8.21	8.09	7.88

B-FINAL - 2019 Chinese Indoor National Grand Prix 2 (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	24-Feb-19	time	2.77	3.89	4.99	6.09	7.19							8.17	3 / 4			
reaction time		interval		1.12	1.10	1.10	1.10						0.98			3.32		
		velocity	4.95	8.16	8.31	8.31	8.31						9.92	7.34		8.26		

Lu Yang (CHN) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 Chinese National Games (Xi'an, CHN) *Huo (2022) - research on the technical characteristics of elite chinese 110m hurdlers*

date	22-Sep-21	time	2.68	3.79	4.89	5.94	7.02	8.10	9.20	10.28	11.42	12.59		14.16	/ 8			
reaction time	0.146	interval		1.11	1.10	1.05	1.08	1.08	1.10	1.08	1.14	1.17	1.57			3.26	3.26	3.39
wind	0.0 m/s	velocity	5.12	8.23	8.31	8.70	8.46	8.46	8.31	8.46	8.02	7.81	8.93	7.77		8.41	8.41	8.09

Heat 2 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.70	3.82	4.90	5.99	7.07	8.17	9.27	10.38	11.53	12.70		14.28	5 / 4			
reaction time	0.163	interval		1.12	1.08	1.09	1.08	1.10	1.10	1.11	1.15	1.17	1.58			3.29	3.28	3.43
wind	-1.2 m/s	velocity	5.08	8.16	8.46	8.39	8.46	8.31	8.31	8.23	7.95	7.81	8.87	7.70		8.33	8.36	7.99

FINAL - 2021 Yangtze River Delta Athletics Meeting (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	08-Apr-21	time	2.76	3.88	4.96	6.08	7.16	8.24	9.34	10.48	11.60	12.76		14.30	7 / 5			
reaction time		interval		1.12	1.08	1.12	1.08	1.08	1.10	1.14	1.12	1.16	1.54			3.32	3.26	3.42
wind	-0.1 m/s	velocity	4.97	8.16	8.46	8.16	8.46	8.46	8.31	8.02	8.16	7.88	9.10	7.69		8.26	8.41	8.02

Heat 2 - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.72	3.84	4.95	6.02	7.11	8.19	9.27	10.38	11.50	12.68		14.17	8 / 4			
reaction time	0.145	interval		1.12	1.11	1.07	1.09	1.08	1.08	1.11	1.12	1.18	1.49			3.30	3.25	3.41
wind	-0.5 m/s	velocity	5.04	8.16	8.23	8.54	8.39	8.46	8.46	8.23	8.16	7.75	9.41	7.76		8.31	8.44	8.04

Heat 1 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.84	4.00	5.15									dnf	2 / --			
reaction time	0.179	interval		1.16	1.15													
wind	-0.2 m/s	velocity	4.83	7.88	7.95													

Heat 2 - 2019 Chinese World Championship Trials (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	02-Aug-19	time	2.85	4.01	5.15	6.30	7.44	8.61	9.80	11.05	12.34	13.72		15.90	6 / 5			
reaction time	0.196	interval		1.16	1.14	1.15	1.14	1.17	1.19	1.25	1.29	1.38	2.18			3.45	3.50	3.92
wind	-0.2 m/s	velocity	4.81	7.88	8.02	7.95	8.02	7.81	7.68	7.31	7.09	6.62	6.43	6.92		7.95	7.83	6.99

Heat 3 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.70	3.79	4.89	5.94	7.01	8.07	9.15	10.26	11.34	12.55		14.10	3 / 4			
reaction time	0.170	interval		1.09	1.10	1.05	1.07	1.06	1.08	1.11	1.08	1.21	1.55			3.24	3.21	3.40
wind	-0.5 m/s	velocity	5.08	8.39	8.31	8.70	8.54	8.62	8.46	8.23	8.46	7.55	9.05	7.80		8.46	8.54	8.06

FINAL - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.74	3.86	4.92	6.00	7.06	8.14	9.22	10.32	11.42	12.56		14.03	6 / 3			
reaction time	0.187	interval		1.12	1.06	1.08	1.06	1.08	1.08	1.10	1.10	1.14	1.47			3.26	3.22	3.34
wind	-0.3 m/s	velocity	5.01	8.16	8.62	8.46	8.62	8.46	8.46	8.31	8.31	8.02	9.54	7.84		8.41	8.52	8.21

Heat 3 - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.68	3.78	4.84	5.92	6.98	8.03	9.11	10.22	11.34	12.52		14.07	9 / 1			
reaction time	0.160	interval		1.10	1.06	1.08	1.06	1.05	1.08	1.11	1.12	1.18	1.55			3.24	3.19	3.41
wind	0.0 m/s	velocity	5.12	8.31	8.62	8.46	8.62	8.70	8.46	8.23	8.16	7.75	9.05	7.82		8.46	8.60	8.04

FINAL - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	09-Apr-19	time	2.78	3.90	4.98	6.06	7.13	8.20	9.30	10.37	11.48	12.60		14.09	6 / 5			
reaction time	0.192	interval		1.12	1.08	1.08	1.07	1.07	1.10	1.07	1.11	1.12	1.49			3.28	3.24	3.30
wind	0.2 m/s	velocity	4.94	8.16	8.46	8.46	8.54	8.54	8.31	8.54	8.23	8.16	9.41	7.81		8.36	8.46	8.31

Heat 5 - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	08-Apr-19	time	2.74	3.84	4.92	5.98	7.06	8.15	9.24	10.31	11.44	12.58		14.11	2 / 1			
reaction time	0.201	interval		1.10	1.08	1.06	1.08	1.09	1.09	1.07	1.13	1.14	1.53			3.24	3.26	3.34
wind	0.6 m/s	velocity	5.01	8.31	8.46	8.62	8.46	8.39	8.39	8.54	8.09	8.02	9.16	7.80		8.46	8.41	8.21

B-FINAL - 2019 Chinese Indoor National Grand Prix 1 (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	20-Feb-19	time	2.73	3.85	4.95	6.02	7.12							8.04	5 / 3			
reaction time		interval		1.12	1.10	1.07	1.10						0.92			3.29		
		velocity	5.03	8.16	8.31	8.54	8.31						10.57	7.46		8.33		

Luff, Darius (USA) (2001)		**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	27-Jun-24	time	2.57	3.61	4.63	5.63	6.65	7.70	8.72	9.78	10.84	11.90		13.37	5 / 5			
reaction time		interval		1.04	1.02	1.00	1.02	1.05	1.02	1.06	1.06	1.06	1.47			3.06	3.09	3.18
wind	-0.2 m/s	velocity	5.34	8.79	8.96	9.14	8.96	8.70	8.96	8.62	8.62	8.62	9.54	8.23		8.96	8.87	8.62

Heat 1 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.56	3.63	4.66	5.64	6.65	7.68	8.72	9.78	10.83	11.90		13.33	1 / 3			
reaction time		interval		1.07	1.03	0.98	1.01	1.03	1.04	1.06	1.05	1.07	1.43			3.08	3.08	3.18
wind	0.8 m/s	velocity	5.36	8.54	8.87	9.33	9.05	8.87	8.79	8.62	8.70	8.54	9.80	8.25		8.90	8.90	8.62

FINAL - 2024 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	07-Jun-24	time	2.53	3.57	4.60	5.60	6.60	7.61	8.64	9.67	10.71	11.77		13.19	6 / 1			
reaction time		interval		1.04	1.03	1.00	1.00	1.01	1.03	1.03	1.04	1.06	1.42	PB		3.07	3.04	3.13
wind	0.1 m/s	velocity	5.42	8.79	8.87	9.14	9.14	9.05	8.87	8.87	8.79	8.62	9.87	8.34		8.93	9.02	8.76

FINAL - 2023 NCAA Championships (Austin, TX) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	09-Jun-23	time	2.53	3.57	4.60	5.63	6.64	7.66	8.68	9.72	10.76	11.83		13.38	8 / 6			
reaction time		interval		1.04	1.03	1.03	1.01	1.02	1.02	1.04	1.04	1.07	1.55			3.10	3.05	3.15
wind	1.8 m/s	velocity	5.42	8.79	8.87	8.87	9.05	8.96	8.96	8.79	8.79	8.54	9.05	8.22		8.85	8.99	8.70

Lukáš, Marek (CZE) (1991)		**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

FINAL - 2013 Czech Republic National Championships (Tábor, CZE) *Feher (2013) - Final report from the men's & women's Czech Republic national championships*

date	15-Jun-13	time	2.75	3.87	5.00	6.10	7.24	8.38	9.53	10.68	11.85	13.05		14.58	1 / 6			
reaction time	0.177	interval		1.12	1.13	1.10	1.14	1.14	1.15	1.15	1.17	1.20	1.53	PB		3.35	3.43	3.52
wind	0.4 m/s	velocity	4.99	8.16	8.09	8.31	8.02	8.02	7.95	7.95	7.81	7.62	9.16	7.54		8.19	7.99	7.79

Heat 3 - 2013 Czech Republic National Championships (Tábor, CZE) *Feher (2013) - Final report from the men's & women's Czech Republic national championships*

date	15-Jun-13	time	2.78	3.91	5.03	6.17	7.32	8.46	9.62	10.79	12.00	13.16		14.75	3 / 3		
reaction time	0.176	interval		1.13	1.12	1.14	1.15	1.14	1.16	1.17	1.21	1.16	1.59			3.39	3.45	3.54
wind	-0.3 m/s	velocity	4.94	8.09	8.16	8.02	7.95	8.02	7.88	7.81	7.55	7.88	8.82	7.46		8.09	7.95	7.75

Heat 2 - 2012 Czech Republic National Indoor Championships (Praha, CZE) *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

date	25-Feb-12	time	2.66	3.83	4.99	6.14	7.29							8.27	2 / 4		
reaction time	0.111	interval		1.17	1.16	1.15	1.15						0.98			3.48	
		velocity	5.16	7.81	7.88	7.95	7.95						9.92	7.26		7.88	

Luo Xinyu (CHN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

B FINAL - 2021 National Indoor Grand Prix (Chengdu, CHN) *CAA Hurdle Development (2021)*

date	13-Mar-21	time	2.85	4.14	5.38	6.66	7.92							9.00	4 / 5		
reaction time	0.199	interval		1.29	1.24	1.28	1.26						1.08	PB		3.81	
		velocity	4.81	7.09	7.37	7.14	7.25						9.00	6.67		7.20	

Lynsha, Maksim (BLR) (1985)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2013 European Indoor Championships (Göteborg, SWE) *Blomkvist (2013) - www.elitlandslag.se/SprintHäck/KortHäck.aspx*

date	01-Mar-13	time	2.56	3.60	4.64	5.66	6.68							7.58	2 / 1		
reaction time	0.162	interval		1.04	1.04	1.02	1.02						0.90	PB		3.10	
		velocity	5.36	8.79	8.79	8.96	8.96						10.80	7.92		8.85	

Race 1 - 2011 European Team Championships (Stockholm, SWE) *Blomkvist (2011) - www.sub13.se*

date	19-Jun-11	time	2.60	3.66	4.72	5.80	6.84	7.92	8.98	10.06	11.16	12.24		13.76	6 / 3		
reaction time	0.173	interval		1.06	1.06	1.08	1.04	1.08	1.06	1.08	1.10	1.08	1.52			3.20	3.18	3.26
wind	-0.8 m/s	velocity	5.28	8.62	8.62	8.46	8.79	8.46	8.62	8.46	8.31	8.46	9.22	7.99		8.57	8.62	8.41

Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.59	3.62	4.67	5.70	6.73	7.79	8.85	9.89	10.97	12.05		13.46	1 / 6		
reaction time	0.154	interval		1.03	1.05	1.03	1.03	1.06	1.06	1.04	1.08	1.08	1.41	PB		3.11	3.15	3.20
wind	0.6 m/s	velocity	5.30	8.87	8.70	8.87	8.87	8.62	8.62	8.79	8.46	8.46	9.94	8.17		8.82	8.70	8.57

Ma Lei (CHN) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.72	3.85	4.95	6.04	7.14	8.22	9.31	10.43	11.54	12.69		14.21	7 / 4		
reaction time	0.155	interval	7 steps	1.13	1.10	1.09	1.10	1.08	1.09	1.12	1.11	1.15	1.52			3.32	3.27	3.38
wind	0.1 m/s	velocity	5.04	8.09	8.31	8.39	8.31	8.46	8.39	8.16	8.23	7.95	9.22	7.74		8.26	8.39	8.11

FINAL - 2019 Chinese National Grand Prix 3 (Jinhau, CHN) *CAA Hurdle Development (2019)*

date	23-May-19	time	2.68	3.78	4.86	5.92	6.98	8.06	9.14	10.22	11.32	12.42		13.91	4 / 4		
reaction time	0.158	interval	7 steps	1.10	1.08	1.06	1.06	1.08	1.08	1.08	1.10	1.10	1.49			3.24	3.22	3.28
wind	2.5 m/s	velocity	5.12	8.31	8.46	8.62	8.62	8.46	8.46	8.46	8.31	8.31	9.41	7.91		8.46	8.52	8.36

Heat 4 - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.76	3.88	4.98	6.09	7.17	8.28	9.38	10.50	11.66	12.80		14.36	7 / 2		
reaction time	0.164	interval	7 steps	1.12	1.10	1.11	1.08	1.11	1.10	1.12	1.16	1.14	1.56			3.33	3.29	3.42
wind	-0.8 m/s	velocity	4.97	8.16	8.31	8.23	8.46	8.23	8.31	8.16	7.88	8.02	8.99	7.66		8.23	8.33	8.02

FINAL - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	09-Apr-19	time	2.94	4.10	5.22	6.34	7.46	8.59	9.71	10.87	12.04	13.24		14.87	2 / 8		
reaction time	0.328	interval	7 steps	1.16	1.12	1.12	1.12	1.13	1.12	1.16	1.17	1.20	1.63			3.40	3.37	3.53
wind	0.2 m/s	velocity	4.67	7.88	8.16	8.16	8.16	8.09	8.16	7.88	7.81	7.62	8.60	7.40		8.06	8.14	7.77

Heat 5 - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	08-Apr-19	time	2.75	3.89	5.00	6.09	7.18	8.30	9.42	10.54	11.68	12.82		14.34	8 / 2		
reaction time	0.159	interval	7 steps	1.14	1.11	1.09	1.09	1.12	1.12	1.12	1.14	1.14	1.52			3.34	3.33	3.40
wind	0.6 m/s	velocity	4.99	8.02	8.23	8.39	8.39	8.16	8.16	8.16	8.02	8.02	9.22	7.67		8.21	8.23	8.06

FINAL - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	16-Sep-18	time	2.74	3.87	4.96	6.07	7.21	8.36	9.53	10.69	11.89	13.11		14.80	5 / 7		
reaction time		interval	7 steps	1.13	1.09	1.11	1.14	1.15	1.17	1.16	1.20	1.22	1.69			3.33	3.46	3.58
wind	-0.3 m/s	velocity	5.01	8.09	8.39	8.23	8.02	7.95	7.81	7.88	7.62	7.49	8.30	7.43		8.23	7.92	7.66

Heat 2 - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	15-Sep-18	time	2.72	3.82	4.90	5.99	7.07	8.14	9.24	10.34	11.46	12.61		14.10	5 / 2		
reaction time		interval	7 steps	1.10	1.08	1.09	1.08	1.07	1.10	1.10	1.12	1.15	1.49			3.27	3.25	3.37
wind	0.7 m/s	velocity	5.04	8.31	8.46	8.39	8.46	8.54	8.31	8.31	8.16	7.95	9.41	7.80		8.39	8.44	8.14

FINAL - 2018 National Grand Prix Final (Guiyang, CHN) (Altitude) *Zhang (2019) - comparative analysis characteristics Chinese elite men's 110m hurdles in different age groups*

date	17-Jun-18	time	2.69	3.78	4.84	5.91	6.98	8.04	9.13	10.21	11.32	12.45		13.93	8 / 3		
reaction time		interval	7 steps	1.09	1.06	1.07	1.07	1.06	1.09	1.08	1.11	1.13	1.48			3.22	3.22	3.32
wind	-0.3 m/s	velocity	5.10	8.39	8.62	8.54	8.54	8.62	8.39	8.46	8.23	8.09	9.47	7.90		8.52	8.52	8.26

FINAL - 2017 Chinese National Games (Tianjin, CHN) *Henson (2017) - coaching observations*

date	03-Sep-17	time	2.72	3.81	4.87	5.94	6.99	8.07	9.13	10.23	11.36	12.48		13.96	7 / 5		
reaction time		interval	7 steps	1.09	1.06	1.07	1.05	1.08	1.06	1.10	1.13	1.12	1.48			3.22	3.19	3.35
wind	0.3 m/s	velocity	5.04	8.39	8.62	8.54	8.70	8.46	8.62	8.31	8.09	8.16	9.47	7.88		8.52	8.60	8.19

Machi, Ryota (JPN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Japanese National Championsips (Niigata, JPN) — *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	30-Jun-24	time	2.61	3.69	4.73	5.75	6.81	7.85	8.90	9.96	11.04	12.12		13.55	5 / 8		
reaction time	0.135	interval	7 steps	1.08	1.04	1.02	1.06	1.04	1.05	1.06	1.08	1.08	1.43			3.14	3.15	3.22
wind	0.2 m/s	velocity	5.26	8.46	8.79	8.96	8.62	8.79	8.70	8.62	8.46	8.46	9.80	8.12		8.73	8.70	8.52

FINAL - 2024 Fuse Sprint (Tottori, JPN) — *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	02-Jun-24	time	2.63	3.70	4.75	5.80	6.84	7.88	8.92	9.97	11.03	12.11		13.51	2 / 6		
reaction time	0.167	interval	7 steps	1.07	1.05	1.05	1.04	1.04	1.04	1.05	1.06	1.08	1.40			3.17	3.12	3.19
wind	1.3 m/s	velocity	5.22	8.54	8.70	8.70	8.79	8.79	8.79	8.70	8.62	8.46	10.01	8.14		8.65	8.79	8.60

FINAL - 2024 Michitaka Kinami Memorial (Osaka, JPN) — *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	12-May-24	time	2.63	3.68	4.73	5.74	6.76	7.79	8.84	9.88	10.94	12.03		13.45	5 / 1		
reaction time	0.169	interval		1.05	1.05	1.01	1.02	1.03	1.05	1.04	1.06	1.09	1.42			3.11	3.10	3.19
wind	0.9 m/s	velocity	5.22	8.70	8.70	9.05	8.96	8.87	8.70	8.79	8.62	8.39	9.87	8.18		8.82	8.85	8.60

FINAL - 2024 Mikio Oda Memorial (Hiroshima, JPN) — *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	29-Apr-24	time	2.63	3.72	4.77	5.82	6.85	7.88	8.94	10.01	11.09	12.20		13.65	4 / 7		
reaction time	0.159	interval	7 steps	1.09	1.05	1.05	1.03	1.03	1.06	1.07	1.08	1.11	1.45			3.19	3.12	3.26
wind	-0.6 m/s	velocity	5.22	8.39	8.70	8.70	8.87	8.87	8.62	8.54	8.46	8.23	9.67	8.06		8.60	8.79	8.41

FINAL - 2019 National Sports Festival (Hitachinaka, JPN) (99cm) — *Enomoto (2019) - research on athlete performance and technique- 2019 data book*

date	06-Oct-19	time	2.64	3.74	4.80	5.86	6.93	7.95	9.01	10.08	11.16	12.26		13.72	7 / 6		
reaction time	0.145	interval		1.10	1.06	1.06	1.07	1.02	1.06	1.07	1.08	1.10	1.46			3.22	3.15	3.25
wind	2.7 m/s	velocity	5.20	8.31	8.62	8.62	8.54	8.96	8.62	8.54	8.46	8.31	9.60	8.02		8.52	8.70	8.44

Mack, Thomas (USA) (1985)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 4 - 2007 USATF National Championships (Indianapolis, IN) — *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.64	3.74	4.82	5.91	7.01	8.11	9.20	10.31	11.43	12.56		14.03	4 / 5		
reaction time		interval		1.10	1.08	1.09	1.10	1.10	1.09	1.11	1.12	1.13	1.47			3.27	3.29	3.36
wind	-2.8 m/s	velocity	5.20	8.31	8.46	8.39	8.31	8.31	8.39	8.23	8.16	8.09	9.54	7.84		8.39	8.33	8.16

Maeda, Hirotake (JPN) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2017 Japanese National Championships (Osaka, JPN) — *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.60	3.73	4.82	5.92	7.01	8.16	9.30	10.41	11.51	12.64		14.05	8 / 5		
reaction time	0.137	interval		1.13	1.09	1.10	1.09	1.15	1.14	1.11	1.10	1.13	1.41			3.32	3.38	3.34
wind	0.5 m/s	velocity	5.28	8.09	8.39	8.31	8.39	7.95	8.02	8.23	8.31	8.09	9.94	7.83		8.26	8.11	8.21

FINAL - 2017 Kansai Regional University Championships (Osaka, JPN) — *(2017) - tfdata-store.com/2017/05/13/post-441/*

date	11-May-17	time	2.65	3.74	4.85	5.94	7.03	8.12	9.22	10.35	11.46	12.59		14.03	5 / 3		
reaction time		interval		1.09	1.11	1.09	1.09	1.09	1.10	1.13	1.11	1.13	1.44	PB		3.29	3.28	3.37
wind	1.6 m/s	velocity	5.18	8.39	8.23	8.39	8.39	8.39	8.31	8.09	8.23	8.09	9.74	7.84		8.33	8.36	8.14

FINAL - 2017 Kyoto University Meeting (Kyoto, JPN) — *(2017) - tfdata-store.com/2017/04/12/post-362/*

date	09-Apr-17	time	2.65	3.78	4.89	5.99	7.09	8.19	9.30	10.41	11.51	12.64		14.09	5 / 2		
reaction time		interval		1.13	1.11	1.10	1.10	1.10	1.11	1.11	1.10	1.13	1.45	PB		3.34	3.31	3.34
wind	1.5 m/s	velocity	5.18	8.09	8.23	8.31	8.31	8.31	8.23	8.23	8.31	8.09	9.67	7.81		8.21	8.28	8.21

Maeda, Koki (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 Kinami Michitaka Memorial (Osaka, JPN) — *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	06-May-18	time	2.65	3.75	4.82	5.91	6.99	8.09	9.18	10.31	11.45	12.59		14.11	9 / 7		
reaction time		interval		1.10	1.07	1.09	1.08	1.10	1.09	1.13	1.14	1.14	1.52			3.26	3.27	3.41
wind	1.6 m/s	velocity	5.18	8.31	8.54	8.39	8.46	8.31	8.39	8.09	8.02	8.02	9.22	7.80		8.41	8.39	8.04

Maeda, Takanori (JPN) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN) — *(2017) - tfdata-store.com/2017/04/07/post-249/*

date	06-Apr-17	time	2.74	3.88	5.05	6.21	7.36	8.52	9.71	10.91	12.10	13.30		14.87	5 / 4		
reaction time		interval		1.14	1.17	1.16	1.15	1.16	1.19	1.20	1.19	1.20	1.57			3.47	3.50	3.59
wind	-1.8 m/s	velocity	5.01	8.02	7.81	7.88	7.95	7.88	7.68	7.62	7.68	7.62	8.93	7.40		7.90	7.83	7.64

Mágos, Stamátios (GRE) (1972)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1997 European Cup (Munich, GER) — *Jung (2003) - http://www.fgs.uni-halle.de*

date	22-Jun-97	time	2.66	3.74	4.82	5.88	6.94	8.02	9.12	10.24	11.36	12.52		13.97	/ 7		
reaction time		interval		1.08	1.08	1.06	1.06	1.08	1.10	1.12	1.12	1.16	1.45			3.22	3.24	3.40
wind	0.2 m/s	velocity	5.16	8.46	8.46	8.62	8.62	8.46	8.31	8.16	8.16	7.88	9.67	7.87		8.52	8.46	8.06

Mählmann, René (GER) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2011 German National Indoor Junior Championships (Leverkusen, GER) (99cm) — *May (2011) - zwei jugendliche hürdensprinter im vergleich*

date	19-Feb-11	time	2.66	3.74	4.80	5.87	6.96							7.91	6 / 2		

reaction time		interval		1.08	1.06	1.07	1.09						0.95			3.21		
		velocity	5.16	8.46	8.62	8.54	8.39						10.23	7.59		8.54		

Makita, Akira (JPN)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2022 Shimane High School Championships (Izumo, JPN)															*Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*			
date	28-May-22	time	2.93	4.20	5.50	6.80	8.12	9.43	10.78	12.12	13.48	14.85		16.57	8 / 5			
reaction time		interval		1.27	1.30	1.30	1.32	1.31	1.35	1.34	1.36	1.37	1.72			3.87	3.98	4.07
wind	0.6 m/s	velocity	4.68	7.20	7.03	7.03	6.92	6.98	6.77	6.82	6.72	6.67	8.15	6.64		7.09	6.89	6.74

Makoto, Ino (JPN)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2016 Miyazaki Perfecture High School Meeting (Miyazaki, JPN)															*(2016.06.01) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date	31-May-16	time	2.74	3.89	5.06	6.24	7.41	8.58	9.75	10.91	12.09	13.29		14.80	5 / 1			
reaction time		interval		1.15	1.17	1.18	1.17	1.17	1.17	1.16	1.18	1.20	1.51			3.50	3.51	3.54
wind	-1.0 m/s	velocity	5.01	7.95	7.81	7.75	7.81	7.81	7.81	7.88	7.75	7.62	9.28	7.43		7.83	7.81	7.75

Mališka, Rostislav (CZE) (1998)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2015 Czech Republic National U18 Indoor Championships (Praha, CZE) (91cm)															*Feher (2015) - Final report U18 & U20 Czech Republic indoor national champs*			
date	14-Feb-15	time	2.73	3.85	4.95	6.04	7.15							8.11	4 / 3			
reaction time	0.185	interval		1.12	1.10	1.09	1.11						0.96			3.31		
		velocity	5.03	8.16	8.31	8.39	8.23						10.13	7.40		8.28		
FINAL - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm)															*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date	28-Jun-14	time	2.91	4.07	5.25	6.43	7.59	8.78	9.95	11.15	12.36	13.58		15.24	1 / 6			
reaction time	0.193	interval		1.16	1.18	1.18	1.16	1.19	1.17	1.20	1.21	1.22	1.66			3.52	3.52	3.63
wind	-3.7 m/s	velocity	4.71	7.88	7.75	7.75	7.88	7.68	7.81	7.62	7.55	7.49	8.45	7.22		7.79	7.79	7.55
Heat 2 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm)															*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date	28-Jun-14	time	2.86	4.05	5.19	6.38	7.53	8.70	9.87	11.03	12.25	13.50		15.15	4 / 2			
reaction time	0.228	interval		1.19	1.14	1.19	1.15	1.17	1.17	1.16	1.22	1.25	1.65			3.52	3.49	3.63
wind	-4.1 m/s	velocity	4.80	7.68	8.02	7.68	7.95	7.81	7.81	7.88	7.49	7.31	8.50	7.26		7.79	7.86	7.55

Mallett, Aaron (USA) (1994)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 1 - 2022 USATF National Championships (Eugene, OR)															*USATF (2022) - Results powered by Karmarush.com*			
date	26-Jun-22	time	2.53	3.59	4.59	5.59	6.60	7.68	8.69	9.72	10.79	11.88		13.38	7 / 5			
reaction time		interval		1.06	1.00	1.00	1.01	1.08	1.01	1.03	1.07	1.09	1.50			3.06	3.10	3.19
wind	0.4 m/s	velocity	5.42	8.62	9.14	9.14	9.05	8.46	9.05	8.87	8.54	8.39	9.35	8.22		8.96	8.85	8.60
FINAL - 2022 Meeting de Paris (Paris, FRA) (TV Analysis)															*Henson (2022) - Athlete First: 2022 year end hurdle report*			
date	18-Jun-22	time	2.50	3.56	4.58	5.62	6.62	7.62	8.66	9.68					3 / --			
reaction time	0.150	interval	7 steps	1.06	1.02	1.04	1.00	1.00	1.04	1.02				DQ		3.12	3.04	
wind	-0.2 m/s	velocity	5.49	8.62	8.96	8.79	9.14	9.14	8.79	8.96						8.79	9.02	
FINAL - 2022 Bislett Games (Oslo, NOR) (TV Analysis)															*Henson (2022) - Athlete First: 2022 year end hurdle report*			
date	16-Jun-22	time	2.52	3.58	4.62	5.62	6.62	7.66	8.68	9.74	10.80	11.88		13.40	1 / 4			
reaction time	0.173	interval	7 steps	1.06	1.04	1.00	1.00	1.04	1.02	1.06	1.06	1.08	1.52			3.10	3.06	3.20
wind	-1.2 m/s	velocity	5.44	8.62	8.79	9.14	9.14	8.79	8.96	8.62	8.62	8.46	9.22	8.21		8.85	8.96	8.57
Semi-Final 3 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)															*Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*			
date	20-Mar-22	time	2.53	3.60	4.63	5.66	6.70							7.67	6 / 6			
reaction time	0.152	interval	7 steps	1.07	1.03	1.03	1.04						0.97			3.13		
		velocity	5.42	8.54	8.87	8.87	8.79						10.02	7.82		8.76		
Semi-Final 2 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis)															*Henson (2021) - Athlete First: 2021 year end hurdle report*			
date	26-Jun-21	time	2.56	3.60	4.63	5.63	6.63	7.67	8.67	9.71	10.76	11.86		13.33	7 / 5			
reaction time	0.198	interval		1.04	1.03	1.00	1.00	1.04	1.00	1.04	1.05	1.10	1.47			3.07	3.04	3.19
wind	1.2 m/s	velocity	5.36	8.79	8.87	9.14	9.14	8.79	9.14	8.79	8.70	8.31	9.54	8.25		8.93	9.02	8.60
FINAL - 2021 Copernicus Cup (Toruń, POL) (TV Analysis)															*Henson (2021) - men's 60m hurdles world record season - Grant Holloway*			
date	17-Feb-21	time	2.54	3.58	4.63	5.67	6.67							7.60	6 / 3			
reaction time	0.170	interval		1.04	1.05	1.04	1.00						0.93			3.13		
		velocity	5.40	8.79	8.70	8.79	9.14						10.45	7.89		8.76		
FINAL - 2021 Meeting Elite en Salle de L'Eure (Val-de-Reuil, FRA) (TV Analysis)															*Henson (2021) - men's 60m hurdles world record season - Grant Holloway*			
date	14-Feb-21	time	2.50	3.58	4.62	5.64	6.66							7.66	3 / 3			
reaction time	0.137	interval		1.08	1.04	1.02	1.02						1.00			3.14		
		velocity	5.49	8.46	8.79	8.96	8.96						9.72	7.83		8.73		
Heat 2 - 2021 Meeting Elite en Salle de L'Eure (Val-de-Reuil, FRA) (TV Analysis)															*Henson (2021) - men's 60m hurdles world record season - Grant Holloway*			
date	14-Feb-21	time	2.58	3.64	4.68	5.70	6.72							7.68	3 / 1			
reaction time	0.166	interval		1.06	1.04	1.02	1.02						0.96			3.12		
		velocity	5.32	8.62	8.79	8.96	8.96						10.13	7.81		8.79		
FINAL - 2021 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA)															*Henson (2021) - men's 60m hurdles world record season - Grant Holloway*			

date	09-Feb-21	time	2.54	3.57	4.60	5.60	6.62							7.57	7 / 4			
reaction time	0.150	interval		1.03	1.03	1.00	1.02						0.95			3.06		
		velocity	5.40	8.87	8.87	9.14	8.96						10.23	7.93		8.96		

Heat 1 - 2021 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	09-Feb-21	time	2.46	3.51	4.53	5.53	6.56							7.61	3 / 3			
reaction time	0.152	interval		1.05	1.02	1.00	1.03						1.05			3.07		
		velocity	5.58	8.70	8.96	9.14	8.87						9.26	7.88		8.93		

FINAL - 2020 Doha Diamond League (Doha, QAT) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	25-Sep-20	time	2.46	3.50	4.52	5.52	6.52	7.54	8.56	9.58	10.60	11.64		13.15	4 / 1			
reaction time	0.149	interval		1.04	1.02	1.00	1.00	1.02	1.02	1.02	1.02	1.04	1.51	PB		3.06	3.04	3.08
wind	0.3 m/s	velocity	5.58	8.79	8.96	9.14	9.14	8.96	8.96	8.96	8.96	8.79	9.28	8.37		8.96	9.02	8.90

FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	17-Sep-20	time	2.52	3.58	4.60	5.62	6.66	7.68	8.68	9.70	10.72	11.78		13.23	3 / 2			
reaction time	0.149	interval		1.06	1.02	1.02	1.04	1.02	1.00	1.02	1.02	1.06	1.45	PB		3.10	3.06	3.10
wind	0.1 m/s	velocity	5.44	8.62	8.96	8.96	8.79	8.96	9.14	8.96	8.96	8.62	9.67	8.31		8.85	8.96	8.85

FINAL - 2020 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	19-Aug-20	time	2.49	3.54	4.57	5.61	6.64	7.69	8.71	9.75	10.82	11.91		13.45	1 / 5			
reaction time	0.168	interval		1.05	1.03	1.04	1.03	1.05	1.02	1.04	1.07	1.09	1.54			3.12	3.10	3.20
wind	0.3 m/s	velocity	5.51	8.70	8.87	8.79	8.87	8.70	8.96	8.79	8.54	8.39	9.10	8.18		8.79	8.85	8.57

FINAL - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	15-Feb-20	time	2.55	3.58	4.62	5.61	6.62							7.54	3 / 1			
reaction time	0.160	interval		1.03	1.04	0.99	1.01						0.92	PB		3.06		
		velocity	5.38	8.87	8.79	9.23	9.05						10.57	7.96		8.96		

Semi-Final 1 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	15-Feb-20	time	2.57	3.62	4.67	5.68	6.72							7.65	5 / 2			
reaction time	0.149	interval		1.05	1.05	1.01	1.04						0.93			3.11		
		velocity	5.34	8.70	8.70	9.05	8.79						10.45	7.84		8.82		

Heat 3 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.62	3.68	4.74	5.75	6.79							7.70	4 / 1			
reaction time	0.196	interval		1.06	1.06	1.01	1.04						0.91			3.13		
		velocity	5.24	8.62	8.62	9.05	8.79						10.68	7.79		8.76		

FINAL - 2019 USATF National Championships (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	28-Jul-19	time	2.53	3.60	4.63	5.67	6.67	7.73	8.78	9.84	10.91	11.97		13.51	5 / 7			
reaction time		interval	7 steps	1.07	1.03	1.04	1.00	1.06	1.05	1.06	1.07	1.06	1.54			3.14	3.11	3.19
wind	-0.8 m/s	velocity	5.42	8.54	8.87	8.79	9.14	8.62	8.70	8.62	8.54	8.62	9.10	8.14		8.73	8.82	8.60

FINAL - 2019 PSD Bank Meeting (Düsseldorf, GER) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	20-Feb-19	time	2.40	3.46	4.50	5.52	6.56							7.66	6 / 4			
reaction time	0.166	interval	7 steps	1.06	1.04	1.02	1.04						1.10			3.12		
		velocity	5.72	8.62	8.79	8.96	8.79						8.84	7.83		8.79		

FINAL - 2019 Müller Indoor Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Feb-19	time	2.54	3.58	4.65	5.65	6.68							7.63	7 / 5			
reaction time	0.152	interval	7 steps	1.04	1.07	1.00	1.03						0.95			3.11		
		velocity	5.40	8.79	8.54	9.14	8.87						10.23	7.86		8.82		

FINAL - 2017 Müller's Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	09-Jul-17	time	2.58	3.66	4.74	5.76	6.78	7.82	8.84	9.88	10.92	11.98		13.47	1 / 6			
reaction time	0.198	interval	7 steps	1.08	1.08	1.02	1.02	1.04	1.02	1.04	1.04	1.06	1.49			3.18	3.08	3.14
wind	0.0 m/s	velocity	5.32	8.46	8.46	8.96	8.96	8.79	8.96	8.79	8.79	8.62	9.41	8.17		8.62	8.90	8.73

Manago, Ryona (JPN) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2022 Japanese U20 National Championsips (Osaka, JPN) (99cm) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	12-Jun-22	time	2.58	3.67	4.70	5.73	6.76	7.80	8.88	9.94	11.02	12.08		13.55	5 / 2			
reaction time	0.151	interval	7 steps	1.09	1.03	1.03	1.03	1.04	1.08	1.06	1.08	1.06	1.47			3.15	3.15	3.20
wind	1.1 m/s	velocity	5.32	8.39	8.87	8.87	8.87	8.79	8.46	8.62	8.46	8.62	9.54	8.12		8.70	8.70	8.57

Manga, Aurel (FRA) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2023 French National Championships (Albi, FRA) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	29-Jul-23	time	2.52	3.56	4.62	5.62	6.64	7.64	8.68	9.72	10.78	11.84		13.39	7 / 5			
reaction time	0.166	interval	7 steps	1.04	1.06	1.00	1.02	1.00	1.04	1.04	1.06	1.06	1.55			3.10	3.06	3.16
wind	2.3 m/s	velocity	5.44	8.79	8.62	9.14	8.96	9.14	8.79	8.79	8.62	8.62	9.05	8.22		8.85	8.96	8.68

Heat 2 - 2023 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2023) - diamond league race analysis*

date	16-Jul-23	time	2.45	3.55	4.59	5.63	6.66	7.69	8.72	9.76	10.82	11.88		13.45	1 / 4			

reaction time	0.156	interval	7 steps	1.10	1.04	1.04	1.03	1.03	1.03	1.04	1.06	1.06	1.57			3.18	3.09	3.16
wind	-0.2 m/s	velocity	5.60	8.31	8.79	8.79	8.87	8.87	8.87	8.79	8.62	8.62	8.93	8.18		8.62	8.87	8.68

Heat 2 - 2023 Meeting de Paris (Paris, FRA) *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.41	3.48	4.52	5.55	6.58	7.61	8.67	9.76	10.84	11.92		13.55	1 / 7			
reaction time	0.163	interval	7 steps	1.07	1.04	1.03	1.03	1.03	1.06	1.09	1.08	1.08	1.63			3.14	3.12	3.25
wind	-0.6 m/s	velocity	5.69	8.54	8.79	8.87	8.87	8.87	8.62	8.39	8.46	8.46	8.60	8.12		8.73	8.79	8.44

FINAL - 2023 FBK Games (Hengelo, NED) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	04-Jun-23	time	2.58	3.66	4.72	5.75	6.77	7.82	8.86	9.95	11.03	12.14		13.58	8 / 7			
reaction time	0.151	interval	7 steps	1.08	1.06	1.03	1.02	1.05	1.04	1.09	1.08	1.11	1.44			3.17	3.11	3.28
wind	0.4 m/s	velocity	5.32	8.46	8.62	8.87	8.96	8.70	8.79	8.39	8.46	8.23	9.74	8.10		8.65	8.82	8.36

FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	21-May-22	time	2.47	3.53	4.59	5.67	6.70	7.75	8.80	9.87	10.93	12.03		13.61	7 / 6			
reaction time	0.153	interval	7 steps	1.06	1.06	1.08	1.03	1.05	1.05	1.07	1.06	1.10	1.58			3.20	3.13	3.23
wind	0.7 m/s	velocity	5.55	8.62	8.62	8.46	8.87	8.70	8.70	8.54	8.62	8.31	8.87	8.08		8.57	8.76	8.49

FINAL - 2021 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	28-Aug-21	time	2.44	3.50	4.54	5.58	6.60	7.62	8.64	9.70	10.76	11.84		13.40	7 / 5			
reaction time	0.154	interval	7 steps	1.06	1.04	1.04	1.02	1.02	1.02	1.06	1.06	1.08	1.56			3.14	3.06	3.20
wind	0.7 m/s	velocity	5.62	8.62	8.79	8.79	8.96	8.96	8.96	8.62	8.62	8.46	8.99	8.21		8.73	8.96	8.57

FINAL - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	06-Aug-21	time	2.50	3.58	4.62	5.62	6.64	7.66	8.68	9.70	10.78	11.86		13.38	9 / 8			
reaction time	0.151	interval	7 steps	1.08	1.04	1.00	1.02	1.02	1.02	1.02	1.08	1.08	1.52			3.12	3.06	3.18
wind	-0.5 m/s	velocity	5.49	8.46	8.79	9.14	8.96	8.96	8.96	8.96	8.46	8.46	9.22	8.22		8.79	8.96	8.62

Semi-Final 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.52	3.57	4.60	5.64	6.64	7.65	8.66	9.71	10.72	11.79		13.24	6 / 2			
reaction time	0.151	interval	7 steps	1.05	1.03	1.04	1.00	1.01	1.01	1.05	1.01	1.07	1.45	=PB		3.12	3.02	3.13
wind	0.1 m/s	velocity	5.44	8.70	8.87	8.79	9.14	9.05	9.05	8.70	9.05	8.54	9.67	8.31		8.79	9.08	8.76

Heat 4 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.45	3.52	4.53	5.57	6.61	7.61	8.61	9.64	10.72	11.78		13.24	8 / 1			
reaction time	0.154	interval	7 steps	1.07	1.01	1.04	1.04	1.00	1.00	1.03	1.08	1.06	1.46	=PB		3.12	3.04	3.17
wind	-0.2 m/s	velocity	5.60	8.54	9.05	8.79	8.79	9.14	9.14	8.87	8.46	8.62	9.60	8.31		8.79	9.02	8.65

FINAL - 2021 European Indoor Championships (Toruń, POL) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	07-Mar-21	time	2.42	3.48	4.50	5.52	6.58							7.63	3 / 5			
reaction time	0.152	interval	7 steps	1.06	1.02	1.02	1.06						1.05			3.10		
		velocity	5.67	8.62	8.96	8.96	8.62						9.26	7.86		8.85		

FINAL - 2021 Meeting Elite en Salle de L'Eure (Val-de-Reuil, FRA) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	14-Feb-21	time	2.50	3.58	4.66	5.70	6.74							7.77	6 / 4			
reaction time	0.160	interval	7 steps	1.08	1.08	1.04	1.04						1.03			3.20		
		velocity	5.49	8.46	8.46	8.79	8.79						9.44	7.72		8.57		

Heat 2 - 2021 Meeting Elite en Salle de L'Eure (Val-de-Reuil, FRA) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	14-Feb-21	time	2.58	3.64	4.68	5.72	6.74							7.69	4 / 2			
reaction time	0.176	interval	7 steps	1.06	1.04	1.04	1.02						0.95			3.14		
		velocity	5.32	8.62	8.79	8.79	8.96						10.23	7.80		8.73		

FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Jun-19	time	2.52	3.58	4.66	5.72	6.80	7.86	8.94	10.04	11.12	12.26		13.88	1 / 9			
reaction time	0.163	interval	7 steps	1.06	1.08	1.06	1.08	1.06	1.08	1.10	1.08	1.14	1.62			3.20	3.22	3.32
wind	0.3 m/s	velocity	5.44	8.62	8.46	8.62	8.46	8.62	8.46	8.31	8.46	8.02	8.65	7.93		8.57	8.52	8.26

FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	06-Jun-19	time	2.53	3.60	4.62	5.65	6.71	7.75	8.80	9.88	10.94	12.03		13.51	2 / 6			
reaction time	0.150	interval	7 steps	1.07	1.02	1.03	1.06	1.04	1.05	1.08	1.06	1.09	1.48			3.12	3.15	3.23
wind	0.4 m/s	velocity	5.42	8.54	8.96	8.87	8.62	8.79	8.70	8.46	8.62	8.39	9.47	8.14		8.79	8.70	8.49

FINAL - 2019 French National Indoor Championships (Miramas, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Feb-19	time	2.52	3.58	4.58	5.58	6.58							7.57	4 / 2			
reaction time	0.155	interval	7 steps	1.06	1.00	1.00	1.00						0.99			3.06		
		velocity	5.44	8.62	9.14	9.14	9.14						9.82	7.93		8.96		

FINAL - 2018 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	30-Jun-18	time	2.50	3.56	4.60	5.64	6.66	7.70	8.74	9.78	10.86	11.94		13.48	8 / 7			
reaction time	0.157	interval	7 steps	1.06	1.04	1.04	1.02	1.04	1.04	1.04	1.08	1.08	1.54			3.14	3.10	3.20
wind	1.5 m/s	velocity	5.49	8.62	8.79	8.79	8.96	8.79	8.79	8.79	8.46	8.46	9.10	8.16		8.73	8.85	8.57

FINAL - 2018 Shanghai Diamond League (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	12-May-18	time	2.52	3.60	4.70	5.76	6.82	7.90	8.96	10.04	11.16	12.28		13.86	9 / 9			
reaction time	0.147	interval	7 steps	1.08	1.10	1.06	1.06	1.08	1.06	1.08	1.12	1.12	1.58			3.24	3.20	3.32
wind	0.2 m/s	velocity	5.44	8.46	8.31	8.62	8.62	8.46	8.62	8.46	8.16	8.16	8.87	7.94		8.46	8.57	8.26

FINAL - 2018 IAAF World Indoor Championships (Birmingham, GBR) *Walker (2019). Biomechanical Report for the IAAF World Indoor Championships 2018: 60m Hurdles Men*

date	04-Mar-18	time	2.57	3.63	4.68	5.69	6.68							7.54	5 / 3			
reaction time	0.169	interval	7 steps	1.06	1.05	1.01	0.99						0.86			3.12		
		velocity	5.34	8.62	8.70	9.05	9.23						11.30	7.96		8.79		

FINAL - 2017 Bauhaus Athletics (Stockholm, SWE) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	18-Jun-17	time	2.46	3.48	4.50	5.54	6.54	7.56	8.58	9.62	10.70	11.78		13.30	6 / 4			
reaction time	0.147	interval	7 steps	1.02	1.02	1.04	1.00	1.02	1.02	1.04	1.08	1.08	1.52			3.08	3.04	3.20
wind	3.5 m/s	velocity	5.58	8.96	8.96	8.79	9.14	8.96	8.96	8.79	8.46	8.46	9.22	8.27		8.90	9.02	8.57

FINAL - 2016 Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	09-Sep-16	time	2.50	3.57	4.60	5.62	6.64	7.69	8.75	9.81	10.91	12.06		13.64	1 / 9			
reaction time	0.173	interval	7 steps	1.07	1.03	1.02	1.02	1.05	1.06	1.06	1.10	1.15	1.58			3.12	3.13	3.31
wind	0.2 m/s	velocity	5.49	8.54	8.87	8.96	8.96	8.70	8.62	8.62	8.31	7.95	8.87	8.06		8.79	8.76	8.28

FINAL - 2016 London Anniversary Games (London, GBR) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	23-Jul-16	time	2.46	3.52	4.58	5.62	6.63	7.74	8.82	9.88	11.02	12.08		13.59	9 / 4			
reaction time	0.155	interval	7 steps	1.06	1.06	1.04	1.01	1.11	1.08	1.06	1.14	1.06	1.51			3.16	3.20	3.26
wind	-1.0 m/s	velocity	5.58	8.62	8.62	8.79	9.05	8.23	8.46	8.62	8.02	8.62	9.28	8.09		8.68	8.57	8.41

Manninen, Ilari (FIN) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2020 Paavo Nurmi Games (Turku, FIN) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	11-Aug-20	time	2.60	3.70	4.80	5.90	7.00	8.08	9.21	10.31	11.44	12.58		14.11	1 / 7			
reaction time	0.201	interval	7 steps	1.10	1.10	1.10	1.10	1.08	1.13	1.10	1.13	1.14	1.53			3.30	3.31	3.37
wind	1.1 m/s	velocity	5.28	8.31	8.31	8.31	8.31	8.46	8.09	8.31	8.09	8.02	9.16	7.80		8.31	8.28	8.14

Mao Chenchen (CHN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

U18 FINAL - 2019 Chinese National Youth Games (Taiyuan, CHN) (91cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.67	3.82	4.93	6.02	7.09	8.19	9.29	10.44	11.59	12.73		14.35	5 / 3			
reaction time	0.162	interval		1.15	1.11	1.09	1.07	1.10	1.10	1.15	1.15	1.14	1.62			3.35	3.27	3.44
wind	-0.1 m/s	velocity	5.14	7.95	8.23	8.39	8.54	8.31	8.31	7.95	7.95	8.02	8.65	7.67		8.19	8.39	7.97

Marshall, Jamar (USA) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.50	3.60	4.60	5.60	6.65	7.69	8.70	9.73	10.80	11.88		13.38	1 / ~~6~~			
reaction time	0.137	interval	7 steps	1.10	1.00	1.00	1.05	1.04	1.01	1.03	1.07	1.08	1.50	DQ		3.10	3.10	3.18
wind	1.2 m/s	velocity	5.49	8.31	9.14	9.14	8.70	8.79	9.05	8.87	8.54	8.46	9.35	8.22		8.85	8.85	8.62

FINAL - 2021 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	11-Jun-21	time	2.50	3.53	4.57	5.60	6.60	7.60	8.63	9.70	10.80	11.93		13.53	7 / 5			
reaction time	0.161	interval	7 steps	1.03	1.04	1.03	1.00	1.00	1.03	1.07	1.10	1.13	1.60			3.10	3.03	3.30
wind	-0.6 m/s	velocity	5.49	8.87	8.79	8.87	9.14	9.14	8.87	8.54	8.31	8.09	8.76	8.13		8.85	9.05	8.31

Martinez, Asier (ESP) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2025 European Athletics Indoor Championships (Apeldoorn, NED) *European Athletics (2025) - european athletics indoor championships results book*

date	07-Mar-25	time	2.43	3.49	4.51	5.54	6.58							7.68	8 / 7			
reaction time	0.146	interval	7 steps	1.06	1.02	1.03	1.04						1.10			3.11		
		velocity	5.65	8.62	8.96	8.87	8.79						8.84	7.81		8.82		

Semi-Final 1 - 2025 European Athletics Indoor Championships (Apeldoorn, NED) *European Athletics (2025) - european athletics indoor championships results book*

date	07-Mar-25	time	2.41	3.47	4.50	5.51	6.52							7.56	6 / 4			
reaction time	0.129	interval	7 steps	1.06	1.03	1.01	1.01						1.04			3.10		
		velocity	5.69	8.62	8.87	9.05	9.05						9.35	7.94		8.85		

FINAL - 2024 Golden Gala • Pietro Mennea (Roma, ITA) *Omega Timing (2024) - diamond league race analysis*

date	30-Aug-24	time	2.45	3.52	4.53	5.53	6.54	7.57	8.59	9.62	10.66	11.71		13.27	2 / 2			
reaction time	0.157	interval	7 steps	1.07	1.01	1.00	1.01	1.03	1.02	1.03	1.04	1.05	1.56			3.08	3.06	3.12
wind	0.4 m/s	velocity	5.60	8.54	9.05	9.14	9.05	8.87	8.96	8.87	8.79	8.70	8.99	8.29		8.90	8.96	8.79

Semi-Final 3 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	2.38	3.47	4.51	5.51	6.53	7.55	8.58	9.62	10.66	11.73		13.35	2 / 5			
reaction time	0.130	interval	7 steps	1.09	1.04	1.00	1.02	1.02	1.03	1.04	1.04	1.07	1.62			3.13	3.07	3.15
wind	0.6 m/s	velocity	5.76	8.39	8.79	9.14	8.96	8.96	8.87	8.79	8.79	8.54	8.65	8.24		8.76	8.93	8.70

Repechage 1 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	06-Aug-24	time	2.50	3.58	4.62	5.65	6.68	7.70	8.73	9.76	10.80	11.86		13.46	5 / 2			
reaction time	0.162	interval	7 steps	1.08	1.04	1.03	1.03	1.02	1.03	1.03	1.04	1.06	1.60			3.15	3.08	3.13
wind	0.2 m/s	velocity	5.49	8.46	8.79	8.87	8.87	8.96	8.87	8.87	8.79	8.62	8.76	8.17		8.70	8.90	8.76

Heat 2 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.46	3.56	4.62	5.65	6.69	7.73	8.77	9.82	10.86	11.92		13.47	5 / 4				
reaction time	0.141	interval	7 steps	1.10	1.06	1.03	1.04	1.04	1.04	1.05	1.04	1.06	1.55			3.19	3.12	3.15	
wind	1.2 m/s	velocity	5.58	8.31	8.62	8.87	8.79	8.79	8.79	8.70	8.79	8.62	9.05	8.17		8.60	8.79	8.70	

FINAL - 2024 Meeting de Paris (Paris, FRA) *Omega Timing (2024) - diamond league race analysis*

date	07-Jul-24	time	2.43	3.51	4.55	5.58	6.60	7.61	8.63	9.67	10.72	11.77		13.35	2 / 7				
reaction time	0.139	interval	7 steps	1.08	1.04	1.03	1.02	1.01	1.02	1.04	1.05	1.05	1.58			3.15	3.05	3.14	
wind	-0.6 m/s	velocity	5.65	8.46	8.79	8.87	8.96	9.05	8.96	8.79	8.70	8.70	8.87	8.24		8.70	8.99	8.73	

Heat 2 - 2024 Meeting de Paris (Paris, FRA) *Omega Timing (2024) - diamond league race analysis*

date	07-Jul-24	time	2.43	3.52	4.55	5.57	6.58	7.60	8.63	9.66	10.71	11.76		13.32	8 / 3				
reaction time	0.140	interval	7 steps	1.09	1.03	1.02	1.01	1.02	1.03	1.03	1.05	1.05	1.56			3.14	3.06	3.13	
wind	0.4 m/s	velocity	5.65	8.39	8.87	8.96	9.05	8.96	8.87	8.87	8.70	8.70	8.99	8.26		8.73	8.96	8.76	

FINAL - 2024 European Athletics Championships (Roma, ITA) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	08-Jun-24	time	2.60	3.66	4.67	5.67	6.68	7.72	8.76	9.80	10.86	11.95		13.45	4 / =4				
reaction time	0.165	interval	7 steps	1.06	1.01	1.00	1.01	1.04	1.04	1.04	1.06	1.09	1.50			3.07	3.09	3.19	
wind	0.6 m/s	velocity	5.28	8.62	9.05	9.14	9.05	8.79	8.79	8.79	8.62	8.39	9.35	8.18		8.93	8.87	8.60	

FINAL - 2024 Prefontaine Classic (Eugene, OR) *Omega Timing (2024) - diamond league race analysis*

date	25-May-24	time	2.46	3.53	4.56	5.57	6.59	7.61	8.63	9.66	10.70	11.75		13.31	1 / 6				
reaction time	0.136	interval	7 steps	1.07	1.03	1.01	1.02	1.02	1.02	1.03	1.04	1.05	1.56			3.11	3.06	3.12	
wind	-0.1 m/s	velocity	5.58	8.54	8.87	9.05	8.96	8.96	8.96	8.87	8.79	8.70	8.99	8.26		8.82	8.96	8.79	

FINAL - 2022 Weltklasse (Zürich, SUI) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	08-Sep-22	time	2.57	3.65	4.68	5.70	6.71	7.74	8.74	9.81	10.84	11.88		13.29	3 / 4				
reaction time	0.144	interval	7 steps	1.08	1.03	1.02	1.01	1.03	1.00	1.07	1.03	1.04	1.41			3.13	3.04	3.14	
wind	-1.0 m/s	velocity	5.34	8.46	8.87	8.96	9.05	8.87	9.14	8.54	8.87	8.79	9.94	8.28		8.76	9.02	8.73	

FINAL - 2022 European Athletics Championships (Munich, GER) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Aug-22	time	2.56	3.60	4.60	5.60	6.62	7.62	8.64	9.66	10.68	11.74		13.14	4 / 1				
reaction time	0.149	interval	7 steps	1.04	1.00	1.00	1.02	1.00	1.02	1.02	1.02	1.06	1.40	**PB**		3.04	3.04	3.10	
wind	-0.2 m/s	velocity	5.36	8.79	9.14	9.14	8.96	9.14	8.96	8.96	8.96	8.62	10.01	8.37		9.02	9.02	8.85	

FINAL - 2022 World Athletics Championships (Eugene, OR) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	17-Jul-22	time	2.62	3.70	4.72	5.73	6.73	7.74	8.75	9.75	10.78	11.83		13.17	8 / 3				
reaction time	0.126	interval	7 steps	1.08	1.02	1.01	1.00	1.01	1.01	1.00	1.03	1.05	1.34	**PB**		3.11	3.02	3.08	
wind	1.2 m/s	velocity	5.24	8.46	8.96	9.05	9.14	9.05	9.05	9.14	8.87	8.70	10.46	8.35		8.82	9.08	8.90	

Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.66	3.70	4.74	5.76	6.80	7.80	8.83	9.83	10.83	11.87		13.26	6 / 2				
reaction time	0.141	interval	7 steps	1.04	1.04	1.02	1.04	1.00	1.03	1.00	1.00	1.04	1.39			3.10	3.07	3.04	
wind	0.3 m/s	velocity	5.16	8.79	8.79	8.96	8.79	9.14	8.87	9.14	9.14	8.79	10.09	8.30		8.85	8.93	9.02	

Heat 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.56	3.60	4.60	5.60	6.63	7.66	8.70	9.73	10.80	11.83		13.37	2 / 1				
reaction time	0.137	interval	7 steps	1.04	1.00	1.00	1.03	1.03	1.04	1.03	1.07	1.03	1.54			3.04	3.10	3.13	
wind	-0.3 m/s	velocity	5.36	8.79	9.14	9.14	8.87	8.87	8.79	8.87	8.54	8.87	9.10	8.23		9.02	8.85	8.76	

FINAL - 2022 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	18-Jun-22	time	2.58	3.64	4.66	5.68	6.68	7.70	8.76	9.84	10.92	12.02		13.69	6 / 7				
reaction time	0.161	interval	7 steps	1.06	1.02	1.02	1.00	1.02	1.06	1.08	1.08	1.10	1.67			3.10	3.08	3.26	
wind	-0.2 m/s	velocity	5.32	8.62	8.96	8.96	9.14	8.96	8.62	8.46	8.46	8.31	8.40	8.04		8.85	8.90	8.41	

FINAL - 2022 Bislett Games (Oslo, NOR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jun-22	time	2.56	3.62	4.64	5.66	6.68	7.70	8.72	9.76	10.80	11.84		13.30	6 / 2				
reaction time	0.137	interval	7 steps	1.06	1.02	1.02	1.02	1.02	1.02	1.04	1.04	1.04	1.46			3.10	3.06	3.12	
wind	-1.2 m/s	velocity	5.36	8.62	8.96	8.96	8.96	8.96	8.96	8.79	8.79	8.79	9.60	8.27		8.85	8.96	8.79	

FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	21-May-22	time	2.50	3.57	4.60	5.63	6.68	7.68	8.73	9.77	10.80	11.87		13.32	6 / 3				
reaction time	0.150	interval	7 steps	1.07	1.03	1.03	1.05	1.00	1.05	1.04	1.03	1.07	1.45			3.13	3.10	3.14	
wind	0.7 m/s	velocity	5.49	8.54	8.87	8.87	8.70	9.14	8.70	8.79	8.87	8.54	9.67	8.26		8.76	8.85	8.73	

FINAL - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.50	3.54	4.58	5.58	6.58							7.57	2 / 4				
reaction time	0.150	interval	7 steps	1.04	1.04	1.00	1.00						0.99			3.08			
		velocity	5.49	8.79	8.79	9.14	9.14						9.82	7.93		8.90			

Semi-Final 2 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.50	3.56	4.58	5.58	6.62							7.55	2 / 3				

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

reaction time	0.138	interval	7 steps	1.06	1.02	1.00	1.04						0.93	=PB		3.08		
		velocity		5.49	8.62	8.96	9.14	8.79					10.45	7.95		8.90		

FINAL - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	06-Aug-21	time	2.56	3.60	4.64	5.66	6.66	7.68	8.70	9.72	10.76	11.80		13.22	2 / 6			
reaction time	0.155	interval	7 steps	1.04	1.04	1.02	1.00	1.02	1.02	1.02	1.04	1.04	1.42	PB		3.10	3.04	3.10
wind	-0.5 m/s	velocity		5.36	8.79	8.79	8.96	9.14	8.96	8.96	8.96	8.79	8.79	9.87	8.32		8.85	9.02	8.85

Semi-Final 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.57	3.59	4.63	5.65	6.67	7.70	8.76	9.80	10.83	11.83		13.27	6 / 3			
reaction time	0.150	interval	7 steps	1.02	1.04	1.02	1.02	1.03	1.06	1.04	1.03	1.00	1.44	PB		3.08	3.11	3.07
wind	0.3 m/s	velocity		5.34	8.96	8.79	8.96	8.96	8.87	8.62	8.79	8.87	9.14	9.74	8.29		8.90	8.82	8.93

Heat 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.70	3.72	4.73	5.77	6.79	7.81	8.86	9.89	10.90	11.97		13.32	7 / 1			
reaction time	0.146	interval	7 steps	1.02	1.01	1.04	1.02	1.02	1.05	1.03	1.01	1.07	1.35			3.07	3.09	
wind	-0.1 m/s	velocity		5.08	8.96	9.05	8.79	8.96	8.96	8.70	8.87	9.05	8.54	10.39	8.26		8.93	8.87	

FINAL - 2021 European Indoor Championships (Toruń, POL) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	07-Mar-21	time	2.50	3.54	4.56	5.58	6.62							7.60	8 / 4			
reaction time	0.150	interval	7 steps	1.04	1.02	1.02	1.04						0.98	PB		3.08		
		velocity		5.49	8.79	8.96	8.96	8.79					9.92	7.89		8.90		

FINAL - 2021 Villa de Madrid (Madrid, ESP) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Feb-21	time	2.48	3.54	4.56	5.58	6.59							7.61	4 / 4			
reaction time		interval	7 steps	1.06	1.02	1.02	1.01						1.02	=PB		3.10		
		velocity		5.53	8.62	8.96	8.96	9.05					9.53	7.88		8.85		

Heat 1 - 2021 Villa de Madrid (Madrid, ESP) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Feb-21	time	2.52	3.56	4.57	5.58	6.60							7.61	4 / 2			
reaction time	0.131	interval	7 steps	1.04	1.01	1.01	1.02						1.01	PB		3.06		
		velocity		5.44	8.79	9.05	9.05	8.96					9.62	7.88		8.96		

Martinot Lagarde, Pascal (FRA) (199	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2023 French National Championships (Albi, FRA) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	29-Jul-23	time	2.52	3.56	4.58	5.60	6.60	7.62	8.64	9.66	10.70	11.76		13.25	2 / 4			
reaction time	0.180	interval	7 steps	1.04	1.02	1.02	1.00	1.02	1.02	1.02	1.04	1.06	1.49			3.08	3.04	3.12
wind	2.3 m/s	velocity		5.44	8.79	8.96	8.96	9.14	8.96	8.96	8.96	8.79	8.62	9.41	8.30		8.90	9.02	8.79

Heat 2 - 2023 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2023) - diamond league race analysis*

date	16-Jul-23	time	2.45	3.55	4.60	5.64	6.69	7.74	8.79	9.85	10.91	11.99		13.59	3 / 7			
reaction time	0.153	interval	7 steps	1.10	1.05	1.04	1.05	1.05	1.05	1.06	1.06	1.08	1.60			3.19	3.15	3.20
wind	-0.2 m/s	velocity		5.60	8.31	8.70	8.79	8.70	8.70	8.70	8.62	8.62	8.46	8.76	8.09		8.60	8.70	8.57

Heat 2 - 2023 Meeting de Paris (Paris, FRA) *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.42	3.49	4.52	5.56	6.59	7.63	8.68	9.73	10.79	11.85		13.45	3 / 5			
reaction time	0.156	interval	7 steps	1.07	1.03	1.04	1.03	1.04	1.05	1.05	1.06	1.06	1.60			3.14	3.12	3.17
wind	-0.6 m/s	velocity		5.67	8.54	8.87	8.79	8.87	8.79	8.70	8.70	8.62	8.62	8.76	8.18		8.73	8.79	8.65

FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) *Omega Timing (2023) - diamond league race analysis*

date	28-May-23	time	2.45	3.53	4.57	5.64	6.68	7.75	8.82	9.89	10.97	12.07		13.69	2 / 7			
reaction time	0.183	interval	7 steps	1.08	1.04	1.07	1.04	1.07	1.07	1.07	1.08	1.10	1.62			3.19	3.18	3.25
wind	-1.3 m/s	velocity		5.60	8.46	8.79	8.54	8.79	8.54	8.54	8.54	8.46	8.31	8.65	8.04		8.60	8.62	8.44

FINAL - 2022 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	26-Aug-22	time	2.60	3.65	4.70	5.74	6.76	7.81	8.84	9.91	10.99	12.09		13.58	7 / 7			
reaction time	0.155	interval	7 steps	1.05	1.05	1.04	1.02	1.05	1.03	1.07	1.08	1.10	1.49			3.14	3.10	3.25
wind	0.0 m/s	velocity		5.28	8.70	8.70	8.79	8.96	8.70	8.87	8.54	8.46	8.31	9.41	8.10		8.73	8.85	8.44

FINAL - 2022 European Athletics Championships (Munich, GER) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Aug-22	time	2.52	3.54	4.58	5.58	6.56	7.58	8.60	9.62	10.64	11.70		13.14	5 / 2			
reaction time	0.167	interval	7 steps	1.02	1.04	1.00	0.98	1.02	1.02	1.02	1.02	1.06	1.44			3.06	3.02	3.10
wind	-0.2 m/s	velocity		5.44	8.96	8.79	9.14	9.33	8.96	8.96	8.96	8.96	8.62	9.74	8.37		8.96	9.08	8.85

FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	10-Aug-22	time	2.46	3.53	4.53	5.53	6.53	7.56	8.60	9.63	10.66	11.76		13.26	8 / 6			
reaction time	0.137	interval	7 steps	1.07	1.00	1.00	1.00	1.03	1.04	1.03	1.03	1.10	1.50			3.07	3.07	3.16
wind	0.6 m/s	velocity		5.58	8.54	9.14	9.14	9.14	8.87	8.79	8.87	8.87	8.31	9.35	8.30		8.93	8.93	8.68

Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.50	3.56	4.60	5.63	6.63	7.66	8.70	9.76	10.83	11.90		13.40	1 / 4			
reaction time	0.129	interval	7 steps	1.06	1.04	1.03	1.00	1.03	1.04	1.06	1.07	1.07	1.50			3.13	3.07	3.20
wind	0.3 m/s	velocity		5.49	8.62	8.79	8.87	9.14	8.87	8.79	8.62	8.54	8.54	9.35	8.21		8.76	8.93	8.57

Heat 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.53	3.56	4.60	5.63	6.66	7.70	8.76	9.80	10.86	11.96		13.49	1 / 5			
reaction time	0.134	interval	7 steps	1.03	1.04	1.03	1.03	1.04	1.06	1.04	1.06	1.10	1.53			3.10	3.13	3.20
wind	-0.5 m/s	velocity	5.42	8.87	8.79	8.87	8.87	8.79	8.62	8.79	8.62	8.31	9.16	8.15		8.85	8.76	8.57

FINAL - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.46	3.50	4.52	5.52	6.54							7.50	5 / 2			
reaction time	0.154	interval	7 steps	1.04	1.02	1.00	1.02						0.96			3.06		
		velocity	5.58	8.79	8.96	9.14	8.96						10.13	8.00		8.96		

Semi-Final 2 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.50	3.52	4.54	5.54	6.56							7.53	4 / 2			
reaction time	0.136	interval	7 steps	1.02	1.02	1.00	1.02						0.97			3.04		
		velocity	5.49	8.96	8.96	9.14	8.96						10.02	7.97		9.02		

Heat 2 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.51	3.56	4.60	5.65	6.70							7.69	3 / 2			
reaction time	0.137	interval	7 steps	1.05	1.04	1.05	1.05						0.99			3.14		
		velocity	5.47	8.70	8.79	8.70	8.70						9.82	7.80		8.73		

FINAL - 2022 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	17-Feb-22	time	2.43	3.46	4.46	5.46	6.46							7.46	6 / 2			
reaction time	0.144	interval	7 steps	1.03	1.00	1.00	1.00						1.00			3.03		
		velocity	5.65	8.87	9.14	9.14	9.14						9.72	8.04		9.05		

FINAL - 2021 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	28-Aug-21	time	2.46	3.48	4.50	5.52	6.54	7.58	8.66						3 / --			
reaction time	0.150	interval	7 steps	1.02	1.02	1.02	1.02	1.04	1.08					DQ		3.06	3.14	
wind	0.7 m/s	velocity	5.58	8.96	8.96	8.96	8.96	8.79	8.46							8.96	8.73	

FINAL - 2021 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Aug-21	time	2.52	3.54	4.56	5.56	6.56	7.56	8.60	9.62	10.68	11.72		13.17	2 / 3			
reaction time	0.149	interval	7 steps	1.02	1.02	1.00	1.00	1.00	1.04	1.02	1.06	1.04	1.45			3.04	3.04	3.12
wind	2.5 m/s	velocity	5.44	8.96	8.96	9.14	9.14	9.14	8.79	8.96	8.62	8.79	9.67	8.35		9.02	9.02	8.79

FINAL - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	06-Aug-21	time	2.48	3.52	4.54	5.54	6.54	7.56	8.56	9.58	10.62	11.70		13.16	8 / 5			
reaction time	0.120	interval	7 steps	1.04	1.02	1.00	1.00	1.02	1.00	1.02	1.04	1.08	1.46			3.06	3.02	3.14
wind	-0.5 m/s	velocity	5.53	8.79	8.96	9.14	9.14	8.96	9.14	8.96	8.79	8.46	9.60	8.36		8.96	9.08	8.73

Semi-Final 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.52	3.57	4.58	5.58	6.59	7.62	8.67	9.71	10.72	11.76		13.25	4 / 2			
reaction time	0.155	interval	7 steps	1.05	1.01	1.00	1.01	1.03	1.05	1.04	1.01	1.04	1.49			3.06	3.09	3.09
wind	0.3 m/s	velocity	5.44	8.70	9.05	9.14	9.05	8.87	8.70	8.79	9.05	8.79	9.41	8.30		8.96	8.87	8.87

Heat 5 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.58	3.66	4.66	5.66	6.67	7.65	8.66	9.70	10.81	11.87		13.37	3 / 2			
reaction time	0.155	interval	7 steps	1.08	1.00	1.00	1.01	0.98	1.01	1.04	1.11	1.06	1.50			3.08	3.00	3.21
wind	-0.1 m/s	velocity	5.32	8.46	9.14	9.14	9.05	9.33	9.05	8.79	8.23	8.62	9.35	8.23		8.90	9.14	8.54

FINAL - 2021 Golden Gala Pietro Mennea (Florence, ITA) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	10-Jun-21	time	2.56	3.64	4.74	5.80	6.88	7.98	9.08	10.24	11.42	12.58		14.26	7 / 8			
reaction time	0.162	interval	7 steps	1.08	1.10	1.06	1.08	1.10	1.10	1.16	1.18	1.16	1.68			3.24	3.28	3.50
wind	-0.1 m/s	velocity	5.36	8.46	8.31	8.62	8.46	8.31	8.31	7.88	7.75	7.88	8.35	7.71		8.46	8.36	7.83

FINAL - 2020 Meeting Pro Athlé Tour de Marseille (Marseille, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	03-Sep-20	time	2.56	3.60	4.67	5.65	6.70	7.74	8.78	9.86	11.00	12.06		13.63	4 / 3			
reaction time		interval	7 steps	1.04	1.07	0.98	1.05	1.04	1.04	1.08	1.14	1.06	1.57			3.09	3.13	3.28
wind	-0.3 m/s	velocity	5.36	8.79	8.54	9.33	8.70	8.79	8.79	8.46	8.02	8.62	8.93	8.07		8.87	8.76	8.36

FINAL - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.55	3.59	4.61	5.61	6.61	7.63	8.64	9.65	10.69	11.75		13.18	7 / 3			
reaction time	0.161	interval	7 steps	1.04	1.02	1.00	1.00	1.02	1.01	1.01	1.04	1.06	1.43			3.06	3.03	3.11
wind	0.6 m/s	velocity	5.38	8.79	8.96	9.14	9.14	8.96	9.05	9.05	8.79	8.62	9.80	8.35		8.96	9.05	8.82

Semi-Final 2 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.55	3.60	4.61	5.61	6.62	7.62	8.62	9.65	10.68	11.73		13.12	6 / 2			
reaction time	0.163	interval	7 steps	1.05	1.01	1.00	1.01	1.00	1.00	1.03	1.03	1.05	1.39			3.06	3.01	3.11
wind	0.9 m/s	velocity	5.38	8.70	9.05	9.14	9.05	9.14	9.14	8.87	8.87	8.70	10.09	8.38		8.96	9.11	8.82

Heat 3 - 2019 IAAF World Championships (Doha, QAT) (TV Analysis) *Henson (2021) - Athlete First: 2019 year end hurdle report*

date	30-Sep-19	time	2.48	3.52	4.56	5.58	6.60	7.62	8.68	9.72	10.80	11.90		13.45	5 / ~~2~~ 1			

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

reaction time	0.160	interval	7 steps	1.04	1.04	1.02	1.02	1.02	1.06	1.04	1.08	1.10	1.55			3.10	3.10	3.22
wind	-0.4 m/s	velocity	5.53	8.79	8.79	8.96	8.96	8.96	8.62	8.79	8.46	8.31	9.05	8.18		8.85	8.85	8.52

FINAL - 2019 ISTAF (Berlin, GER) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	01-Sep-19	time	2.53	3.56	4.58	5.58	6.58	7.62	8.63	9.65	10.70	11.78		13.25	7 / 2			
reaction time	0.158	interval	7 steps	1.03	1.02	1.00	1.00	1.04	1.01	1.02	1.05	1.08	1.47			3.05	3.05	3.15
wind	0.8 m/s	velocity	5.42	8.87	8.96	9.14	9.14	8.79	9.05	8.96	8.70	8.46	9.54	8.30		8.99	8.99	8.70

FINAL - 2019 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	24-Aug-19	time	2.50	3.54	4.56	5.56	6.56	7.58	8.58	9.62	10.66	11.76		13.24	2 / 5			
reaction time	0.165	interval	7 steps	1.04	1.02	1.00	1.00	1.02	1.00	1.04	1.04	1.10	1.48			3.06	3.02	3.18
wind	0.8 m/s	velocity	5.49	8.79	8.96	9.14	9.14	8.96	9.14	8.79	8.79	8.31	9.47	8.31		8.96	9.08	8.62

FINAL - 2019 Müller Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	21-Jul-19	time	2.45	3.51	4.55	5.58	6.60	7.63	8.66	9.73	10.80	11.90		13.49	8 / 4			
reaction time	0.152	interval	7 steps	1.06	1.04	1.03	1.02	1.03	1.03	1.07	1.07	1.10	1.59			3.13	3.08	3.24
wind	0.4 m/s	velocity	5.60	8.62	8.79	8.87	8.96	8.87	8.87	8.54	8.54	8.31	8.82	8.15		8.76	8.90	8.46

FINAL - 2019 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	05-Jul-19	time	2.56	3.60	4.60	5.60	6.62	7.64	8.66	9.68	10.76	11.84		13.34	2 / 6			
reaction time	0.157	interval	7 steps	1.04	1.00	1.00	1.02	1.02	1.02	1.02	1.08	1.08	1.50			3.04	3.06	3.18
wind	1.0 m/s	velocity	5.36	8.79	9.14	9.14	8.96	8.96	8.96	8.96	8.46	8.46	9.35	8.25		9.02	8.96	8.62

FINAL - 2019 French National Indoor Championships (Miramas, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Feb-19	time	2.48	3.52	4.54	5.54	6.54							7.52	5 / 1			
reaction time	0.150	interval	7 steps	1.04	1.02	1.00	1.00						0.98			3.06		
		velocity	5.53	8.79	8.96	9.14	9.14						9.92	7.98		8.96		

FINAL - 2018 IAAF Continental Cup (Ostrava, CZE) (TV Analysis) *Henson (2021) - Athlete First: 2018 year end hurdle report*

date	09-Sep-18	time	2.48	3.56	4.58	5.60	6.60	7.60	8.60	9.64	10.70	11.78		13.31	6 / 3			
reaction time	0.146	interval	7 steps	1.08	1.02	1.02	1.00	1.00	1.00	1.04	1.06	1.08	1.53			3.12	3.00	3.18
wind	0.9 m/s	velocity	5.53	8.46	8.96	8.96	9.14	9.14	9.14	8.79	8.62	8.46	9.16	8.26		8.79	9.14	8.62

FINAL - 2018 AG Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	31-Aug-18	time	2.50	3.54	4.56	5.58	6.58	7.64	8.68	9.74	10.80	11.88		13.36	3 / 4			
reaction time	0.153	interval	7 steps	1.04	1.02	1.02	1.00	1.06	1.04	1.06	1.06	1.08	1.48			3.08	3.10	3.20
wind	-0.1 m/s	velocity	5.49	8.79	8.96	8.96	9.14	8.62	8.79	8.62	8.62	8.46	9.47	8.23		8.90	8.85	8.57

FINAL - 2018 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	18-Aug-18	time	2.46	3.52	4.56	5.56	6.54	7.58	8.58	9.60	10.62	11.70		13.27	7 / 3			
reaction time	0.166	interval	7 steps	1.06	1.04	1.00	0.98	1.04	1.00	1.02	1.02	1.08	1.57			3.10	3.02	3.12
wind	1.3 m/s	velocity	5.58	8.62	8.79	9.14	9.33	8.79	9.14	8.96	8.96	8.46	8.93	8.29		8.85	9.08	8.79

FINAL - 2018 Herculis Meeting International d'Athletisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	20-Jul-18	time	2.46	3.50	4.52	5.52	6.52	7.52	8.56	9.60	10.64	11.70		13.20	6 / 3			
reaction time	0.157	interval	7 steps	1.04	1.02	1.00	1.00	1.00	1.04	1.04	1.04	1.06	1.50			3.06	3.04	3.14
wind	-0.2 m/s	velocity	5.58	8.79	8.96	9.14	9.14	9.14	8.79	8.79	8.79	8.62	9.35	8.33		8.96	9.02	8.73

FINAL - 2018 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	05-Jul-18	time	2.57	3.59	4.63	5.63	6.64	7.68	8.70	9.72	10.80	11.86		13.30	3 / 3			
reaction time	0.147	interval	7 steps	1.02	1.04	1.00	1.01	1.04	1.02	1.02	1.08	1.06	1.44			3.06	3.07	3.16
wind	0.6 m/s	velocity	5.34	8.96	8.79	9.14	9.05	8.79	8.96	8.96	8.46	8.62	9.74	8.27		8.96	8.93	8.68

FINAL - 2018 Meeting International de Montreuil (Montreuil, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	19-Jun-18	time	2.58	3.62	4.66	5.68	6.68	7.68	8.70	9.72	10.74	11.86		13.28	4 / 3			
reaction time	0.156	interval	7 steps	1.04	1.04	1.02	1.00	1.00	1.02	1.02	1.02	1.12	1.42			3.10	3.02	3.16
wind	0.5 m/s	velocity	5.32	8.79	8.79	8.96	9.14	9.14	8.96	8.96	8.96	8.16	9.87	8.28		8.85	9.08	8.68

FINAL - 2018 IAAF World Indoor Championships (Birmingham, GBR) *Walker (2019). Biomechanical Report for the IAAF World Indoor Championships 2018: 60 Metres Hurdles Men*

date	04-Mar-18	time	2.55	3.61	4.70	5.74	6.77							7.68	3 / 5			
reaction time	0.154	interval	*7 steps*	1.06	1.09	1.04	1.03						0.91			3.19		
		velocity	5.38	8.62	8.39	8.79	8.87						10.68	7.81		8.60		

FINAL - 2017 European Indoor Championships (Beograd, SRB) *(2017.03.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	03-Mar-17	time	2.59	3.63	4.64	5.65	6.65							7.52	4 / 2			
reaction time		interval	*7 steps*	1.04	1.01	1.01	1.00						0.87			3.06		
		velocity	5.30	8.79	9.05	9.05	9.14						11.17	7.98		8.96		

FINAL - 2016 Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	09-Sep-16	time	2.48	3.50	4.50	5.50	6.50	7.50	8.50	9.54	10.57	11.64		13.12	6 / 2			
reaction time	0.160	interval	7 steps	1.02	1.00	1.00	1.00	1.00	1.00	1.04	1.03	1.07	1.48			3.02	3.00	3.14
wind	0.2 m/s	velocity	5.53	8.96	9.14	9.14	9.14	9.14	9.14	8.79	8.87	8.54	9.47	8.38		9.08	9.14	8.73

FINAL - 2016 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	25-Aug-16	time	2.52	3.56	4.58	5.60	6.62	7.64	8.68	9.72	10.76	11.84		13.37	2 / 6		
reaction time	0.146	interval	7 steps	1.04	1.02	1.02	1.02	1.02	1.04	1.04	1.04	1.08	1.53			3.08	3.08	3.16
wind	0.5 m/s	velocity	5.44	8.79	8.96	8.96	8.96	8.96	8.79	8.79	8.79	8.46	9.16	8.23		8.90	8.90	8.68

FINAL - 2016 Olympic Games (Rio de Janeiro, BRA) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	16-Aug-16	time	2.46	3.50	4.52	5.54	6.56	7.56	8.60	9.66	10.72	11.80		13.29	4 / 4		
reaction time	0.142	interval	7 steps	1.04	1.02	1.02	1.02	1.00	1.04	1.06	1.06	1.08	1.49			3.08	3.06	3.20
wind	0.2 m/s	velocity	5.58	8.79	8.96	8.96	8.96	9.14	8.79	8.62	8.62	8.46	9.41	8.28		8.90	8.96	8.57

FINAL - 2016 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	15-Jul-16	time	2.44	3.50	4.52	5.54	6.56	7.56	8.56	9.58	10.60	11.68		13.17	4 / 3		
reaction time	0.132	interval	7 steps	1.06	1.02	1.02	1.02	1.00	1.00	1.02	1.02	1.08	1.49			3.10	3.02	3.12
wind	0.0 m/s	velocity	5.62	8.62	8.96	8.96	8.96	9.14	9.14	8.96	8.96	8.46	9.41	8.35		8.85	9.08	8.79

FINAL - 2016 Golden Gala Pietro Mennea (Roma, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	02-Jun-16	time	2.50	3.54	4.56	5.58	6.58	7.58	8.62	9.68	10.70	11.78		13.29	5 / 2		
reaction time		interval	7 steps	1.04	1.02	1.02	1.00	1.00	1.04	1.06	1.02	1.08	1.51			3.08	3.04	3.16
wind	0.6 m/s	velocity	5.49	8.79	8.96	8.96	9.14	9.14	8.79	8.62	8.96	8.46	9.28	8.28		8.90	9.02	8.68

FINAL - 2016 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	28-May-16	time	2.52	3.56	4.58	5.62	6.66	7.70	8.74	9.78	10.86	11.96		13.55	5 / 6		
reaction time		interval	7 steps	1.04	1.02	1.04	1.04	1.04	1.04	1.04	1.08	1.10	1.59			3.10	3.12	3.22
wind	0.7 m/s	velocity	5.44	8.79	8.96	8.79	8.79	8.79	8.79	8.79	8.46	8.31	8.82	8.12		8.85	8.79	8.52

FINAL - 2015 IAAF World Championships (Beijing, CHN) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	28-Aug-15	time	2.48	3.52	4.56	5.56	6.56	7.56	8.56	9.60	10.64	11.72		13.17	2 / 4		
reaction time	0.150	interval	7 steps	1.04	1.04	1.00	1.00	1.00	1.00	1.04	1.04	1.08	1.45			3.08	3.00	3.16
wind	0.2 m/s	velocity	5.53	8.79	8.79	9.14	9.14	9.14	9.14	8.79	8.79	8.46	9.67	8.35		8.90	9.14	8.68

Heat 1 - 2014 European Championships (Zurich, SUI) *Incalza (2014) - https://www.youtube.com/watch?v=4CScuS4aCYI&list=UU7691fXeyNFIMROfkJ-WWUg*

date	13-Aug-14	time	2.56	3.59	4.60	5.56	6.54	7.58	8.60	9.64	10.68	11.76		13.29	3 / 1		
reaction time	0.152	interval	7 steps	1.03	1.01	0.96	0.98	1.04	1.02	1.04	1.04	1.08	1.53			3.00	3.04	3.16
wind	-0.7 m/s	velocity	5.36	8.87	9.05	9.52	9.33	8.79	8.96	8.79	8.79	8.46	9.16	8.28		9.14	9.02	8.68

FINAL - 2013 IAAF World Championships (Moscow, RUS) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	12-Aug-13	time	2.52	3.56	4.56	5.60	6.64	7.66	8.68	9.72	10.80	11.90		13.42	6 / 7		
reaction time	0.162	interval	7 steps	1.04	1.00	1.04	1.04	1.02	1.02	1.04	1.08	1.10	1.52			3.08	3.08	3.22
wind	0.3 m/s	velocity	5.44	8.79	9.14	8.79	8.79	8.96	8.96	8.79	8.46	8.31	9.22	8.20		8.90	8.90	8.52

FINAL - 2013 European Indoor Championships (Göteborg, SWE) *Blomkvist (2013) - www.elitlandslag.se/SprintHäck/KortHäck.aspx*

date	01-Mar-13	time	2.57	3.64	4.65	5.65	6.65							7.53	3 / 3		
reaction time	0.155	interval		1.07	1.01	1.00	1.00						0.88	=PB		3.08		
		velocity	5.34	8.54	9.05	9.14	9.14						11.05	7.97		8.90		

FINAL - 2012 IAAF World Indoor Championships (Istanbul, TUR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	11-Mar-12	time	2.50	3.54	4.56	5.58	6.58							7.53	6 / 3		
reaction time	0.141	interval		1.04	1.02	1.02	1.00						0.95			3.08		
		velocity	5.49	8.79	8.96	8.96	9.14						10.23	7.97		8.90		

Martinsen, Andreas (DEN) (1990)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Golden Spike (Ostrava, CZE) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	28-Jun-17	time	2.54	3.62	4.66	5.70	6.74	7.78	8.82	9.90	10.96	12.06		13.55	3 / 6		
reaction time	0.149	interval	7 steps	1.08	1.04	1.04	1.04	1.04	1.04	1.08	1.06	1.10	1.49			3.16	3.12	3.24
wind	0.6 m/s	velocity	5.40	8.46	8.79	8.79	8.79	8.79	8.79	8.46	8.62	8.31	9.41	8.12		8.68	8.79	8.46

FINAL - 2011 Windsprint (Sundsvall, SWE) *Blomkvist (2011) - www.sub13.se*

date	31-Jul-11	time	2.71	3.81	4.87	5.94	7.01	8.08	9.17	10.31	11.44	12.59		14.19	/ 3		
reaction time		interval		1.10	1.06	1.07	1.07	1.07	1.09	1.14	1.13	1.15	1.60			3.23	3.23	3.42
wind	2.8 m/s	velocity	5.06	8.31	8.62	8.54	8.54	8.54	8.39	8.02	8.09	7.95	8.76	7.75		8.49	8.49	8.02

Maruyama, Yuma (JPN) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2024 Japanese National Multi-Event Championships (Gifu, JPN) *Matsubayashi (2024) - performance analysis of decathlon athletes in the 2024 season*

date	23-Jun-24	time	2.74	3.87	4.98	6.06	7.16	8.22	9.36	10.50	11.63	12.76		14.27	7 / 1		
reaction time		interval		1.13	1.11	1.08	1.10	1.06	1.14	1.14	1.13	1.13	1.51			3.32	3.30	3.40
wind	0.4 m/s	velocity	5.01	8.09	8.23	8.46	8.31	8.62	8.02	8.02	8.09	8.09	9.28	7.71		8.26	8.31	8.06

Decathlon - Heat 2 - 2023 World Athletics Championships (Budapest, HUN) *Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season*

date	26-Aug-23	time	2.74	3.88	4.98	6.06	7.16	8.24	9.35	10.48	11.59	12.70		14.18	7 / 2		
reaction time	0.192	interval	7 steps	1.14	1.10	1.08	1.10	1.08	1.11	1.13	1.11	1.11	1.48			3.32	3.29	3.35
wind	0.1 m/s	velocity	5.01	8.02	8.31	8.46	8.31	8.46	8.23	8.09	8.23	8.23	9.47	7.76		8.26	8.33	8.19

Decathlon - Heat 2 - 2023 Japanese Multi-Event National Championsips (Akita, JPN) *Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season*

date	11-Jun-23	time	2.72	3.88	5.03	6.15	7.24	8.34	9.47	10.60	11.75	12.90		14.41	7 / 2			
reaction time		interval		1.16	1.15	1.12	1.09	1.10	1.13	1.13	1.15	1.15	1.51			3.43	3.32	3.43
wind	-0.1 m/s	velocity	5.04	7.88	7.95	8.16	8.39	8.31	8.09	8.09	7.95	7.95	9.28	7.63		7.99	8.26	7.99

Decathlon - Heat 2 - 2022 Michitaka Kinami Memorial (Osaka, JPN) *Takefu (2023) - performance analyisis of decathlon athletes in the 2022 season*

date	01-May-22	time	2.69	3.82	4.91	5.99	7.07	8.14	9.23	10.36	11.49	12.61		14.13	6 / 1			
reaction time	0.146	interval		1.13	1.09	1.08	1.08	1.07	1.09	1.13	1.13	1.12	1.52			3.30	3.24	3.38
wind	1.2 m/s	velocity	5.10	8.09	8.39	8.46	8.46	8.54	8.39	8.09	8.09	8.16	9.22	7.78		8.31	8.46	8.11

Decathlon - Heat 3 - 2021 Japanese Multi-Event National Championships (Nagano, JPN) *Matsubayashi (2021) - 110m hurdling race analysis of decathlon athletes in the 2021 season*

date	13-Jun-21	time	2.74	3.91	5.05	6.17	7.27	8.40	9.51	10.66	11.80	12.95		14.50	6 / 3			
reaction time	0.170	interval		1.17	1.14	1.12	1.10	1.13	1.11	1.15	1.14	1.15	1.55			3.43	3.34	3.44
wind	-0.9 m/s	velocity	5.01	7.81	8.02	8.16	8.31	8.09	8.23	7.95	8.02	7.95	9.05	7.59		7.99	8.21	7.97

Decathlon - Heat 2 - 2019 Japanese National Multi-Event Championships (Nagano, JPN) *Matsubayashi (2019) - research on athlete performance and technique- 2019 data book*

date	09-Jun-19	time	2.69	3.80	4.91	5.99	7.08	8.19	9.28	10.41	11.53	12.68		14.19	5 / 3			
reaction time		interval		1.11	1.11	1.08	1.09	1.11	1.09	1.13	1.12	1.15	1.51			3.30	3.29	3.40
wind	2.1 m/s	velocity	5.10	8.23	8.23	8.46	8.39	8.23	8.39	8.09	8.16	7.95	9.28	7.75		8.31	8.33	8.06

Decathlon - Heat 3 - 2018 Japanese National Multi-Event Championships (Nagano, JPN) *Matsubayashi (2018) - research on athlete performance and technique*

date	17-Jun-18	time	2.70	3.81	4.91	5.99	7.07	8.14	9.22	10.34	11.45	12.61		14.08	6 / 1			
reaction time		interval		1.11	1.10	1.08	1.08	1.07	1.08	1.12	1.11	1.16	1.47	PB		3.29	3.23	3.39
wind	0.2 m/s	velocity	5.08	8.23	8.31	8.46	8.46	8.54	8.46	8.16	8.23	7.88	9.54	7.81		8.33	8.49	8.09

Masashi, Kimoto (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2016 West Japan University Championships (Kyoto, JPN) *(2016.07.02) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	01-Jul-16	time	2.66	3.74	4.84	5.93	7.01	8.10	9.20	10.31	11.44	12.58		14.01	4 / 1			
reaction time		interval		1.08	1.10	1.09	1.08	1.09	1.10	1.11	1.13	1.14	1.43			3.27	3.27	3.38
wind	-2.1 m/s	velocity	5.16	8.46	8.31	8.39	8.46	8.39	8.31	8.23	8.09	8.02	9.80	7.85		8.39	8.39	8.11

Mason, Tyler (JAM) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2023 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2023) - diamond league race analysis*

date	16-Jul-23	time	2.38	3.45	4.50	5.53	6.55	7.57	8.59	9.63	10.67	11.72		13.29	5 / 3			
reaction time	0.138	interval	7 steps	1.07	1.05	1.03	1.02	1.02	1.02	1.04	1.04	1.05	1.57			3.15	3.06	3.13
wind	0.3 m/s	velocity	5.76	8.54	8.70	8.87	8.96	8.96	8.96	8.79	8.79	8.70	8.93	8.28		8.70	8.96	8.76

Heat 2 - 2023 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2023) - diamond league race analysis*

date	16-Jul-23	time	2.40	3.46	4.49	5.52	6.53	7.57	8.60	9.64	10.67	11.71		13.28	4 / 2			
reaction time	0.152	interval	7 steps	1.06	1.03	1.03	1.01	1.04	1.03	1.04	1.03	1.04	1.57			3.12	3.08	3.11
wind	-0.2 m/s	velocity	5.72	8.62	8.87	8.87	9.05	8.79	8.87	8.79	8.87	8.79	8.93	8.28		8.79	8.90	8.82

FINAL - 2023 Jamaican National Championships (Kingston, JAM) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	09-Jul-23	time	2.53	3.58	4.62	5.62	6.60	7.60	8.62	9.65	10.67	11.72		13.22	5 / 4			
reaction time		interval	7 steps	1.05	1.04	1.00	0.98	1.00	1.02	1.03	1.02	1.05	1.50			3.09	3.00	3.10
wind	0.7 m/s	velocity	5.42	8.70	8.79	9.14	9.33	9.14	8.96	8.87	8.96	8.70	9.35	8.32		8.87	9.14	8.85

FINAL - 2023 USATF Bermuda Grand Prix (Devonshire, BER) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-May-23	time	2.56	3.66	4.67	5.66	6.66	7.66	8.68	9.72	10.75	11.86		13.30	3 / 4			
reaction time	0.155	interval	7 steps	1.10	1.01	0.99	1.00	1.00	1.02	1.04	1.03	1.11	1.44			3.10	3.02	3.18
wind	4.0 m/s	velocity	5.36	8.31	9.05	9.23	9.14	9.14	8.96	8.79	8.87	8.23	9.74	8.27		8.85	9.08	8.62

Masuno, Genta (JPN) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2020 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	24-Oct-20	time	2.61	3.68	4.75	5.80	6.87	7.92	8.98	10.06	11.18	12.27		13.77	2 / 5			
reaction time		interval		1.07	1.07	1.05	1.07	1.05	1.06	1.08	1.12	1.09	1.50			3.19	3.18	3.29
wind	0.6 m/s	velocity	5.26	8.54	8.54	8.70	8.54	8.70	8.62	8.46	8.16	8.39	9.35	7.99		8.60	8.62	8.33

FINAL - 2020 Japanese National Championships (Niigata, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	03-Oct-20	time	2.59	3.65	4.71	5.76	6.81	7.87	8.94	10.00	11.09	12.18		13.61	4 / 5			
reaction time	0.136	interval		1.06	1.06	1.05	1.05	1.06	1.07	1.06	1.09	1.09	1.43			3.17	3.18	3.24
wind	-0.1 m/s	velocity	5.30	8.62	8.62	8.70	8.70	8.62	8.54	8.62	8.39	8.39	9.80	8.08		8.65	8.62	8.46

Heat 2 - 2020 Japanese National Championships (Niigata, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	02-Oct-20	time	2.63	3.69	4.75	5.79	6.83	7.88	8.93	10.00	11.08	12.16		13.59	8 / 2			
reaction time	0.148	interval		1.06	1.06	1.04	1.04	1.05	1.05	1.07	1.08	1.08	1.43			3.16	3.14	3.23
wind	0.4 m/s	velocity	5.22	8.62	8.62	8.79	8.79	8.70	8.70	8.54	8.46	8.46	9.80	8.09		8.68	8.73	8.49

Race 2 - 2020 World Athletics Trials (Fuji, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	06-Sep-20	time	2.60	3.67	4.73	5.76	6.81	7.88	8.95	10.03	11.12	12.23		13.69	3 / 1			
reaction time		interval		1.07	1.06	1.03	1.05	1.07	1.07	1.08	1.09	1.11	1.46			3.16	3.19	3.28
wind	1.3 m/s	velocity	5.28	8.54	8.62	8.87	8.70	8.54	8.54	8.46	8.39	8.23	9.60	8.04		8.68	8.60	8.36

FINAL - 2020 Athlete Night Games (Fukui, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	29-Aug-20	time	2.61	3.67	4.72	5.75	6.81	7.88	8.94	10.00	11.09	12.19		13.62	1 / 7			
reaction time		interval		1.06	1.05	1.03	1.06	1.07	1.06	1.06	1.09	1.10	1.43			3.14	3.19	3.25
wind	1.4 m/s	velocity	5.26	8.62	8.70	8.87	8.62	8.54	8.62	8.62	8.39	8.31	9.80	8.08		8.73	8.60	8.44

A FINAL - 2018 National Sports Festival (Fukui, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	08-Oct-18	time	2.60	3.65	4.67	5.70	6.74	7.78	8.84	9.91	10.98	12.07		13.50	5 / 2			
reaction time	0.143	interval		1.05	1.02	1.03	1.04	1.04	1.06	1.07	1.07	1.09	1.43			3.10	3.14	3.23
wind	1.2 m/s	velocity	5.28	8.70	8.96	8.87	8.79	8.79	8.62	8.54	8.54	8.39	9.80	8.15		8.85	8.73	8.49

FINAL - 2018 Japanese National Championships (Yamaguchi, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	24-Jun-18	time	2.61	3.68	4.72	5.76	6.81	7.87	8.95	10.08	11.20	12.30		13.82	6 / 7			
reaction time	0.152	interval		1.07	1.04	1.04	1.05	1.06	1.08	1.13	1.12	1.10	1.52			3.15	3.19	3.35
wind	0.7 m/s	velocity	5.26	8.54	8.79	8.79	8.70	8.62	8.46	8.09	8.16	8.31	9.22	7.96		8.70	8.60	8.19

FINAL - 2018 Kinami Michitaka Memorial (Osaka, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	06-May-18	time	2.61	3.66	4.73	5.77	6.83	7.87	8.91	10.00	11.10	12.20		13.64	7 / 1			
reaction time		interval		1.05	1.07	1.04	1.06	1.04	1.04	1.09	1.10	1.10	1.44			3.16	3.14	3.29
wind	1.6 m/s	velocity	5.26	8.70	8.54	8.79	8.62	8.79	8.79	8.39	8.31	8.31	9.74	8.06		8.68	8.73	8.33

FINAL - 2018 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	29-Apr-18	time	2.57	3.78	4.91	5.97	7.03	8.09	9.15	10.22	11.32	12.40		13.88	7 / 8			
reaction time		interval		1.21	1.13	1.06	1.06	1.06	1.06	1.07	1.10	1.08	1.48			3.40	3.18	3.25
wind	2.6 m/s	velocity	5.34	7.55	8.09	8.62	8.62	8.62	8.62	8.54	8.31	8.46	9.47	7.93		8.06	8.62	8.44

Semi-Final 1 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.46	3.51	4.57	5.63	6.71	7.78	8.87	9.94	11.05	12.17		13.79	2 / 7			
reaction time	0.160	interval		1.05	1.06	1.06	1.08	1.07	1.09	1.07	1.11	1.12	1.62			3.17	3.24	3.30
wind	0.2 m/s	velocity	5.58	8.70	8.62	8.62	8.46	8.54	8.39	8.54	8.23	8.16	8.65	7.98		8.65	8.46	8.31

FINAL - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	25-Jun-17	time	2.61	3.67	4.71	5.74	6.81	7.85	8.92	9.99	11.05	12.15		13.61	5 / 3			
reaction time	0.156	interval		1.06	1.04	1.03	1.07	1.04	1.07	1.07	1.06	1.10	1.46			3.13	3.18	3.23
wind	-0.2 m/s	velocity	5.26	8.62	8.79	8.87	8.54	8.79	8.54	8.54	8.62	8.31	9.60	8.08		8.76	8.62	8.49

Semi-Final 2 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.60	3.68	4.71	5.73	6.76	7.81	8.87	9.93	11.01	12.09		13.54	7 / 1			
reaction time	0.148	interval		1.08	1.03	1.02	1.03	1.05	1.06	1.06	1.08	1.08	1.45			3.13	3.14	3.22
wind	0.3 m/s	velocity	5.28	8.46	8.87	8.96	8.87	8.70	8.62	8.62	8.46	8.46	9.67	8.12		8.76	8.73	8.52

Heat 2 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.60	3.65	4.68	5.70	6.72	7.75	8.80	9.85	10.92	11.99		13.40	8 / 1			
reaction time	0.156	interval		1.05	1.03	1.02	1.02	1.03	1.05	1.05	1.07	1.07	1.41	PB		3.10	3.10	3.19
wind	0.0 m/s	velocity	5.28	8.70	8.87	8.96	8.96	8.87	8.70	8.70	8.54	8.54	9.94	8.21		8.85	8.85	8.60

FINAL - 2017 Fuse Sprint (Tottori, JPN) *(2017) - tfdata-store.com/2017/06/04/post-848/*

date	04-Jun-17	time	2.59	3.65	4.70	5.74	6.77	7.80	8.84	9.89	10.96	12.04		13.43	6 / 1			
reaction time		interval		1.06	1.05	1.04	1.03	1.03	1.04	1.05	1.07	1.08	1.39			3.15	3.10	3.20
wind	3.2 m/s	velocity	5.30	8.62	8.70	8.79	8.87	8.87	8.79	8.70	8.54	8.46	10.09	8.19		8.70	8.85	8.57

Heat 5 - 2017 Fuse Sprint (Tottori, JPN) *(2017) - tfdata-store.com/2017/06/04/post-848/*

date	04-Jun-17	time	2.63	3.69	4.78	5.83	6.89	7.94	9.02	10.09	11.18	12.27		13.69	2 / 4			
reaction time		interval		1.06	1.09	1.05	1.06	1.05	1.08	1.07	1.09	1.09	1.42			3.20	3.19	3.25
wind	1.5 m/s	velocity	5.22	8.62	8.39	8.70	8.62	8.70	8.46	8.54	8.39	8.39	9.87	8.04		8.57	8.60	8.44

FINAL - 2017 Seiko Golden Grand Prix (Kawasaki, JPN) *(2017) - tfdata-store.com/2017/05/22/post-599/*

date	21-May-17	time	2.59	3.66	4.73	5.77	6.83	7.89	8.94	10.03	11.11	12.25		13.72	2 / 6			
reaction time	0.150	interval		1.07	1.07	1.04	1.06	1.06	1.05	1.09	1.08	1.14	1.47			3.18	3.17	3.31
wind	-1.8 m/s	velocity	5.30	8.54	8.54	8.79	8.62	8.62	8.70	8.39	8.46	8.02	9.54	8.02		8.62	8.65	8.28

Open FINAL - 2017 Michitaka Memorial (Osaka, JPN) *(2017) - tfdata-store.com/2017/05/08/post-413/*

date	07-May-17	time	2.63	3.70	4.77	5.81	6.90	7.96	9.04	10.12	11.21	12.30		13.74	8 / 2			
reaction time		interval		1.07	1.07	1.04	1.09	1.06	1.08	1.08	1.09	1.09	1.44			3.18	3.23	3.26
wind	-1.5 m/s	velocity	5.22	8.54	8.54	8.79	8.39	8.62	8.46	8.46	8.39	8.39	9.74	8.01		8.62	8.49	8.41

FINAL - 2017 Michitaka Memorial (Osaka, JPN) *(2017) - tfdata-store.com/2017/05/08/post-413/*

date	07-May-17	time	2.63	3.70	4.76	5.83	6.88	7.93	8.99	10.07	11.15	12.24		13.69	4 / 3			
reaction time		interval		1.07	1.06	1.07	1.05	1.05	1.06	1.08	1.08	1.09	1.45			3.20	3.16	3.25
wind	-0.8 m/s	velocity	5.22	8.54	8.62	8.54	8.70	8.70	8.62	8.46	8.46	8.39	9.67	8.04		8.57	8.68	8.44

FINAL - 2016 Japanese National Championships (Nagoya, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	26-Jun-16	time	2.64	3.70	4.75	5.79	6.82	7.86	8.92	9.96	11.03	12.09		13.51	5 / 2			
reaction time	0.161	interval		1.06	1.05	1.04	1.03	1.04	1.06	1.04	1.07	1.06	1.42			3.15	3.13	3.17
wind	2.4 m/s	velocity	5.20	8.62	8.70	8.79	8.87	8.79	8.62	8.79	8.54	8.62	9.87	8.14		8.70	8.76	8.65

FINAL - 2016 Fuse Sprint (Tottori, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	05-Jun-16	time	2.62	3.68	4.73	5.78	6.82	7.89	8.95	10.01	11.10	12.17		13.59	6 / 2			
reaction time		interval		1.06	1.05	1.05	1.04	1.07	1.06	1.06	1.09	1.07	1.42			3.16	3.17	3.22
wind	1.4 m/s	velocity	5.24	8.62	8.70	8.70	8.79	8.54	8.62	8.62	8.39	8.54	9.87	8.09		8.68	8.65	8.52

FINAL - 2016 Seiko Golden Grand Prix (Kawasaki, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	08-May-16	time	2.63	3.71	4.76	5.80	6.87	7.91	8.97	10.05	11.13	12.22		13.67	3 / 4			
reaction time	0.148	interval		1.08	1.05	1.04	1.07	1.04	1.06	1.08	1.08	1.09	1.45			3.17	3.17	3.25
wind	-0.6 m/s	velocity	5.22	8.46	8.70	8.79	8.54	8.79	8.62	8.46	8.46	8.39	9.67	8.05		8.65	8.65	8.44

FINAL - 2016 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	29-Apr-16	time	2.66	3.72	4.78	5.83	6.90	7.99	9.06	10.16	11.27	12.39		13.86	/ 2			
reaction time		interval		1.06	1.06	1.05	1.07	1.09	1.07	1.10	1.11	1.12	1.47			3.17	3.23	3.33
wind	-0.5 m/s	velocity	5.16	8.62	8.62	8.70	8.54	8.39	8.54	8.31	8.23	8.16	9.54	7.94		8.65	8.49	8.23

FINAL - 2015 Japanese National Championships (Niigata, JPN) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	28-Jun-15	time	2.63	3.70	4.77	5.82	6.88	7.97	9.05	10.13	11.22	12.35		13.85	7 / 3			
reaction time	0.142	interval		1.07	1.07	1.05	1.06	1.09	1.08	1.08	1.09	1.13	1.50			3.19	3.23	3.30
wind	-1.4 m/s	velocity	5.22	8.54	8.54	8.70	8.62	8.39	8.46	8.46	8.39	8.09	9.35	7.94		8.60	8.49	8.31

FINAL - 2015 Shizuoka International Athletics Meeting (Fukuroi, JPN) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	03-May-15	time	2.63	3.71	4.78	5.87	6.93	8.04	9.12	10.21	11.30	12.39		13.80	/ 1			
reaction time		interval		1.08	1.07	1.09	1.06	1.11	1.08	1.09	1.09	1.09	1.41			3.24	3.25	3.27
wind	-0.8 m/s	velocity	5.22	8.46	8.54	8.39	8.62	8.23	8.46	8.39	8.39	8.39	9.94	7.97		8.46	8.44	8.39

FINAL - 2014 Japanese National Championships (Fukushima, JPN) *(2017.02.22) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	08-Jun-14	time	2.64	3.71	4.78	5.82	6.87	7.92	8.98	10.04	11.10	12.18		13.58	5 / 1			
reaction time	0.144	interval		1.07	1.07	1.04	1.05	1.05	1.06	1.06	1.06	1.08	1.40	**PB**		3.18	3.16	3.20
wind	0.4 m/s	velocity	5.20	8.54	8.54	8.79	8.70	8.70	8.62	8.62	8.62	8.46	10.01	8.10		8.62	8.68	8.57

Semi-Final 1 - 2014 Japanese National Championships (Fukushima, JPN) *(2017.02.27) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	08-Jun-14	time	2.65	3.71	4.75	5.80	6.85	7.90	8.95	10.02	11.09	12.19		13.61	5 / 1			
reaction time	0.148	interval		1.06	1.04	1.05	1.05	1.05	1.05	1.07	1.07	1.10	1.42	**=PB**		3.15	3.15	3.24
wind	0.2 m/s	velocity	5.18	8.62	8.79	8.70	8.70	8.70	8.70	8.54	8.54	8.31	9.87	8.08		8.70	8.70	8.46

Mathiszik, Willi (GER) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2009 ISTAF (Berlin, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Jun-09	time	2.68	3.79	4.84	5.89	6.95	8.03	9.13	10.19	11.31	12.43		13.86	9 / 8			
reaction time	0.204	interval		1.11	1.05	1.05	1.06	1.08	1.10	1.06	1.12	1.12	1.43			3.21	3.24	3.30
wind	0.7 m/s	velocity	5.12	8.23	8.70	8.70	8.62	8.46	8.31	8.62	8.16	8.16	9.80	7.94		8.54	8.46	8.31

Matoba, Manakato (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2019 Shimane High School Championships (Izumo, JPN) *Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*

date	26-May-19	time	3.02	4.34	5.64	6.90	8.20	9.47	10.72	12.06	13.41	14.81		16.60	9 / 6			
reaction time		interval		1.32	1.30	1.26	1.30	1.27	1.25	1.34	1.35	1.40	1.79			3.88	3.82	4.09
wind	2.3 m/s	velocity	4.54	6.92	7.03	7.25	7.03	7.20	7.31	6.82	6.77	6.53	7.83	6.63		7.07	7.18	6.70

FINAL - 2018 Shimane High School Championships (Izumo, JPN) *Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*

date	27-May-18	time	2.92	4.20	5.50	6.75	8.05	9.35	10.65	11.97	13.32	14.63		16.28	8 / 5			
reaction time		interval		1.28	1.30	1.25	1.30	1.30	1.30	1.32	1.35	1.31	1.65			3.83	3.90	3.98
wind	1.2 m/s	velocity	4.70	7.14	7.03	7.31	7.03	7.03	7.03	6.92	6.77	6.98	8.50	6.76		7.16	7.03	6.89

Matsubara, Haruta (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Shimane High School Championships (Izumo, JPN) *Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*

date	26-May-24	time	2.88	4.17	5.47	6.77	8.08	9.38	10.73	12.10	13.45	14.80		16.55	2 / 6			
reaction time		interval		1.29	1.30	1.30	1.31	1.30	1.35	1.37	1.35	1.35	1.75			3.89	3.96	4.07
wind	0.3 m/s	velocity	4.76	7.09	7.03	7.03	6.98	7.03	6.77	6.67	6.77	6.77	8.01	6.65		7.05	6.92	6.74

Matsumae, Taiga (JPN) (2007)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN) *Takashima (2024) - national high school sports festival - biomechanics data*

date	01-Aug-24	time	2.68	3.80	4.89	5.97	7.06	8.15	9.27	10.37	11.48	12.63		14.16	4 / 5			
reaction time	0.161	interval		1.12	1.09	1.08	1.09	1.09	1.12	1.10	1.11	1.15	1.53	**=PB**		3.29	3.30	3.36
wind	-0.7 m/s	velocity	5.12	8.16	8.39	8.46	8.39	8.39	8.16	8.31	8.23	7.95	9.16	7.77		8.33	8.31	8.16

Matsumoto, Nozomu (JPN) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2022 Japanese U20 National Championsips (Osaka, JPN) (99cm) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	12-Jun-22	time	2.68	3.77	4.81	5.86	6.91	7.95	9.01	10.11	11.20	12.31		13.83	9 / 6			
reaction time	0.171	interval	7 steps	1.09	1.04	1.05	1.05	1.04	1.06	1.10	1.09	1.11	1.52			3.18	3.15	3.30
wind	1.1 m/s	velocity	5.12	8.39	8.79	8.70	8.70	8.79	8.62	8.31	8.39	8.23	9.22	7.95		8.62	8.70	8.31

FINAL - 2021 Japanese High School National Championships (Fukui, JPN) *Shibayama (2021) - national high school and U20 national championhsips*

date	01-Aug-21	time	2.63	3.74	4.81	5.91	6.98	8.07	9.18	10.28	11.41	12.54		14.05	4 / 4			

reaction time	0.158	interval		1.11	1.07	1.10	1.07	1.09	1.11	1.10	1.13	1.13	1.51	PB		3.28	3.27	3.36
wind	1.4 m/s	velocity	5.22	8.23	8.54	8.31	8.54	8.39	8.23	8.31	8.09	8.09	9.28	7.83		8.36	8.39	8.16

Mayer, Kevin (FRA) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) — *Henson (2024) - Athlete First: 2022 year end hurdle report*

date	24-Jul-22	time	2.60	3.68	4.76	5.83	6.92	8.01	9.12	10.22	11.30	12.44		13.92	4 / 4			
reaction time	0.129	interval		1.08	1.08	1.07	1.09	1.09	1.11	1.10	1.08	1.14	1.48			3.23	3.29	3.32
wind	1.1 m/s	velocity	5.28	8.46	8.46	8.54	8.39	8.39	8.23	8.31	8.46	8.02	9.47	7.90		8.49	8.33	8.26

Decathlon - Heat 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) — *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	05-Aug-21	time	2.62	3.70	4.73	5.80	6.87	7.98	9.03	10.14	11.28	12.40		13.90	3 / 1			
reaction time	0.137	interval	7 steps	1.08	1.03	1.07	1.07	1.11	1.05	1.11	1.14	1.12	1.50			3.18	3.23	3.37
wind	0.1 m/s	velocity	5.24	8.46	8.87	8.54	8.54	8.23	8.70	8.23	8.02	8.16	9.35	7.91		8.62	8.49	8.14

FINAL - 2021 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) — *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	09-Feb-21	time	2.58	3.68	4.76	5.77	6.81							7.79	1 / 8			
reaction time	0.179	interval	7 steps	1.10	1.08	1.01	1.04						0.98			3.19		
		velocity	5.32	8.31	8.46	9.05	8.79						9.92	7.70		8.60		

Heat 1 - 2021 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) — *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	09-Feb-21	time	2.46	3.51	4.53	5.56	6.60							7.68	6 / 5			
reaction time	0.174	interval	7 steps	1.05	1.02	1.03	1.04						1.08	PB		3.10		
		velocity	5.58	8.70	8.96	8.87	8.79						9.00	7.81		8.85		

Mazáč, Martin (CZE) (1990)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2013 Czech Republic National Championships (Tábor, CZE) — *Feher (2013) - Final report from the men's & women's Czech Republic national championships*

date	15-Jun-13	time	2.66	3.72	4.76	5.78	6.79	7.81	8.88	9.95	11.00	12.04		13.48	4 / 1			
reaction time	0.151	interval		1.06	1.04	1.02	1.01	1.02	1.07	1.07	1.05	1.04	1.44	PB		3.12	3.10	3.16
wind	0.4 m/s	velocity	5.16	8.62	8.79	8.96	9.05	8.96	8.54	8.54	8.70	8.79	9.74	8.16		8.79	8.85	8.68

Heat 1 - 2013 Czech Republic National Championships (Tábor, CZE) — *Feher (2013) - Final report from the men's & women's Czech Republic national championships*

date	15-Jun-13	time	2.66	3.75	4.80	5.85	6.89	7.95	8.98	10.06	11.12	12.20		13.69	4 / 1			
reaction time	0.161	interval		1.09	1.05	1.05	1.04	1.06	1.03	1.08	1.06	1.08	1.49			3.19	3.13	3.22
wind	-0.6 m/s	velocity	5.16	8.39	8.70	8.70	8.79	8.62	8.87	8.46	8.62	8.46	9.41	8.04		8.60	8.76	8.52

FINAL - 2012 Czech Republic National Indoor Championships (Praha, CZE) — *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

date	25-Feb-12	time	2.68	3.76	4.77	5.82	6.84							7.81	4 / 1			
reaction time	0.138	interval		1.08	1.01	1.05	1.02						0.97			3.14		
		velocity	5.12	8.46	9.05	8.70	8.96						10.02	7.68		8.73		

Heat 1 - 2012 Czech Republic National Indoor Championships (Praha, CZE) — *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

date	25-Feb-12	time	2.70	3.80	4.83	5.89	6.91							7.84	4 / 1			
reaction time	0.161	interval		1.10	1.03	1.06	1.02						0.93			3.19		
		velocity	5.08	8.31	8.87	8.62	8.96						10.45	7.65		8.60		

Race 1 - 2011 European Team Championships (Stockholm, SWE) — *Blomkvist (2011) - www.sub13.se*

date	19-Jun-11	time	2.66	3.72	4.80	5.84	6.90	7.96	9.02	10.12	11.28	12.40		14.00	1 / 4			
reaction time	0.179	interval		1.06	1.08	1.04	1.06	1.06	1.06	1.10	1.16	1.12	1.60			3.18	3.18	3.38
wind	-0.8 m/s	velocity	5.16	8.62	8.46	8.79	8.62	8.62	8.62	8.31	7.88	8.16	8.76	7.86		8.62	8.62	8.11

FINAL - 2010 European Team Championships, 1st League (Budapest, HUN) — *Blomkvist (2010) - www.sub13.se*

date	20-Jun-10	time	2.57	3.67	4.76	5.80	6.87	7.93	9.01	10.12	11.20	12.33		13.95	6 / 5			
reaction time	0.176	interval		1.10	1.09	1.04	1.07	1.06	1.08	1.11	1.08	1.13	1.62			3.23	3.21	3.32
wind	1.1 m/s	velocity	5.34	8.31	8.39	8.79	8.54	8.62	8.46	8.23	8.46	8.09	8.65	7.89		8.49	8.54	8.26

McConico, Jaylan (USA) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) — *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.55	3.62	4.64	5.68	6.70	7.72	8.74	9.81	10.86	11.94		13.43	4 / 6			
reaction time	0.209	interval		1.07	1.02	1.04	1.02	1.02	1.02	1.07	1.05	1.08	1.49			3.13	3.06	3.20
wind	1.8 m/s	velocity	5.38	8.54	8.96	8.79	8.96	8.96	8.96	8.54	8.70	8.46	9.41	8.19		8.76	8.96	8.57

FINAL - 2021 NCAA Championships (Eugene, OR) (TV Analysis) — *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	11-Jun-21	time	2.55	3.57	4.60	5.63	6.63	7.63	8.73	9.80	10.83	11.93		13.38	4 / 2			
reaction time	0.194	interval		1.02	1.03	1.03	1.00	1.00	1.10	1.07	1.03	1.10	1.45			3.08	3.10	3.20
wind	-0.6 m/s	velocity	5.38	8.96	8.87	8.87	9.14	9.14	8.31	8.54	8.87	8.31	9.67	8.22		8.90	8.85	8.57

McCorry, Jacob (AUS) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

B FINAL - 2024 Mikio Oda Memorial (Hiroshima, JPN) — *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	29-Apr-24	time	2.65	3.76	4.81	5.88	6.94	8.03	9.09	10.16	11.28	12.41		13.85	6 / 3			
reaction time	0.146	interval	7 steps	1.11	1.05	1.07	1.06	1.09	1.06	1.07	1.12	1.13	1.44			3.23	3.21	3.32
wind	-0.7 m/s	velocity	5.18	8.23	8.70	8.54	8.62	8.39	8.62	8.54	8.16	8.09	9.74	7.94		8.49	8.54	8.26

FINAL - 2023 Seiko Golden Grand Prix (Yokohama, JPN) — *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	21-May-23	time	2.60	3.67	4.70	5.74	6.78	7.81	8.86	9.93	10.99	12.06		13.48	9 / 7				
reaction time	0.117	interval	7 steps	1.07	1.03	1.04	1.04	1.03	1.05	1.07	1.06	1.07	1.42	PB		3.14	3.12	3.20	
wind	0.8 m/s	velocity	5.28	8.54	8.87	8.79	8.79	8.87	8.70	8.54	8.62	8.54	9.87	8.16		8.73	8.79	8.57	

FINAL - 2023 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	07-May-23	time	2.63	3.70	4.76	5.83	6.88	7.92	9.00	10.08	11.15	12.27		13.71	4 / 7				
reaction time	0.147	interval	7 steps	1.07	1.06	1.07	1.05	1.04	1.08	1.08	1.07	1.12	1.44			3.20	3.17	3.27	
wind	-0.3 m/s	velocity	5.22	8.54	8.62	8.54	8.70	8.79	8.46	8.46	8.54	8.16	9.74	8.02		8.57	8.65	8.39	

FINAL - 2023 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	29-Apr-23	time	2.62	3.69	4.74	5.80	6.83	7.88	8.95	10.03	11.08	12.19		13.65	1 / 6				
reaction time	0.110	interval	7 steps	1.07	1.05	1.06	1.03	1.05	1.07	1.08	1.05	1.11	1.46			3.18	3.15	3.24	
wind	0.3 m/s	velocity	5.24	8.54	8.70	8.62	8.87	8.70	8.54	8.46	8.70	8.23	9.60	8.06		8.62	8.70	8.46	

B FINAL - 2019 Mikio Oda Memorial (Hiroshima, JPN) *Kobayashi (2019) - research on athlete performance and technique- 2019 data book*

date	28-Apr-19	time	2.67	3.76	4.83	5.92	7.03	8.14	9.25	10.36	11.46	12.63		14.20	3 / 3				
reaction time		interval		1.09	1.07	1.09	1.11	1.11	1.11	1.11	1.10	1.17	1.57			3.25	3.33	3.38	
wind	1.4 m/s	velocity	5.14	8.39	8.54	8.39	8.23	8.23	8.23	8.23	8.31	7.81	8.93	7.75		8.44	8.23	8.11	

McDonald, Ian (IRL) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2012 Windsprint (Sundsvall, SWE) *Blomkvist (2012) - www.sub13.se*

date	17-Jun-12	time	2.74	3.84	4.94	6.03	7.12	8.21	9.35	10.48	11.62	12.77		14.36	1 / 5				
reaction time		interval		1.10	1.10	1.09	1.09	1.09	1.14	1.13	1.14	1.15	1.59			3.29	3.32	3.42	
wind	1.1 m/s	velocity	5.01	8.31	8.31	8.39	8.39	8.39	8.02	8.09	8.02	7.95	8.82	7.66		8.33	8.26	8.02	

McDonald, Rich (CAN) (1949)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 4 - 1972 Olympic Games (Munich, GER) *Letzelter (1977) - Hurdensprint: geschwindigkeitsverlauf und spezielle eigenschaften*

date	03-Sep-72	time	2.5			5.8								14.36	8 / 3				
reaction time		interval				3.32										3.32			
wind	0.9 m/s	velocity	5.44			8.26								7.66		8.26			

McDowell, Andrew (USA) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2007 USATF National Junior Championships (Indianapolis, IN) (99cm) *USATF Men's Hurdle Development (2007)*

date	21-Jun-07	time	2.69	3.74	4.77	5.82	6.89	7.94	8.98	10.09	11.18	12.30		13.84	/ 7				
reaction time		interval		1.05	1.03	1.05	1.07	1.05	1.04	1.11	1.09	1.12	1.54			3.13	3.16	3.32	
wind	2.7 m/s	velocity	5.10	8.70	8.87	8.70	8.54	8.70	8.79	8.23	8.39	8.16	9.10	7.95		8.76	8.68	8.26	

McDowell, Jon (USA) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.84	3.94	5.00	6.11	7.18	8.26	9.36	10.46	11.58	12.71		14.05	1 / 7				
reaction time		interval		1.10	1.06	1.11	1.07	1.08	1.10	1.10	1.12	1.13	1.34			3.27	3.25	3.35	
wind	-1.9 m/s	velocity	4.83	8.31	8.62	8.23	8.54	8.46	8.31	8.31	8.16	8.09	10.46	7.83		8.39	8.44	8.19	

McKoy, Mark (CAN) (1961)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1992 Olympic Games (Barcelona, ESP) *Knight (1992) - 1992 Olympic report: the hurdling events*

date	03-Aug-92	time	2.46	3.51	4.52	5.53	6.53	7.56	8.57	9.61	10.66	11.73		13.12	4 / 1				
reaction time	0.155	interval		1.05	1.01	1.01	1.00	1.03	1.01	1.04	1.05	1.07	1.39			3.07	3.04	3.16	
wind	0.8 m/s	velocity	5.58	8.70	9.05	9.05	9.14	8.87	9.05	8.79	8.70	8.54	10.09	8.38		8.93	9.02	8.68	

FINAL - 1988 Olympic Games (Seoul, KOR) *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.49	3.55	4.57	5.62	6.65	7.77	8.86	9.97	11.08	12.17		13.61	8 / 7				
reaction time	0.142	interval		1.06	1.02	1.05	1.03	1.12	1.09	1.11	1.11	1.09	1.44			3.13	3.24	3.31	
wind	1.5 m/s	velocity	5.51	8.62	8.96	8.70	8.87	8.16	8.39	8.23	8.23	8.39	9.74	8.08		8.76	8.46	8.28	

Semi-Final 2 - 1988 Olympic Games (Seoul, KOR) *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.49	3.54	4.61	5.66	6.72	7.77	8.82	9.91	10.99	12.08		13.54	5 / 3				
reaction time	0.144	interval		1.05	1.07	1.05	1.06	1.05	1.05	1.09	1.08	1.09	1.46			3.17	3.16	3.26	
wind	-0.7 m/s	velocity	5.51	8.70	8.54	8.70	8.62	8.70	8.70	8.39	8.46	8.39	9.60	8.12		8.65	8.68	8.41	

McLean, James (GBR) (1991)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Junior Final - 2010 ExxonMobil Bislett Games (Olso, NOR) (99cm) *Blomkvist (2010) - www.sub13.se*

date	04-Jun-10	time	2.46	3.52	4.56	5.60	6.68	7.80	8.88	10.00	11.14	12.32		13.97	3 / 4				
reaction time	0.151	interval		1.06	1.04	1.04	1.08	1.12	1.08	1.12	1.14	1.18	1.65	PB		3.14	3.28	3.44	
wind	0.3 m/s	velocity	5.58	8.62	8.79	8.79	8.46	8.16	8.46	8.16	8.02	7.75	8.50	7.87		8.73	8.36	7.97	

McLeod, Omar (JAM) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Golden Gala • Pietro Mennea (Roma, ITA) *Omega Timing (2024) - diamond league race analysis*

date	30-Aug-24	time	2.38	3.44	4.49	5.52	6.52	7.53	8.55	9.59	10.64	11.70		13.28	9 / 3				
reaction time	0.151	interval		1.06	1.05	1.03	1.00	1.01	1.02	1.04	1.05	1.06	1.58			3.14	3.03	3.15	
wind	0.4 m/s	velocity	5.76	8.62	8.70	8.87	9.14	9.05	8.96	8.79	8.70	8.62	8.87	8.28		8.73	9.05	8.70	

FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	21-May-22	time	2.40	3.47	4.47	5.47	6.47	7.45	8.49	9.53	10.58	11.66		13.17	5 / 2				

reaction time	0.132	interval		1.07	1.00	1.00	1.00	0.98	1.04	1.04	1.05	1.08	1.51			3.07	3.02	3.17
wind	0.7 m/s	velocity	5.72	8.54	9.14	9.14	9.14	9.33	8.79	8.79	8.70	8.46	9.28	8.35		8.93	9.08	8.65

FINAL - 2021 Müller British Grand Prix (Gateshead, GBR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	13-Jul-21	time	2.56	3.62	4.62	5.66	6.68	7.68	8.68	9.74	10.78	11.94		13.42	5 / 2			
reaction time	0.140	interval		1.06	1.00	1.04	1.02	1.00	1.00	1.06	1.04	1.16	1.48			3.10	3.02	3.26
wind	0.8 m/s	velocity	5.36	8.62	9.14	8.79	8.96	9.14	9.14	8.62	8.79	7.88	9.47	8.20		8.85	9.08	8.41

Heat 1 - 2021 Jamaican National Championships (Kingston, JAM) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.47	3.53	4.53	5.56	6.53	7.57	8.57	9.57	10.58	11.59		13.04	4 / 1			
reaction time		interval		1.06	1.00	1.03	0.97	1.04	1.00	1.00	1.01	1.01	1.45			3.09	3.01	3.02
wind	1.3 m/s	velocity	5.55	8.62	9.14	8.87	9.42	8.79	9.14	9.14	9.05	9.05	9.67	8.44		8.87	9.11	9.08

FINAL - 2021 Golden Gala Pietro Mennea (Florence, ITA) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	10-Jun-21	time	2.44	3.50	4.48	5.48	6.48	7.48	8.48	9.50	10.50	11.56		13.01	4 / 1			
reaction time	0.147	interval		1.06	0.98	1.00	1.00	1.00	1.00	1.02	1.00	1.06	1.45			3.04	3.00	3.08
wind	-0.1 m/s	velocity	5.62	8.62	9.33	9.14	9.14	9.14	9.14	8.96	9.14	8.62	9.67	8.46		9.02	9.14	8.90

FINAL - 2021 Fanny Blankers Koen Games (Hengelo, NED) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	06-Jun-21	time	2.37	3.43	4.48	5.50	6.47	7.47	8.54	9.56	10.58	11.66		13.08	5 / 1			
reaction time		interval		1.06	1.05	1.02	0.97	1.00	1.07	1.02	1.02	1.08	1.42			3.13	3.04	3.12
wind	1.7 m/s	velocity	5.79	8.62	8.70	8.96	9.42	9.14	8.54	8.96	8.96	8.46	9.87	8.41		8.76	9.02	8.79

FINAL - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.53	3.53	4.54	5.57	6.56	7.53	8.54	9.54	10.70	12.00		14.10	4 / --			
reaction time	0.128	interval		1.00	1.01	1.03	0.99	0.97	1.01	1.00	1.16	1.30	2.10	DQ		3.04	2.97	3.46
wind	0.6 m/s	velocity	5.42	9.14	9.05	8.87	9.23	9.42	9.05	9.14	7.88	7.03	6.68	7.80		9.02	9.23	7.92

Semi-Final 2 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.51	3.54	4.54	5.54	6.58	7.59	8.61	9.65	10.70	11.76		13.08	5 / 1			
reaction time	0.141	interval		1.03	1.00	1.00	1.04	1.01	1.02	1.04	1.05	1.06	1.32			3.03	3.07	3.15
wind	0.9 m/s	velocity	5.47	8.87	9.14	9.14	8.79	9.05	8.96	8.79	8.70	8.62	10.62	8.41		9.05	8.93	8.70

Heat 1 - 2019 IAAF World Championships (Doha, QAT) (TV Analysis) *Henson (2021) - Athlete First: 2019 year end hurdle report*

date	30-Sep-19	time	2.52	3.54	4.56	5.56	6.58	7.60	8.62	9.66	10.70	11.76		13.17	9 / 1			
reaction time	0.132	interval		1.02	1.02	1.00	1.02	1.02	1.02	1.04	1.04	1.06	1.41			3.04	3.06	3.14
wind	0.2 m/s	velocity	5.44	8.96	8.96	9.14	8.96	8.96	8.96	8.79	8.79	8.62	9.94	8.35		9.02	8.96	8.73

FINAL - 2019 ISTAF (Berlin, GER) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	01-Sep-19	time	2.46	3.46	4.46	5.50	6.50	7.50	8.52	9.58	10.62	11.68		13.07	5 / 1			
reaction time	0.130	interval		1.00	1.00	1.04	1.00	1.00	1.02	1.06	1.04	1.06	1.39			3.04	3.02	3.16
wind	0.8 m/s	velocity	5.58	9.14	9.14	8.79	9.14	9.14	8.96	8.62	8.79	8.62	10.09	8.42		9.02	9.08	8.68

FINAL - 2019 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	18-Aug-19	time	2.54	3.56	4.57	5.58	6.57	7.61	8.59	9.63	10.65	11.74		13.21	5 / 1			
reaction time	0.139	interval		1.02	1.01	1.01	0.99	1.04	0.98	1.04	1.02	1.09	1.47			3.04	3.01	3.15
wind	-0.2 m/s	velocity	5.40	8.96	9.05	9.05	9.23	8.79	9.33	8.79	8.96	8.39	9.54	8.33		9.02	9.11	8.70

FINAL - 2019 Müller Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	21-Jul-19	time	2.39	3.45	4.48	5.53	6.55	7.56	8.58	9.64	10.72	11.77		13.32	4 / 3			
reaction time	0.134	interval		1.06	1.03	1.05	1.02	1.01	1.02	1.06	1.08	1.05	1.55			3.14	3.05	3.19
wind	0.4 m/s	velocity	5.74	8.62	8.87	8.70	8.96	9.05	8.96	8.62	8.46	8.70	9.05	8.26		8.73	8.99	8.60

FINAL - 2019 Prefontaine Classic (Stanford, CA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	30-Jun-19	time	2.53	3.60	4.62	5.64	6.66	7.70	8.75	9.80	10.83	11.88		13.29	5 / 3			
reaction time	0.164	interval		1.07	1.02	1.02	1.02	1.04	1.05	1.05	1.03	1.05	1.41			3.11	3.11	3.13
wind	0.3 m/s	velocity	5.42	8.54	8.96	8.96	8.96	8.79	8.70	8.70	8.87	8.70	9.94	8.28		8.82	8.82	8.76

FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Jun-19	time	2.44	3.46	4.48	5.48	6.50	7.52	8.56	9.58	10.62	11.72		13.48	5 / 5			
reaction time	0.145	interval		1.02	1.02	1.00	1.02	1.02	1.04	1.02	1.04	1.10	1.76			3.04	3.08	3.16
wind	0.3 m/s	velocity	5.62	8.96	8.96	9.14	8.96	8.96	8.79	8.96	8.79	8.31	7.97	8.16		9.02	8.90	8.68

FINAL - 2019 Nanjing World Challenge (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	21-May-19	time	2.55	3.57	4.58	5.60	6.64	7.66	8.71	9.75	10.79	11.89		13.28	6 / 2			
reaction time	0.152	interval		1.02	1.01	1.02	1.04	1.02	1.05	1.04	1.04	1.10	1.39			3.05	3.11	3.18
wind	0.1 m/s	velocity	5.38	8.96	9.05	8.96	8.79	8.96	8.70	8.79	8.79	8.31	10.09	8.28		8.99	8.82	8.62

FINAL - 2019 Shanghai Diamond League (Shanghai, CHN) *CAA Hurdle Development (2019)*

date	18-May-19	time	2.52	3.56	4.58	5.56	6.56	7.58	8.60	9.62	10.68	11.76		13.12	4 / 1			
reaction time	0.149	interval		1.04	1.02	0.98	1.00	1.02	1.02	1.02	1.06	1.08	1.36			3.04	3.04	3.16
wind	0.7 m/s	velocity	5.44	8.79	8.96	9.33	9.14	8.96	8.96	8.96	8.62	8.46	10.31	8.38		9.02	9.02	8.68

FINAL - 2018 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	05-Jul-18	time	2.57	3.59	4.61	5.60	6.61	7.62	8.63	9.66	10.81	11.95		13.41	5 / 5			
reaction time	0.134	interval		1.02	1.02	0.99	1.01	1.01	1.01	1.03	1.15	1.14	1.46			3.03	3.03	3.32
wind	0.6 m/s	velocity	5.34	8.96	8.96	9.23	9.05	9.05	9.05	8.87	7.95	8.02	9.60	8.20		9.05	9.05	8.26

FINAL - 2018 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	02-Jul-18	time	2.48	3.52	4.54	5.56	6.56	7.56	8.58	9.74	10.82	11.94		13.45	4 / 6			
reaction time	0.152	interval		1.04	1.02	1.02	1.00	1.00	1.02	1.16	1.08	1.12	1.51			3.08	3.02	3.36
wind	0.6 m/s	velocity	5.53	8.79	8.96	8.96	9.14	9.14	8.96	7.88	8.46	8.16	9.28	8.18		8.90	9.08	8.16

FINAL - 2018 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	26-May-18	time	2.54	3.54	4.56	5.56	6.56	7.54	8.52	9.54	10.54	11.58		13.01	4 / 1			
reaction time	0.176	interval		1.00	1.02	1.00	1.00	0.98	0.98	1.02	1.00	1.04	1.43			3.02	2.96	3.06
wind	3.0 m/s	velocity	5.40	9.14	8.96	9.14	9.14	9.33	9.33	8.96	9.14	8.79	9.80	8.46		9.08	9.26	8.96

FINAL - 2018 Shanghai Diamond League (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	12-May-18	time	2.52	3.58	4.60	5.60	6.60	7.62	8.64	9.66	10.68	11.74		13.16	5 / 1			
reaction time	0.119	interval		1.06	1.02	1.00	1.00	1.02	1.02	1.02	1.02	1.06	1.42			3.08	3.04	3.10
wind	0.2 m/s	velocity	5.44	8.62	8.96	9.14	9.14	8.96	8.96	8.96	8.96	8.62	9.87	8.36		8.90	9.02	8.85

FINAL - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	07-Aug-17	time	2.36	3.42	4.42	5.43	6.42	7.44	8.45	9.46	10.48	11.51		13.04	4 / 1			
reaction time	0.123	interval		1.06	1.00	1.01	0.99	1.02	1.01	1.01	1.02	1.03	1.53			3.07	3.02	3.06
wind	0.0 m/s	velocity	5.81	8.62	9.14	9.05	9.23	8.96	9.05	9.05	8.96	8.87	9.16	8.44		8.93	9.08	8.96

Semi-Final 1 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.37	3.43	4.45	5.46	6.48	7.47	8.47	9.49	10.53	11.57		13.10	7 / 1			
reaction time	0.135	interval		1.06	1.02	1.01	1.02	0.99	1.00	1.02	1.04	1.04	1.53			3.09	3.01	3.10
wind	0.2 m/s	velocity	5.79	8.62	8.96	9.05	8.96	9.23	9.14	8.96	8.79	8.79	9.16	8.40		8.87	9.11	8.85

FINAL - 2017 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	04-Jul-17	time	2.48	3.50	4.50	5.50	6.50	7.50	8.48	9.52	10.54	11.56		12.96	4 / 1			
reaction time	0.138	interval		1.02	1.00	1.00	1.00	1.00	0.98	1.04	1.02	1.02	1.40			3.02	2.98	3.08
wind	0.3 m/s	velocity	5.53	8.96	9.14	9.14	9.14	9.14	9.33	8.79	8.96	8.96	10.01	8.49		9.08	9.20	8.90

FINAL - 2017 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	01-Jul-17	time	2.48	3.52	4.54	5.56	6.56	7.56	8.58	9.62	10.70	11.82		13.41	5 / 7			
reaction time	0.122	interval		1.04	1.02	1.02	1.00	1.00	1.02	1.04	1.08	1.12	1.59			3.08	3.02	3.24
wind	-0.1 m/s	velocity	5.53	8.79	8.96	8.96	9.14	9.14	8.96	8.79	8.46	8.16	8.82	8.20		8.90	9.08	8.46

FINAL - 2017 Jamaican National Championships (Kingston, JAM) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	24-Jun-17	time	2.43	3.46	4.46	5.46	6.43	7.43	8.43	9.43	10.43	11.45		12.90	4 / 1			
reaction time		interval		1.03	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.02	1.45	**NR PB**		3.03	2.97	3.02
wind	0.7 m/s	velocity	5.65	8.87	9.14	9.14	9.42	9.14	9.14	9.14	9.14	8.96	9.67	8.53		9.05	9.23	9.08

FINAL - 2017 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	27-May-17	time	2.48	3.52	4.52	5.52	6.52	7.54	8.52	9.52	10.54	11.58		13.01	4 / 1			
reaction time	0.150	interval		1.04	1.00	1.00	1.00	1.02	0.98	1.00	1.02	1.04	1.43			3.04	3.00	3.06
wind	0.9 m/s	velocity	5.53	8.79	9.14	9.14	9.14	8.96	9.33	9.14	8.96	8.79	9.80	8.46		9.02	9.14	8.96

FINAL - 2017 Shanghai Diamond League (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	13-May-17	time	2.48	3.50	4.54	5.58	6.56	7.58	8.58	9.62	10.64	11.70		13.09	5 / 1			
reaction time	0.141	interval		1.02	1.04	1.04	0.98	1.02	1.00	1.04	1.02	1.06	1.39			3.10	3.00	3.12
wind	0.5 m/s	velocity	5.53	8.96	8.79	8.79	9.33	8.96	9.14	8.79	8.96	8.62	10.09	8.40		8.85	9.14	8.79

FINAL - 2017 Drake Relays (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	29-Apr-17	time	2.47	3.53	4.53	5.53	6.53	7.53	8.55	9.57	10.57	11.61		13.04	4 / 1			
reaction time		interval		1.06	1.00	1.00	1.00	1.00	1.02	1.02	1.00	1.04	1.43			3.06	3.02	3.06
wind	1.8 m/s	velocity	5.55	8.62	9.14	9.14	9.14	9.14	8.96	8.96	9.14	8.79	9.80	8.44		8.96	9.08	8.96

FINAL - 2016 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	25-Aug-16	time	2.48	3.54	4.56	5.58	6.58	7.58	8.62	9.64	10.64	11.70		13.12	4 / 2			
reaction time	0.144	interval		1.06	1.02	1.02	1.00	1.00	1.04	1.02	1.00	1.06	1.42			3.10	3.04	3.08
wind	0.5 m/s	velocity	5.53	8.62	8.96	8.96	9.14	9.14	8.79	8.96	9.14	8.62	9.87	8.38		8.85	9.02	8.90

FINAL - 2016 Olympic Games (Rio de Janeiro, BRA) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	16-Aug-16	time	2.44	3.50	4.52	5.54	6.54	7.54	8.56	9.60	10.60	11.62		13.05	5 / 1			
reaction time	0.142	interval		1.06	1.02	1.02	1.00	1.00	1.02	1.04	1.00	1.02	1.43			3.10	3.02	3.06
wind	0.2 m/s	velocity	5.62	8.62	8.96	8.96	9.14	9.14	8.96	8.79	9.14	8.96	9.80	8.43		8.85	9.08	8.96

FINAL - 2016 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	15-Jul-16	time	2.42	3.48	4.48	5.48	6.48	7.50	8.52	9.60	10.68	11.72		13.82	5 / 8			
reaction time	0.128	interval		1.06	1.00	1.00	1.00	1.02	1.02	1.08	1.08	1.04	2.10			3.06	3.04	3.20

wind	0.0 m/s	velocity	5.67	8.62	9.14	9.14	9.14	8.96	8.96	8.46	8.46	8.79	6.68	7.96		8.96	9.02	8.57

FINAL - 2016 Jamiacan National Championships (Kingston, JAM) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	02-Jul-16	time	2.43	3.50	4.51	5.51	6.49	7.47	8.49	9.51	10.51	11.53		13.01	4 / 1			
reaction time		interval		1.07	1.01	1.00	0.98	0.98	1.02	1.02	1.00	1.02	1.48			3.08	2.98	3.04
wind	0.4 m/s	velocity	5.65	8.54	9.05	9.14	9.33	9.33	8.96	8.96	9.14	8.96	9.47	8.46		8.90	9.20	9.02

FINAL - 2016 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	28-May-16	time	2.44	3.50	4.52	5.54	6.56	7.56	8.56	9.58	10.60	11.62		13.06	4 / 1			
reaction time		interval		1.06	1.02	1.02	1.02	1.00	1.00	1.02	1.02	1.02	1.44			3.10	3.02	3.06
wind	0.7 m/s	velocity	5.62	8.62	8.96	8.96	8.96	9.14	9.14	8.96	8.96	8.96	9.74	8.42		8.85	9.08	8.96

FINAL - 2016 Shanghai Golden Grand Prix (Shanghai, CHN) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	14-May-16	time	2.42	3.48	4.48	5.48	6.50	7.52	8.54	9.56	10.56	11.58		12.98	5 / 1			
reaction time	0.133	interval		1.06	1.00	1.00	1.02	1.02	1.02	1.02	1.00	1.02	1.40			3.06	3.06	3.04
wind	1.2 m/s	velocity	5.67	8.62	9.14	9.14	8.96	8.96	8.96	8.96	9.14	8.96	10.01	8.47		8.96	8.96	9.02

FINAL - 2016 Doha Diamond League (Doha, QAT) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	06-May-16	time	2.50	3.54	4.54	5.54	6.52	7.50	8.50	9.54	10.56	11.62		13.05	4 / 1			
reaction time	0.131	interval		1.04	1.00	1.00	0.98	0.98	1.00	1.04	1.02	1.06	1.43			3.04	2.96	3.12
wind	1.4 m/s	velocity	5.49	8.79	9.14	9.14	9.33	9.33	9.14	8.79	8.96	8.62	9.80	8.43		9.02	9.26	8.79

FINAL - 2015 IAAF World Championships (Beijing, CHN) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	28-Aug-15	time	2.44	3.46	4.48	5.52	6.54	7.58	8.62	9.66	10.72	11.78		13.18	6 / 6			
reaction time	0.135	interval		1.02	1.02	1.04	1.02	1.04	1.04	1.04	1.06	1.06	1.40			3.08	3.10	3.16
wind	0.2 m/s	velocity	5.62	8.96	8.96	8.79	8.96	8.79	8.79	8.79	8.62	8.62	10.01	8.35		8.90	8.85	8.68

Mehlich, Krzysztof (POL) (1974)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2001 European Cup (Bremen, GER) *Graubner (2007) - http://www.fgs.uni-halle.de*

date	24-Jun-01	time	2.63	3.72	4.78	5.85	6.92	8.00	9.08	10.16	11.26	12.39		13.86	5 / 5			
reaction time	0.157	interval	*7 steps*	1.09	1.06	1.07	1.07	1.08	1.08	1.08	1.10	1.13	1.47			3.22	3.23	3.31
wind	1.3 m/s	velocity	5.22	8.39	8.62	8.54	8.54	8.46	8.46	8.46	8.31	8.09	9.54	7.94		8.52	8.49	8.28

Mendy, Louis François (SEN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	2.44	3.52	4.57	5.58	6.60	7.62	8.65	9.67	10.72	11.77		13.34	4 / 3			
reaction time	0.191	interval		1.08	1.05	1.01	1.02	1.02	1.03	1.02	1.05	1.05	1.57			3.14	3.07	3.12
wind	-0.1 m/s	velocity	5.62	8.46	8.70	9.05	8.96	8.96	8.87	8.96	8.70	8.70	8.93	8.25		8.73	8.93	8.79

Heat 2 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.44	3.53	4.56	5.57	6.58	7.60	8.63	9.65	10.69	11.76		13.31	9 / 1			
reaction time	0.170	interval		1.09	1.03	1.01	1.01	1.02	1.03	1.02	1.04	1.07	1.55			3.13	3.06	3.13
wind	1.2 m/s	velocity	5.62	8.39	8.87	9.05	9.05	8.96	8.87	8.96	8.79	8.54	9.05	8.26		8.76	8.96	8.76

FINAL - 2024 Seiko Golden Grand Prix (Tokyo, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	19-May-24	time	2.68	3.75	4.78	5.82	6.84	7.87	8.89	9.93	11.01	12.08		13.50	8 / 2			
reaction time	0.214	interval		1.07	1.03	1.04	1.02	1.03	1.02	1.04	1.08	1.07	1.42			3.14	3.07	3.19
wind	-0.6 m/s	velocity	5.12	8.54	8.87	8.79	8.96	8.87	8.96	8.79	8.46	8.54	9.87	8.15		8.73	8.93	8.60

Heat 3 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.56	3.60	4.60	5.61	6.61	7.64	8.66	9.72	10.76	11.83		13.24	6 / 1			
reaction time	0.176	interval		1.04	1.00	1.01	1.00	1.03	1.02	1.06	1.04	1.07	1.41			3.05	3.05	3.17
wind	0.0 m/s	velocity	5.36	8.79	9.14	9.05	9.14	8.87	8.96	8.62	8.79	8.54	9.94	8.31		8.99	8.99	8.65

Heat 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.66	3.84	4.89	5.93	6.94	7.98	9.03	10.11	11.22	12.34		13.84	7 / 7			
reaction time	0.169	interval		1.18	1.05	1.04	1.01	1.04	1.05	1.08	1.11	1.12	1.50			3.27	3.10	3.31
wind	0.0 m/s	velocity	5.16	7.75	8.70	8.79	9.05	8.79	8.70	8.46	8.23	8.16	9.35	7.95		8.39	8.85	8.28

Meredith, Jack (GBR) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Junior Final - 2010 ExxonMobil Bislett Games (Olso, NOR) (99cm) *Blomkvist (2010) - www.sub13.se*

date	04-Jun-10	time	2.44	3.52	4.52	5.52	6.56	7.56	8.58	9.62	10.68	11.76		13.32	5 / 1			
reaction time	0.147	interval		1.08	1.00	1.00	1.04	1.00	1.02	1.04	1.06	1.08	1.56	**NJR**		3.08	3.06	3.18
wind	0.3 m/s	velocity	5.62	8.46	9.14	9.14	8.79	9.14	8.96	8.79	8.62	8.46	8.99	8.26		8.90	8.96	8.62

Merritt, Aries (USA) (1985)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 Müller Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	22-Jul-18	time	2.54	3.60	4.64	5.66	6.70	7.74	8.76	9.82	10.86	11.94		13.44	4 / 8			
reaction time	0.132	interval	7 steps	1.06	1.04	1.02	1.04	1.04	1.02	1.06	1.04	1.08	1.50			3.12	3.10	3.18
wind	0.2 m/s	velocity	5.40	8.62	8.79	8.96	8.79	8.79	8.96	8.62	8.79	8.46	9.35	8.18		8.79	8.85	8.62

FINAL - 2018 Herculis Meeting International d'Athletisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	20-Jul-18	time	2.46	3.52	4.58	5.60	6.62	7.66	8.70	9.74	10.82	11.90		13.49	8 / 7			

reaction time	0.136	interval	7 steps	1.06	1.06	1.02	1.02	1.04	1.04	1.04	1.08	1.08	1.59			3.14	3.10	3.20
wind	-0.2 m/s	velocity	5.58	8.62	8.62	8.96	8.96	8.79	8.79	8.79	8.46	8.46	8.82	8.15		8.73	8.85	8.57

FINAL - 2018 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	05-Jul-18	time	2.59	3.61	4.63	5.65	6.69	7.73	8.77	9.83	10.87	11.95		13.44	2 / 6			
reaction time	0.129	interval	7 steps	1.02	1.02	1.02	1.04	1.04	1.04	1.06	1.04	1.08	1.49			3.06	3.12	3.18
wind	0.6 m/s	velocity	5.30	8.96	8.96	8.96	8.79	8.79	8.79	8.62	8.79	8.46	9.41	8.18		8.96	8.79	8.62

FINAL - 2018 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	02-Jul-18	time	2.46	3.54	4.58	5.62	6.64	7.68	8.72	9.76	10.80	11.86		13.37	3 / 4			
reaction time	0.144	interval	7 steps	1.08	1.04	1.04	1.02	1.04	1.04	1.04	1.04	1.06	1.51			3.16	3.10	3.14
wind	0.6 m/s	velocity	5.58	8.46	8.79	8.79	8.96	8.79	8.79	8.79	8.79	8.62	9.28	8.23		8.68	8.85	8.73

FINAL - 2018 USATF Championships (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	24-Jun-18	time	2.47	3.54	4.60	5.65	6.68	7.72	8.76	9.81	10.88	11.96		13.52	4 / 4			
reaction time		interval	7 steps	1.07	1.06	1.05	1.03	1.04	1.04	1.05	1.07	1.08	1.56			3.18	3.11	3.20
wind	-1.8 m/s	velocity	5.55	8.54	8.62	8.70	8.87	8.79	8.79	8.70	8.54	8.46	8.99	8.14		8.62	8.82	8.57

FINAL - 2018 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	26-May-18	time	2.52	3.58	4.60	5.60	6.62	7.64	8.66	9.70	10.74	11.80		13.27	7 / 6			
reaction time	0.144	interval	7 steps	1.06	1.02	1.00	1.02	1.02	1.02	1.04	1.04	1.06	1.47			3.08	3.06	3.14
wind	3.0 m/s	velocity	5.44	8.62	8.96	9.14	8.96	8.96	8.96	8.79	8.79	8.62	9.54	8.29		8.90	8.96	8.73

FINAL - 2018 Shanghai Diamond League (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	12-May-18	time	2.48	3.54	4.60	5.64	6.68	7.72	8.84	9.92	11.00	12.10		13.65	7 / 6			
reaction time	0.126	interval	7 steps	1.06	1.06	1.04	1.04	1.04	1.12	1.08	1.08	1.10	1.55			3.16	3.20	3.26
wind	0.2 m/s	velocity	5.53	8.62	8.62	8.79	8.79	8.79	8.16	8.46	8.46	8.31	9.05	8.06		8.68	8.57	8.41

FINAL - 2018 IAAF World Indoor Championships (Birmingham, GBR) *Walker (2019). Biomechanical Report for the IAAF World Indoor Championships 2018: 60 Metres Hurdles Men*

date	04-Mar-18	time	2.53	3.58	4.62	5.63	6.64							7.56	1 / 4			
reaction time	0.141	interval	7 steps	1.05	1.04	1.01	1.01						0.92			3.10		
		velocity	5.42	8.70	8.79	9.05	9.05						10.57	7.94		8.85		

FINAL - 2017 Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	01-Sep-17	time	2.48	3.52	4.54	5.54	6.54	7.54	8.58	9.60	10.62	11.68		13.20	6 / 3			
reaction time	0.133	interval	7 steps	1.04	1.02	1.00	1.00	1.00	1.04	1.02	1.02	1.06	1.52			3.06	3.04	3.10
wind	0.5 m/s	velocity	5.53	8.79	8.96	9.14	9.14	9.14	8.79	8.96	8.96	8.62	9.22	8.33		8.96	9.02	8.85

FINAL - 2017 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	20-Aug-17	time	2.48	3.52	4.54	5.52	6.56	7.60	8.62	9.66	10.70	11.78		13.29	6 / 1			
reaction time	0.127	interval	7 steps	1.04	1.02	0.98	1.04	1.04	1.02	1.04	1.04	1.08	1.51			3.04	3.10	3.16
wind	-0.6 m/s	velocity	5.53	8.79	8.96	9.33	8.79	8.79	8.96	8.79	8.79	8.46	9.28	8.28		9.02	8.85	8.68

FINAL - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	07-Aug-17	time	2.43	3.48	4.50	5.51	6.53	7.55	8.57	9.60	10.66	11.72		13.31	9 / 5			
reaction time	0.163	interval		1.05	1.02	1.01	1.02	1.02	1.02	1.03	1.06	1.06	1.59			3.08	3.06	3.15
wind	0.0 m/s	velocity	5.65	8.70	8.96	9.05	8.96	8.96	8.96	8.87	8.62	8.62	8.82	8.26		8.90	8.96	8.70

Semi-Final 3 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.36	3.41	4.44	5.46	6.48	7.50	8.52	9.55	10.59	11.65		13.25	7 / 2			
reaction time	0.117	interval		1.05	1.03	1.02	1.02	1.02	1.02	1.03	1.04	1.06	1.60			3.10	3.06	3.13
wind	0.3 m/s	velocity	5.81	8.70	8.87	8.96	8.96	8.96	8.96	8.87	8.79	8.62	8.76	8.30		8.85	8.96	8.76

FINAL - 2017 Galà dei Castelli (Bellinzona, SUI) *(2017.07.18) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	18-Jul-17	time	2.57	3.61	4.64	5.64	6.64	7.66	8.67	9.70	10.73	11.77		13.20	4 / 1			
reaction time		interval	7 steps	1.04	1.03	1.00	1.00	1.02	1.01	1.03	1.03	1.04	1.43			3.07	3.03	3.10
wind	-0.6 m/s	velocity	5.34	8.79	8.87	9.14	9.14	8.96	9.05	8.87	8.87	8.79	9.80	8.33		8.93	9.05	8.85

FINAL - 2017 Müller's Anniversary Games (London, GBR) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	09-Jul-17	time	2.52	3.56	4.58	5.56	6.58	7.58	8.58	9.58	10.62	11.62		13.09	4 / 1			
reaction time	0.134	interval	7 steps	1.04	1.02	0.98	1.02	1.00	1.00	1.00	1.04	1.00	1.47			3.04	3.02	3.04
wind	0.0 m/s	velocity	5.44	8.79	8.96	9.33	8.96	9.14	9.14	9.14	8.79	9.14	9.54	8.40		9.02	9.08	9.02

FINAL - 2017 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	04-Jul-17	time	2.48	3.52	4.52	5.52	6.52	7.52	8.54	9.58	10.60	11.66		13.11	3 / 3			
reaction time	0.126	interval	7 steps	1.04	1.00	1.00	1.00	1.00	1.02	1.04	1.02	1.06	1.45			3.04	3.02	3.12
wind	0.3 m/s	velocity	5.53	8.79	9.14	9.14	9.14	9.14	8.96	8.79	8.96	8.62	9.67	8.39		9.02	9.08	8.79

FINAL - 2017 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	08-Jun-17	time	2.44	3.48	4.48	5.48	6.50	7.50	8.54	9.56	10.60	11.66		13.13	7 / 1			
reaction time	0.132	interval	7 steps	1.04	1.00	1.00	1.02	1.00	1.04	1.02	1.04	1.06	1.47			3.04	3.06	3.12
wind	-0.3 m/s	velocity	5.62	8.79	9.14	9.14	8.96	9.14	8.79	8.96	8.79	8.62	9.54	8.38		9.02	8.96	8.79

FINAL - 2017 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	27-May-17	time	2.48	3.50	4.52	5.52	6.54	7.54	8.56	9.58	10.62	11.66		13.13	6 / 4			
reaction time	0.132	interval	7 steps	1.02	1.02	1.00	1.02	1.00	1.02	1.02	1.04	1.04	1.47			3.04	3.04	3.10
wind	0.9 m/s	velocity	5.53	8.96	8.96	9.14	8.96	9.14	8.96	8.96	8.79	8.79	9.54	8.38		9.02	9.02	8.85

FINAL - 2017 Shanghai Diamond League (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	13-May-17	time	2.54	3.58	4.58	5.58	6.62	7.66	8.66	9.74	10.78	11.86		13.36	7 / 6			
reaction time	0.136	interval	7 steps	1.04	1.00	1.00	1.04	1.04	1.00	1.08	1.04	1.08	1.50			3.04	3.08	3.20
wind	0.5 m/s	velocity	5.40	8.79	9.14	9.14	8.79	8.79	9.14	8.46	8.79	8.46	9.35	8.23		9.02	8.90	8.57

FINAL - 2017 Drake Relays (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	29-Apr-17	time	2.53	3.60	4.63	5.63	6.63	7.66	8.70	9.76	10.83	11.93		13.44	5 / 4			
reaction time		interval	7 steps	1.07	1.03	1.00	1.00	1.03	1.04	1.06	1.07	1.10	1.51			3.10	3.07	3.23
wind	1.8 m/s	velocity	5.42	8.54	8.87	9.14	9.14	8.87	8.79	8.62	8.54	8.31	9.28	8.18		8.85	8.93	8.49

FINAL - 2016 USA Olympic Trials (Eugene, OR) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	09-Jul-16	time	2.47	3.49	4.49	5.49	6.47	7.47	8.49	9.54	10.60	11.66		13.22	1 / 4			
reaction time	0.155	interval	7 steps	1.02	1.00	1.00	0.98	1.00	1.02	1.05	1.06	1.06	1.56			3.02	3.00	3.17
wind	1.0 m/s	velocity	5.55	8.96	9.14	9.14	9.33	9.14	8.96	8.70	8.62	8.62	8.99	8.32		9.08	9.14	8.65

FINAL - 2016 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	28-May-16	time	2.46	3.52	4.54	5.56	6.60	7.62	8.64	9.68	10.74	11.86		13.51	3 / 4			
reaction time		interval	7 steps	1.06	1.02	1.02	1.04	1.02	1.02	1.04	1.06	1.12	1.65			3.10	3.08	3.22
wind	0.7 m/s	velocity	5.58	8.62	8.96	8.96	8.79	8.96	8.96	8.79	8.62	8.16	8.50	8.14		8.85	8.90	8.52

FINAL - 2016 Doha Diamond League (Doha, QAT) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	06-May-16	time	2.52	3.60	4.64	5.68	6.70	7.72	8.76	9.80	10.84	11.92		13.37	5 / 6			
reaction time	0.125	interval	7 steps	1.08	1.04	1.04	1.02	1.02	1.04	1.04	1.04	1.08	1.45			3.16	3.08	3.16
wind	1.4 m/s	velocity	5.44	8.46	8.79	8.79	8.96	8.96	8.79	8.79	8.79	8.46	9.67	8.23		8.68	8.90	8.68

FINAL - 2015 IAAF World Championships (Beijing, CHN) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	28-Aug-15	time	2.48	3.52	4.52	5.52	6.52	7.52	8.52	9.54	10.58	11.62		13.04	4 / 3			
reaction time	0.141	interval	7 steps	1.04	1.00	1.00	1.00	1.00	1.00	1.02	1.04	1.04	1.42			3.04	3.00	3.10
wind	0.2 m/s	velocity	5.53	8.79	9.14	9.14	9.14	9.14	9.14	8.96	8.79	8.79	9.87	8.44		9.02	9.14	8.85

FINAL - 2013 IAAF World Championships (Moscow, RUS) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	12-Aug-13	time	2.50	3.54	4.54	5.54	6.54	7.54	8.58	9.62	10.68	11.78		13.31	8 / 6			
reaction time	0.147	interval	7 steps	1.04	1.00	1.00	1.00	1.00	1.04	1.04	1.06	1.10	1.53			3.04	3.04	3.20
wind	0.3 m/s	velocity	5.49	8.79	9.14	9.14	9.14	9.14	8.79	8.79	8.62	8.31	9.16	8.26		9.02	9.02	8.57

FINAL - 2012 Memorial Van Damme (Brussels, BEL) (TV Analysis) *May (2012) - http://www.fgs.uni-halle.de*

date	07-Sep-12	time	2.52	3.56	4.56	5.53	6.50	7.48	8.46	9.44	10.44	11.46		12.80	6 / 1			
reaction time	0.145	interval	7 steps	1.04	1.00	0.97	0.97	0.98	0.98	0.98	1.00	1.02	1.34	**WR**		3.01	2.93	3.00
wind	0.3 m/s	velocity	5.44	8.79	9.14	9.42	9.42	9.33	9.33	9.33	9.14	8.96	10.46	8.59		9.11	9.36	9.14

FINAL - 2012 ISTAF (Berlin, GER) (TV Analysis) *Henson (2021) - Athlete First: 2012 Aries Merritt world record season*

date	02-Sep-12	time	2.43	3.45	4.47	5.47	6.47	7.47	8.47	9.47	10.49	11.51		12.97	4 / 1			
reaction time	0.164	interval	7 steps	1.02	1.02	1.00	1.00	1.00	1.00	1.00	1.02	1.02	1.46			3.04	3.00	3.04
wind	1.2 m/s	velocity	5.65	8.96	8.96	9.14	9.14	9.14	9.14	9.14	8.96	8.96	9.60	8.48		9.02	9.14	9.02

FINAL - 2012 AVIVA Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	26-Aug-12	time	2.44	3.46	4.47	5.48	6.46	7.46	8.46	9.46	10.46	11.50		12.95	3 / 1			
reaction time	0.146	interval	7 steps	1.02	1.01	1.01	0.98	1.00	1.00	1.00	1.00	1.04	1.45			3.04	2.98	3.04
wind	-0.9 m/s	velocity	5.62	8.96	9.05	9.05	9.33	9.14	9.14	9.14	9.14	8.79	9.67	8.49		9.02	9.20	9.02

FINAL - 2012 Olympic Games (London, GBR) (TV Analysis) *Graubner (2012) - http://www.fgs.uni-halle.de*

date	08-Aug-12	time	2.54	3.55	4.55	5.54	6.53	7.52	8.53	9.53	10.55	11.57		12.92	6 / 1			
reaction time	0.143	interval	7 steps	1.01	1.00	0.99	0.99	0.99	1.01	1.00	1.02	1.02	1.35	**PB**		3.00	2.99	3.04
wind	-0.3 m/s	velocity	5.40	9.05	9.14	9.23	9.23	9.23	9.05	9.14	8.96	8.96	10.39	8.51		9.14	9.17	9.02

Semi-Final 2 - 2012 Olympic Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	08-Aug-12	time	2.48	3.50	4.52	5.50	6.50	7.48	8.46	9.46	10.48	11.50		12.94	7 / 1			
reaction time	0.147	interval	7 steps	1.02	1.02	0.98	1.00	0.98	0.98	1.00	1.02	1.02	1.44			3.02	2.96	3.04
wind	0.1 m/s	velocity	5.53	8.96	8.96	9.33	9.14	9.33	9.33	9.14	8.96	8.96	9.74	8.50		9.08	9.26	9.02

Heat 5 - 2012 Olympic Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	07-Aug-12	time	2.46	3.50	4.48	5.50	6.50	7.50	8.50	9.50	10.50	11.58		13.07	7 / 1			
reaction time	0.142	interval	7 steps	1.04	0.98	1.02	1.00	1.00	1.00	1.00	1.00	1.08	1.49			3.04	3.00	3.08
wind	0.7 m/s	velocity	5.58	8.79	9.33	8.96	9.14	9.14	9.14	9.14	9.14	8.46	9.41	8.42		9.02	9.14	8.90

FINAL - 2012 Herculis Meeting International D'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	20-Jul-12	time	2.38	3.40	4.44	5.42	6.40	7.38	8.38	9.38	10.42	11.46		12.93	5 / 1			
reaction time	0.112	interval	7 steps	1.02	1.04	0.98	0.98	0.98	1.00	1.00	1.04	1.04	1.47	**=PB**		3.04	2.96	3.08

wind	0.0 m/s	velocity	5.76	8.96	8.79	9.33	9.33	9.33	9.14	9.14	8.79	8.79	9.54	8.51		9.02	9.26	8.90

FINAL - 2012 AVIVA London Grand Prix (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	13-Jul-12	time	2.46	3.46	4.48	5.46	6.44	7.42	8.42	9.42	10.46	11.46		12.93	4 / 1			
reaction time	0.137	interval	*7 steps*	1.00	1.02	0.98	0.98	0.98	1.00	1.00	1.04	1.00	1.47	**=PB**		3.00	2.96	3.04
wind	0.6 m/s	velocity	5.58	9.14	8.96	9.33	9.33	9.33	9.14	9.14	8.79	9.14	9.54	8.51		9.14	9.26	9.02

Heat 2 - 2012 AVIVA Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2021) - Athlete First: 2012 Aries Merritt world record season*

date	13-Jul-12	time	2.48	3.52	4.52	5.52	6.52	7.54	8.56	9.58	10.60	11.66		13.14	4 / 1			
reaction time	0.139	interval	*7 steps*	1.04	1.00	1.00	1.00	1.02	1.02	1.02	1.02	1.06	1.48			3.04	3.04	3.10
wind	-0.9 m/s	velocity	5.53	8.79	9.14	9.14	9.14	8.96	8.96	8.96	8.96	8.62	9.47	8.37		9.02	9.02	8.85

FINAL - 2012 USA Olympic Trials (Eugene, OR) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	30-Jun-12	time	2.37	3.40	4.40	5.39	6.37	7.36	8.34	9.34	10.36	11.37		12.93	5 / 1			
reaction time	0.138	interval	*7 steps*	1.03	1.00	0.99	0.98	0.99	0.98	1.00	1.02	1.01	1.56	**PB**		3.02	2.95	3.03
wind	1.2 m/s	velocity	5.79	8.87	9.14	9.23	9.33	9.23	9.33	9.14	8.96	9.05	8.99	8.51		9.08	9.29	9.05

FINAL - 2012 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	02-Jun-12	time	2.52	3.54	4.56	5.58	6.56	7.56	8.56	9.54	10.54	11.58		12.96	3 / 2			
reaction time	0.151	interval	*7 steps*	1.02	1.02	1.02	0.98	1.00	1.00	1.00	1.00	1.04	1.38			3.06	2.98	3.02
wind	2.4 m/s	velocity	5.44	8.96	8.96	8.96	9.33	9.14	9.14	9.33	9.14	8.79	10.16	8.49		8.96	9.20	9.08

FINAL - 2012 Golden Grand Prix (Shanghai, CHN) *Feng (2016) - Liu Xiang's seven-step starting: discussion on the key issues of 110m hurdles technical training*

date	19-May-12	time	2.34	3.38	4.42	5.46	6.50	7.54	8.58	9.62	10.66	11.70		13.26	6 / 4			
reaction time	0.142	interval		1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.56			3.12	3.12	3.12
wind	0.4 m/s	velocity	5.86	8.79	8.79	8.79	8.79	8.79	8.79	8.79	8.79	8.79	8.99	8.30		8.79	8.79	8.79

FINAL - 2012 Colorful Daegu Meeting (Daegu, KOR) (TV Analysis) *Henson (2021) - Athlete First: 2012 Aries Merritt world record season*

date	16-May-12	time	2.53	3.60	4.60	5.60	6.60	7.60	8.64	9.67				13.21	3 / 1			
reaction time	0.165	interval	*7 steps*	1.07	1.00	1.00	1.00	1.00	1.04	1.03						3.07	3.04	
wind	-0.4 m/s	velocity	5.42	8.54	9.14	9.14	9.14	9.14	8.79	8.87				8.33		8.93	9.02	

FINAL - 2012 Arkansas Twilight (Fayetteville, AR) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	04-May-12	time	2.50	3.53	4.55	5.57	6.57	7.54	8.54	9.54	10.54			13.03	5 / 1			
reaction time		interval	*7 steps*	1.03	1.02	1.02	1.00	0.97	1.00	1.00	1.00					3.07	2.97	
wind	1.0 m/s	velocity	5.49	8.87	8.96	8.96	9.14	9.42	9.14	9.14	9.14			8.44		8.93	9.23	

Heat 3 - 2012 Arkansas Twilight (Fayetteville, AR) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	04-May-12	time	2.50	3.53	4.53	5.53	6.52	7.51	8.50	9.51	10.52	11.54		12.99	5 / 1			
reaction time		interval	*7 steps*	1.03	1.00	1.00	0.99	0.99	0.99	1.01	1.01	1.02	1.45			3.03	2.97	3.04
wind	2.9 m/s	velocity	5.49	8.87	9.14	9.14	9.23	9.23	9.23	9.05	9.05	8.96	9.67	8.47		9.05	9.23	9.02

FINAL - 2012 IAAF World Indoor Championships (Istanbul, TUR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	11-Mar-12	time	2.48	3.48	4.50	5.50	6.50							7.44	4 / 1			
reaction time	0.135	interval	*7 steps*	1.00	1.02	1.00	1.00						0.94			3.02		
		velocity	5.53	9.14	8.96	9.14	9.14						10.34	8.06		9.08		

FINAL - 2012 USATF National Indoor Championships (Albuquerque, NM) (Altitude) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	26-Feb-12	time	2.50	3.52	4.56	5.54	6.54							7.43	6 / 1			
reaction time	0.138	interval	*7 steps*	1.02	1.04	0.98	1.00						0.89	**PB**		3.04		
		velocity	5.49	8.96	8.79	9.33	9.14						10.92	8.08		9.02		

FINAL - 2012 Leonard Hilton Memorial Invitational (Houston, TX) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	13-Jan-12	time	2.53	3.53	4.53	5.52	6.52							7.46	5 / 1			
reaction time		interval	*7 steps*	1.00	1.00	0.99	1.00						0.94			2.99		
		velocity	5.42	9.14	9.14	9.23	9.14						10.34	8.04		9.17		

FINAL - 2011 IAAF World Championships (Daegu, KOR) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	29-Aug-11	time	2.50	3.54	4.57	5.57	6.61	7.71	8.79	9.88	10.94	12.01		13.67	7 / ~~6~~ 5			
reaction time	0.140	interval		1.04	1.03	1.00	1.04	1.10	1.08	1.09	1.06	1.07	1.66			3.07	3.22	3.22
wind	-1.1 m/s	velocity	5.49	8.79	8.87	9.14	8.79	8.31	8.46	8.39	8.62	8.54	8.45	8.05		8.93	8.52	8.52

FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Sep-08	time	2.66	3.72	4.77	5.80	6.83	7.87	8.91	9.96	11.02	12.10		13.56	4 / 4			
reaction time	0.156	interval		1.06	1.05	1.03	1.03	1.04	1.04	1.05	1.06	1.08	1.46			3.14	3.11	3.19
wind	-1.3 m/s	velocity	5.16	8.62	8.70	8.87	8.87	8.79	8.79	8.70	8.62	8.46	9.60	8.11		8.73	8.82	8.60

FINAL - 2008 USA Olympic Trials (Eugene, OR) *USATF Hurdle Development (2008)*

date	06-Jul-08	time	2.59	3.65	4.70	5.74	6.74	7.76	8.79	9.83	10.84	11.89		13.27	1 / 4			
reaction time	0.136	interval		1.06	1.05	1.04	1.00	1.02	1.03	1.04	1.01	1.05	1.38			3.15	3.05	3.10
wind	3.5 m/s	velocity	5.30	8.62	8.70	8.79	9.14	8.96	8.87	8.79	9.05	8.70	10.16	8.29		8.70	8.99	8.85

FINAL - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.65	3.72	4.74	5.76	6.76	7.77	8.76	9.79	10.83	11.85		13.24	7 / 6			
reaction time		interval		1.07	1.02	1.02	1.00	1.01	0.99	1.03	1.04	1.02	1.39			3.11	3.00	3.09
wind	0.5 m/s	velocity	5.18	8.54	8.96	8.96	9.14	9.05	9.23	8.87	8.79	8.96	10.09	8.31		8.82	9.14	8.87

Semi-Final 1 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.62	3.69	4.70	5.76	6.79	7.79	8.83	9.88	10.89	11.95		13.37	5 / 3			
reaction time		interval		1.07	1.01	1.06	1.03	1.00	1.04	1.05	1.01	1.06	1.42			3.14	3.07	3.12
wind	-0.6 m/s	velocity	5.24	8.54	9.05	8.62	8.87	9.14	8.79	8.70	9.05	8.62	9.87	8.23		8.73	8.93	8.79

Heat 2 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.75	3.89	4.92	5.99	7.06	8.11	9.16	10.21	11.26	12.35		13.68	2 / 2			
reaction time		interval		1.14	1.03	1.07	1.07	1.05	1.05	1.05	1.05	1.09	1.33			3.24	3.17	3.19
wind	-1.9 m/s	velocity	4.99	8.02	8.87	8.54	8.54	8.70	8.70	8.70	8.70	8.39	10.54	8.04		8.46	8.65	8.60

FINAL - 2006 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2006)*

date	25-Jun-06	time	2.67	3.75	4.81	5.84	6.86	7.86	8.89	9.93	10.98	12.03		13.43	/ 6			
reaction time		interval		1.08	1.06	1.03	1.02	1.00	1.03	1.04	1.05	1.05	1.40			3.17	3.05	3.14
wind	-0.4 m/s	velocity	5.14	8.46	8.62	8.87	8.96	9.14	8.87	8.79	8.70	8.70	10.01	8.19		8.65	8.99	8.73

FINAL - 2005 USATF National Championships (Carson, CA) *USATF Women's Sprint Development (2005)*

date	24-Jun-05	time	2.66	3.74	4.81	5.81	6.84	7.88	8.93	9.91	10.97	12.03		13.39	8 / 7			
reaction time		interval		1.08	1.07	1.00	1.03	1.04	1.05	0.98	1.06	1.06	1.36			3.15	3.12	3.10
wind	0.2 m/s	velocity	5.16	8.46	8.54	9.14	8.87	8.79	8.70	9.33	8.62	8.62	10.31	8.22		8.70	8.79	8.85

Mihaailescu, Alexandru (ROU) (1982)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2010 European Team Championships, 1st League (Budapest, HUN) *Blomkvist (2010) - www.sub13.se*

date	20-Jun-10	time	2.51	3.64	4.69	5.75	6.80	7.86	8.93	10.00	11.11	12.22		13.87	2 / 4			
reaction time	0.150	interval		1.13	1.05	1.06	1.05	1.06	1.07	1.07	1.11	1.11	1.65			3.24	3.18	3.29
wind	1.1 m/s	velocity	5.47	8.09	8.70	8.62	8.70	8.62	8.54	8.54	8.23	8.23	8.50	7.93		8.46	8.62	8.33

Milburn, Rodney (USA) (1950)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1972 Olympic Games (Munich, FRG) *Kay (1972) - BAAB Munich Technical Report*

date	07-Sep-72	time	2.5	3.5	4.5	5.6	6.6	7.6	8.6	9.6	10.6	11.7		13.24	5 / 1			
reaction time		interval		1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.10	1.54	WR		3.10	3.00	3.10
wind	0.3 m/s	velocity	5.49	9.14	9.14	8.31	9.14	9.14	9.14	9.14	9.14	8.31	9.10	8.31		8.85	9.14	8.85

Minoue, Gregory (GER) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2025 European Athletics Indoor Championships (Apeldoorn, NED) *European Athletics (2025) - european athletics indoor championships results book*

date	07-Mar-25	time	2.44	3.52	4.56	5.58	6.60							7.68	7 / 6			
reaction time	0.139	interval	7 steps	1.08	1.04	1.02	1.02						1.08			3.14		
		velocity	5.62	8.46	8.79	8.96	8.96						9.00	7.81		8.73		

Mita, Kyohei (JPN) (1991)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2013 Japanese National Championships (Chofu, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	09-Jun-13	time	2.69	3.79	4.88	5.96	7.04	8.11	9.19	10.26	11.35	12.45		13.88	2 / 5			
reaction time		interval		1.10	1.09	1.08	1.08	1.07	1.08	1.07	1.09	1.10	1.43			3.27	3.23	3.26
wind	1.2 m/s	velocity	5.10	8.31	8.39	8.46	8.46	8.54	8.46	8.54	8.39	8.31	9.80	7.93		8.39	8.49	8.41

Heat 1 - 2013 Japanese National Championships (Chofu, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	08-Jun-13	time	2.71	3.82	4.90	5.98	7.06	8.14	9.23	10.32	11.42	12.52		13.96	3 / 5			
reaction time		interval		1.11	1.08	1.08	1.08	1.08	1.09	1.09	1.10	1.10	1.44			3.27	3.25	3.29
wind	-0.1 m/s	velocity	5.06	8.23	8.46	8.46	8.46	8.46	8.39	8.39	8.31	8.31	9.74	7.88		8.39	8.44	8.33

FINAL - 2013 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-13	time	2.70	3.80	4.90	5.97	7.03	8.11	9.19	10.28	11.39	12.48		13.92	/ 5			
reaction time		interval		1.10	1.10	1.07	1.06	1.08	1.08	1.09	1.11	1.09	1.44			3.27	3.22	3.29
wind	0.7 m/s	velocity	5.08	8.31	8.31	8.54	8.62	8.46	8.46	8.39	8.23	8.39	9.74	7.90		8.39	8.52	8.33

Heat 3 - 2013 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-13	time	2.66	3.76	4.83	5.90	6.96	8.03	9.10	10.17	11.26	12.34		13.77	/ 1			
reaction time		interval		1.10	1.07	1.07	1.06	1.07	1.07	1.07	1.09	1.08	1.43			3.24	3.20	3.24
wind	2.4 m/s	velocity	5.16	8.31	8.54	8.54	8.62	8.54	8.54	8.54	8.39	8.46	9.80	7.99		8.46	8.57	8.46

FINAL - 2012 Japanese National Championships (Osaka, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	10-Jun-12	time	2.67	3.78	4.86	5.94	7.02	8.10	9.18	10.27	11.38	12.47		13.92	2 / 4			
reaction time		interval		1.11	1.08	1.08	1.08	1.08	1.08	1.09	1.11	1.09	1.45			3.27	3.24	3.29
wind	-0.6 m/s	velocity	5.14	8.23	8.46	8.46	8.46	8.46	8.46	8.39	8.23	8.39	9.67	7.90		8.39	8.46	8.33

Semi-Final 1 - 2012 Japanese National Championships (Osaka, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	10-Jun-12	time	2.68	3.78	4.87	5.95	7.01	8.09	9.16	10.23	11.31	12.38		13.79	3 / 4			
reaction time		interval		1.10	1.09	1.08	1.06	1.08	1.07	1.07	1.08	1.07	1.41			3.27	3.21	3.22
wind	2.4 m/s	velocity	5.12	8.31	8.39	8.46	8.62	8.46	8.54	8.54	8.46	8.54	9.94	7.98		8.39	8.54	8.52

Heat 3 - 2012 Japanese National Championships (Osaka, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	09-Jun-12	time	2.68	3.78	4.89	5.97	7.04	8.11	9.20	10.28	11.38	12.49		13.92	6 / 4		
reaction time		interval		1.10	1.11	1.08	1.07	1.07	1.09	1.08	1.10	1.11	1.43			3.29	3.23	3.29
wind	0.0 m/s	velocity	5.12	8.31	8.23	8.46	8.54	8.54	8.39	8.46	8.31	8.23	9.80	7.90		8.33	8.49	8.33

B FINAL - 2012 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-12	time	2.69	3.78	4.86	5.94	7.03	8.10	9.19	10.28	11.37	12.46		13.87	6 / 3		
reaction time		interval		1.09	1.08	1.08	1.09	1.07	1.09	1.09	1.09	1.09	1.41	PB		3.25	3.25	3.27
wind	2.1 m/s	velocity	5.10	8.39	8.46	8.46	8.39	8.54	8.39	8.39	8.39	8.39	9.94	7.93		8.44	8.44	8.39

Mitchum, Eric (USA) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.74	3.79	4.87	5.91	6.95	8.02	9.09	10.18	11.28	12.40		13.82	5 / 5		
reaction time		interval		1.05	1.08	1.04	1.04	1.07	1.07	1.09	1.10	1.12	1.42			3.17	3.18	3.31
wind	-1.9 m/s	velocity	5.01	8.70	8.46	8.79	8.79	8.54	8.54	8.39	8.31	8.16	9.87	7.96		8.65	8.62	8.28

FINAL - 2003 USATF National Junior Championships (Palo Alto, CA) (99cm) *USATF Women's Sprint Development (2003)*

date	22-Jun-03	time	2.58	3.67	4.76	5.82	6.87	7.92	8.99	10.06	11.16	12.28		13.81	7 / 3		
reaction time		interval		1.09	1.09	1.06	1.05	1.05	1.07	1.07	1.10	1.12	1.53			3.24	3.17	3.29
wind	-0.4 m/s	velocity	5.32	8.39	8.39	8.62	8.70	8.70	8.54	8.54	8.31	8.16	9.16	7.97		8.46	8.65	8.33

Miura, Yoshiaki (JPN) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Kansai Regional University Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/05/13/post-441/*

date	11-May-17	time	2.68	3.80	4.91	6.01	7.15	8.26	9.38	10.52	11.70	12.88		14.42	8 / 8		
reaction time		interval		1.12	1.11	1.10	1.14	1.11	1.12	1.14	1.18	1.18	1.54			3.33	3.37	3.50
wind	1.6 m/s	velocity	5.12	8.16	8.23	8.31	8.02	8.23	8.16	8.02	7.75	7.75	9.10	7.63		8.23	8.14	7.83

Miyata, Ryusei (JPN) (2004)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2022 Japanese National High School Championships (Naruto, JPN) *Kishima (2022) - national high school championships biomechanics data collection*

date	07-Aug-22	time	2.70	3.85	5.02	6.16	7.30	8.47	9.66	10.92	12.12	13.36		14.92	8 / 5		
reaction time	0.159	interval		1.15	1.17	1.14	1.14	1.17	1.19	1.26	1.20	1.24	1.56			3.46	3.50	3.70
wind	-3.8 m/s	velocity	5.08	7.95	7.81	8.02	8.02	7.81	7.68	7.25	7.62	7.37	8.99	7.37		7.92	7.83	7.41

Miyamoto, Koju (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN) *Takashima (2023) - national high school sports festival - biomechanics data*

date	06-Aug-23	time	2.74	3.86	4.95	6.08	7.17	8.29	9.39	10.57	11.74	12.94		14.41	7 / 7		
reaction time	0.197	interval		1.12	1.09	1.13	1.09	1.12	1.10	1.18	1.17	1.20	1.47			3.34	3.31	3.55
wind	0.8 m/s	velocity	5.01	8.16	8.39	8.09	8.39	8.16	8.31	7.75	7.81	7.62	9.54	7.63		8.21	8.28	7.72

Miyazaki, Takumi (JPN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2023 Japanese National Championsips (Osaka, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	04-Jun-23	time	2.61	3.69	4.76	5.82	6.88	7.96	9.05	10.15	11.27	12.40		13.88	2 / 6		
reaction time	0.157	interval		1.08	1.07	1.06	1.06	1.08	1.09	1.10	1.12	1.13	1.48			3.21	3.23	3.35
wind	-0.9 m/s	velocity	5.26	8.46	8.54	8.62	8.62	8.46	8.39	8.31	8.16	8.09	9.47	7.93		8.54	8.49	8.19

FINAL - 2022 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	01-May-22	time	2.64	3.71	4.79	5.87	6.96	8.05	9.15	10.26	11.39	12.53		13.99	9 / 8		
reaction time	0.152	interval		1.07	1.08	1.08	1.09	1.09	1.10	1.11	1.13	1.14	1.46			3.23	3.28	3.38
wind	0.8 m/s	velocity	5.20	8.54	8.46	8.46	8.39	8.39	8.31	8.23	8.09	8.02	9.60	7.86		8.49	8.36	8.11

B FINAL - 2022 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	29-Apr-22	time	2.65	3.76	4.84	5.95	7.06	8.17	9.29	10.42	11.58	12.74		14.24	2 / 7		
reaction time	0.161	interval		1.11	1.08	1.11	1.11	1.11	1.12	1.13	1.16	1.16	1.50			3.30	3.34	3.45
wind	-0.7 m/s	velocity	5.18	8.23	8.46	8.23	8.23	8.23	8.16	8.09	7.88	7.88	9.35	7.72		8.31	8.21	7.95

FINAL - 2019 National Sports Festival (Hitachinaka, JPN) (99cm) *Enomoto (2019) - research on athlete performance and technique- 2019 data book*

date	06-Oct-19	time	2.64	3.72	4.79	5.86	6.89	7.94	8.97	10.03	11.08	12.15		13.60	5 / 5		
reaction time	0.150	interval		1.08	1.07	1.07	1.03	1.05	1.03	1.06	1.05	1.07	1.45			3.22	3.11	3.18
wind	2.7 m/s	velocity	5.20	8.46	8.54	8.54	8.87	8.70	8.87	8.62	8.70	8.54	9.67	8.09		8.52	8.82	8.62

Mohamed, Raphaël (FRA) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	2.48	3.56	4.61	5.63	6.64	7.65	8.67	9.73	10.80	11.86		13.41	9 / 7		
reaction time	0.159	interval	7 steps	1.08	1.05	1.02	1.01	1.01	1.02	1.06	1.07	1.06	1.55			3.15	3.04	3.19
wind	0.1 m/s	velocity	5.53	8.46	8.70	8.96	9.05	9.05	8.96	8.62	8.54	8.62	9.05	8.20		8.70	9.02	8.60

Repechage 2 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	06-Aug-24	time	2.52	3.61	4.66	5.70	6.74	7.77	8.81	9.86	10.92	11.99		13.54	7 / 2		
reaction time	0.195	interval	7 steps	1.09	1.05	1.04	1.04	1.03	1.04	1.05	1.06	1.07	1.55			3.18	3.11	3.18
wind	-0.5 m/s	velocity	5.44	8.39	8.70	8.79	8.79	8.87	8.79	8.70	8.62	8.54	9.05	8.12		8.62	8.82	8.62

Heat 1 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.47	3.57	4.62	5.65	6.66	7.69	8.78	9.89	10.96	12.02		13.61	7 / 5		

reaction time	0.162	interval	7 steps	1.10	1.05	1.03	1.01	1.03	1.09	1.11	1.07	1.06	1.59			3.18	3.13	3.24
wind	0.1 m/s	velocity	5.55	8.31	8.70	8.87	9.05	8.87	8.39	8.23	8.54	8.62	8.82	8.08		8.62	8.76	8.46

Heat 1 - 2024 Meeting de Paris (Paris, FRA) *Omega Timing (2024) - diamond league race analysis*

date	07-Jul-24	time	2.52	3.61	4.66	5.70	6.76	7.80	8.83	9.86	10.88	11.93		13.45	8 / 7			
reaction time	0.155	interval	7 steps	1.09	1.05	1.04	1.06	1.04	1.03	1.03	1.02	1.05	1.52			3.18	3.13	3.10
wind	0.1 m/s	velocity	5.44	8.39	8.70	8.79	8.62	8.79	8.87	8.87	8.96	8.70	9.22	8.18		8.62	8.76	8.85

FINAL - 2024 European Athletics Championships (Roma, ITA) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	08-Jun-24	time	2.63	3.70	4.76	5.80	6.83	7.86	8.88	9.95	11.00	12.13		13.45	3 / =4			
reaction time	0.171	interval	7 steps	1.07	1.06	1.04	1.03	1.03	1.02	1.07	1.05	1.13	1.32			3.17	3.08	3.25
wind	0.6 m/s	velocity	5.22	8.54	8.62	8.79	8.87	8.87	8.96	8.54	8.70	8.09	10.62	8.18		8.65	8.90	8.44

Heat 1 - 2023 Meeting de Paris (Paris, FRA) *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.48	3.56	4.62	5.66	6.70	7.75	8.82	9.89	10.97	12.05		13.65	1 / 6			
reaction time	0.165	interval	7 steps	1.08	1.06	1.04	1.04	1.05	1.07	1.07	1.08	1.08	1.60			3.18	3.16	3.23
wind	-2.0 m/s	velocity	5.53	8.46	8.62	8.79	8.79	8.70	8.54	8.54	8.46	8.46	8.76	8.06		8.62	8.68	8.49

FINAL - 2020 French National Championships (Albi, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	13-Sep-20	time	2.70	3.75	4.79	5.84	6.89	8.00	9.05	10.13	11.14			dnf	7 / --			
reaction time	0.270	interval	7 steps	1.05	1.04	1.05	1.05	1.11	1.05	1.08	1.01					3.14	3.21	
wind	0.0 m/s	velocity	5.08	8.70	8.79	8.70	8.70	8.23	8.70	8.46	9.05					8.73	8.54	

Moloney, Ashley (AUS) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2022 year end hurdle report*

date	24-Jul-22	time	2.68	3.78	4.90	6.00	7.14	8.28	9.42	10.58	11.73	12.92		14.46	5 / 5			
reaction time	0.125	interval	7 steps	1.10	1.12	1.10	1.14	1.14	1.14	1.16	1.15	1.19	1.54			3.32	3.42	3.50
wind	0.4 m/s	velocity	5.12	8.31	8.16	8.31	8.02	8.02	8.02	7.88	7.95	7.68	9.10	7.61		8.26	8.02	7.83

Decathlon - Heat 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	05-Aug-21	time	2.67	3.75	4.84	5.93	7.06	8.13	9.26	10.38	11.50	12.63		14.08	3 / 3			
reaction time	0.143	interval	7 steps	1.08	1.09	1.09	1.13	1.07	1.13	1.12	1.12	1.13	1.45	PB		3.26	3.33	3.37
wind	-1.0 m/s	velocity	5.14	8.46	8.39	8.39	8.09	8.54	8.09	8.16	8.16	8.09	9.67	7.81		8.41	8.23	8.14

Monachon, Raphal (SUI) (1973)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Race 3 - 2004 Atletica (Genève, SUI) *Weber (2004) - wettkampfauswertung 110m hürden*

date	12-Jun-04	time	2.70	3.78	4.80	5.84	6.86	7.96	9.02	10.09	11.16	12.26		13.64	/ 3			
reaction time	0.200	interval		1.08	1.02	1.04	1.02	1.10	1.06	1.07	1.07	1.10	1.38			3.14	3.18	3.24
wind	1.0 m/s	velocity	5.08	8.46	8.96	8.79	8.96	8.31	8.62	8.54	8.54	8.31	10.16	8.06		8.73	8.62	8.46

Montesinos, Hipólito (ESP) (1976)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2001 European Cup (Bremen, GER) *Graubner (2007) - http://www.fgs.uni-halle.de*

date	24-Jun-01	time	2.66	3.72	4.78	5.84	6.91	8.00	9.08	10.18	11.28	12.42		13.88	2 / 6			
reaction time	0.144	interval		1.06	1.06	1.06	1.07	1.09	1.08	1.10	1.10	1.14	1.46			3.18	3.24	3.34
wind	1.3 m/s	velocity	5.16	8.62	8.62	8.62	8.54	8.39	8.46	8.31	8.31	8.02	9.60	7.93		8.62	8.46	8.21

Monzar, Daniel (CZE) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2015 Czech Republic National U20 Indoor Championships (Praha, CZE) (99cm) *Feher (2015) - Final report U18 & U20 Czech Republic indoor national champs*

date	14-Feb-15	time	2.77	3.91	5.03	6.15	7.28							8.23	7 / 3			
reaction time	0.182	interval		1.14	1.12	1.12	1.13						0.95	PB		3.38		
		velocity	4.95	8.02	8.16	8.16	8.09						10.23	7.29		8.11		

Moore, Anwar (USA) (1979)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2008 USA Olympic Trials (Eugene, OR) *USATF Hurdle Development (2008)*

date	06-Jul-08	time	2.52	3.58	4.59	5.59	6.57	7.57	8.57	9.59	10.60	11.73		16.64	2 / 8			
reaction time	0.171	interval		1.06	1.01	1.00	0.98	1.00	1.00	1.02	1.01	1.13	4.91			3.07	2.98	3.16
wind	3.5 m/s	velocity	5.44	8.62	9.05	9.14	9.33	9.14	9.14	8.96	9.05	8.09	2.86	6.61		8.93	9.20	8.68

FINAL - 2007 Seiko Super Grand Prix (Yokohama, JPN) *Akirabun (2008) - 2007 speed analysis of the men's & women's 100m, 100m hurdles, & 110m hurdles*

date	30-Sep-07	time	2.31	3.37	4.42	5.48	6.56	7.65	8.79	9.93	11.09	12.23		14.08	/ 6			
reaction time		interval		1.06	1.05	1.06	1.08	1.09	1.14	1.14	1.16	1.14	1.85			3.17	3.31	3.44
wind	-1.6 m/s	velocity	5.94	8.62	8.70	8.62	8.46	8.39	8.02	8.02	7.88	8.02	7.58	7.81		8.65	8.28	7.97

FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER) *Graubner (2007) - http://www.fgs.uni-halle.de*

date	23-Sep-07	time	2.59	3.65	4.66	5.67	6.67	7.67	8.68	9.70	10.73	11.80		13.18	7 / 4			
reaction time	0.161	interval		1.06	1.01	1.01	1.00	1.00	1.01	1.02	1.03	1.07	1.38			3.08	3.01	3.12
wind	0.0 m/s	velocity	5.30	8.62	9.05	9.05	9.14	9.14	9.05	8.96	8.87	8.54	10.16	8.35		8.90	9.11	8.79

FINAL - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.62	3.67	4.70	5.72	6.72	7.71	8.70	9.74	10.78	11.85		13.23	8 / 5			
reaction time		interval		1.05	1.03	1.02	1.00	0.99	0.99	1.04	1.04	1.07	1.38			3.10	2.98	3.15
wind	0.5 m/s	velocity	5.24	8.70	8.87	8.96	9.14	9.23	9.23	8.79	8.79	8.54	10.16	8.31		8.85	9.20	8.70

Semi-Final 2 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.62	3.67	4.69	5.72	6.77	7.81	8.86	9.88	10.92	11.98		13.35	5 / 4			
reaction time		interval		1.05	1.02	1.03	1.05	1.04	1.05	1.02	1.04	1.06	1.37			3.10	3.14	3.12
wind	-0.9 m/s	velocity	5.24	8.70	8.96	8.87	8.70	8.79	8.70	8.96	8.79	8.62	10.23	8.24		8.85	8.73	8.79

Heat 3 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.60	3.67	4.69	5.76	6.79	7.87	8.93	10.00	11.06	12.15		13.62	3 / 1			
reaction time		interval		1.07	1.02	1.07	1.03	1.08	1.06	1.07	1.06	1.09	1.47			3.16	3.17	3.22
wind	-3.2 m/s	velocity	5.28	8.54	8.96	8.54	8.87	8.46	8.62	8.54	8.62	8.39	9.54	8.08		8.68	8.65	8.52

Moore, Isaiah (USA) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.54	3.63	4.69	5.72	6.77	7.81	8.86	9.91	10.96	12.06		13.59	7 / 8			
reaction time	0.147	interval		1.09	1.06	1.03	1.05	1.04	1.05	1.05	1.05	1.10	1.53			3.18	3.14	3.20
wind	1.8 m/s	velocity	5.40	8.39	8.62	8.87	8.70	8.79	8.70	8.70	8.70	8.31	9.16	8.09		8.62	8.73	8.57

FINAL - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	15-Feb-20	time	2.65	3.77	4.84	5.91	6.97							7.93	1 / 8			
reaction time	0.139	interval		1.12	1.07	1.07	1.06						0.96			3.26		
		velocity	5.18	8.16	8.54	8.54	8.62						10.13	7.57		8.41		

Semi-Final 2 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	15-Feb-20	time	2.63	3.72	4.79	5.84	6.89							7.83	6 / 4			
reaction time	0.161	interval		1.09	1.07	1.05	1.05						0.94			3.21		
		velocity	5.22	8.39	8.54	8.70	8.70						10.34	7.66		8.54		

Heat 2 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.64	3.74	4.79	5.82	6.89							7.82	1 / 3			
reaction time	0.154	interval		1.10	1.05	1.03	1.07						0.93			3.18		
		velocity	5.20	8.31	8.70	8.87	8.54						10.45	7.67		8.62		

FINAL - 2019 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	18-Aug-19	time	2.64	3.73	4.80	5.87	6.91	7.93	9.00	10.09	11.16	12.26		13.81	2 / 8			
reaction time	0.144	interval		1.09	1.07	1.07	1.04	1.02	1.07	1.09	1.07	1.10	1.55			3.23	3.13	3.26
wind	-0.2 m/s	velocity	5.20	8.39	8.54	8.54	8.79	8.96	8.54	8.39	8.54	8.31	9.05	7.97		8.49	8.76	8.41

FINAL - 2019 NCAA National Championships (Austin, TX) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	07-Jun-19	time	2.60	3.67	4.70	5.70	6.74	7.77	8.81	9.84	10.87	11.94		13.37	3 / 3			
reaction time	0.176	interval		1.07	1.03	1.00	1.04	1.03	1.04	1.03	1.03	1.07	1.43	PB		3.10	3.11	3.13
wind	0.8 m/s	velocity	5.28	8.54	8.87	9.14	8.79	8.87	8.79	8.87	8.87	8.54	9.80	8.23		8.85	8.82	8.76

FINAL - 2019 South Eastern Conference Championships (Fayetteville, AR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	11-May-19	time	2.66	3.75	4.80	5.84	6.86	7.86	8.90	9.93	10.96	12.03		13.42	6 / 3			
reaction time		interval		1.09	1.05	1.04	1.02	1.00	1.04	1.03	1.03	1.07	1.39			3.18	3.06	3.13
wind	1.0 m/s	velocity	5.16	8.39	8.70	8.79	8.96	9.14	8.79	8.87	8.87	8.54	10.09	8.20		8.62	8.96	8.76

Moore, Titus (USA) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	15-Feb-20	time	2.66	3.77	4.84	5.90	6.97							7.87	7 / 5			
reaction time	0.179	interval		1.11	1.07	1.06	1.07						0.90			3.24		
		velocity	5.16	8.23	8.54	8.62	8.54						10.80	7.62		8.46		

Heat 2 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.64	3.73	4.79	5.85	6.92							7.84	6 / 4			
reaction time	0.159	interval		1.09	1.06	1.06	1.07						0.92	PB		3.21		
		velocity	5.20	8.39	8.62	8.62	8.54						10.57	7.65		8.54		

Moracho, Javier (ESP) (1957)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1989 IAAF World Cup (Barcelona, ESP) *Gill (1990) - atletismo (I) carreras y marcha*

date	10-Sep-89	time	2.60	3.67	4.73	5.78	6.86	7.92	9.02	10.12	11.23	12.39		13.83	6 / 5			
reaction time		interval	*7 steps*	1.07	1.06	1.05	1.08	1.06	1.10	1.10	1.11	1.16	1.44			3.18	3.24	3.37
wind	2.6 m/s	velocity	5.28	8.54	8.62	8.70	8.46	8.62	8.31	8.31	8.23	7.88	9.74	7.95		8.62	8.46	8.14

Mordi, Manuel (GER) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Repechage 2 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	06-Aug-24	time	2.48	3.55	4.58	5.59	6.61	7.63	8.68	9.74	10.82	11.92		13.55	5 / 4			
reaction time	0.177	interval	7 steps	1.07	1.03	1.01	1.02	1.02	1.05	1.06	1.08	1.10	1.63			3.11	3.09	3.24
wind	-0.5 m/s	velocity	5.53	8.54	8.87	9.05	8.96	8.96	8.70	8.62	8.46	8.31	8.60	8.12		8.82	8.87	8.46

Heat 1 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.46	3.54	4.58	5.59	6.61	7.62	8.66	9.72	10.79	11.86		13.48	6 / 4			
reaction time	0.159	interval	7 steps	1.08	1.04	1.01	1.02	1.01	1.04	1.06	1.07	1.07	1.62			3.13	3.07	3.20
wind	0.1 m/s	velocity	5.58	8.46	8.79	9.05	8.96	9.05	8.79	8.62	8.54	8.54	8.65	8.16		8.76	8.93	8.57

Moriki, Hiroto (JPN) (2004)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2022 Shimane High School Championships (Izumo, JPN)													*Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*			
date 28-May-22	time	2.78	3.98	5.23	6.42	7.60	8.80	10.00	11.20	12.42	13.63		15.20	5 / 2			
reaction time	interval		1.20	1.25	1.19	1.18	1.20	1.20	1.20	1.22	1.21	1.57			3.64	3.58	3.63
wind 0.6 m/s	velocity	4.94	7.62	7.31	7.68	7.75	7.62	7.62	7.62	7.49	7.55	8.93	7.24		7.53	7.66	7.55
FINAL - 2021 Shimane High School Championships (Izumo, JPN)													*Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis*			
date 30-May-21	time	2.78	4.02	5.28	6.50	7.72	9.00	10.25	11.52	12.82	14.12		15.80	5 / 4			
reaction time	interval		1.24	1.26	1.22	1.22	1.28	1.25	1.27	1.30	1.30	1.68			3.72	3.75	3.87
wind 1.7 m/s	velocity	4.94	7.37	7.25	7.49	7.49	7.14	7.31	7.20	7.03	7.03	8.35	6.96		7.37	7.31	7.09

Morimoto, Kimihito (JPN) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 2 - 2018 Japanese National Multi-Event Championships (Nagano, JPN)													*Matsubayashi (2018) - research on athlete performance and technique*			
date 17-Jun-18	time	2.70	3.89	5.07	6.23	7.39	8.55	9.76	10.95	12.13	13.35		14.91	5 / 1			
reaction time	interval		1.19	1.18	1.16	1.16	1.16	1.21	1.19	1.18	1.22	1.56			3.53	3.53	3.59
wind 0.5 m/s	velocity	5.08	7.68	7.75	7.88	7.88	7.88	7.55	7.68	7.75	7.49	8.99	7.38		7.77	7.77	7.64

Morita, Kanon (JPN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
U20 FINAL - 2018 National Sports Festival (Fukui, JPN) (99cm)													*Joshi (2018) - research on athlete performance and technique- 2018 data book*			
date 07-Oct-18	time	2.59	3.67	4.72	5.79	6.83	7.90	8.97	10.04	11.11	12.20		13.60	6 / 3			
reaction time 0.126	interval		1.08	1.05	1.07	1.04	1.07	1.07	1.07	1.07	1.09	1.40			3.20	3.18	3.23
wind 1.5 m/s	velocity	5.30	8.46	8.70	8.54	8.79	8.54	8.54	8.54	8.54	8.39	10.01	8.09		8.57	8.62	8.49
Heat 3 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm)													*(2016.11.07) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 21-Oct-16	time	2.66	3.80	4.92	6.04	7.15	8.28	9.42	10.54	11.70	12.86		14.39	7 / 2			
reaction time	interval		1.14	1.12	1.12	1.11	1.13	1.14	1.12	1.16	1.16	1.53			3.38	3.38	3.44
wind 1.4 m/s	velocity	5.16	8.02	8.16	8.16	8.23	8.09	8.02	8.16	7.88	7.88	9.16	7.64		8.11	8.11	7.97

Morita, Shunichi (JPN) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Fuse Sprint (Tottori, JPN)													*(2017) - tfdata-store.com/2017/06/04/post-848/*			
date 04-Jun-17	time	2.76	3.83	4.95	6.05	7.14	8.24	9.37	10.50	11.63	12.78		14.24	2 / 7			
reaction time	interval		1.07	1.12	1.10	1.09	1.10	1.13	1.13	1.13	1.15	1.46			3.29	3.32	3.41
wind 3.2 m/s	velocity	4.97	8.54	8.16	8.31	8.39	8.31	8.09	8.09	8.09	7.95	9.60	7.72		8.33	8.26	8.04
FINAL - 2017 East Japan Business Athletics Championships (Yuma, JPN)													*(2017) - tfdata-store.com/2017/05/20/post-579/*			
date 20-May-17	time	2.77	3.90	5.01	6.11	7.23	8.35	9.48	10.63	11.80	12.98		14.62	9 / 8			
reaction time	interval		1.13	1.11	1.10	1.12	1.12	1.13	1.15	1.17	1.18	1.64			3.34	3.37	3.50
wind 1.1 m/s	velocity	4.95	8.09	8.23	8.31	8.16	8.16	8.09	7.95	7.81	7.75	8.55	7.52		8.21	8.14	7.83
Heat 2 - 2017 Mito Invitational (Mito, JPN)													*(2017) - tfdata-store.com/2017/05/06/post-423/*			
date 05-May-17	time	2.75	3.89	5.02	6.15	7.28	8.40	9.53	10.69	11.86	13.04		14.58	3 / 5			
reaction time	interval		1.14	1.13	1.13	1.13	1.12	1.13	1.16	1.17	1.18	1.54			3.40	3.38	3.51
wind 0.6 m/s	velocity	4.99	8.02	8.09	8.09	8.09	8.16	8.09	7.88	7.81	7.75	9.10	7.54		8.06	8.11	7.81

Morito, Nobuaki (JPN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN) (99cm)													*Kota (2017) - 70th high school championships: JAF scientific committee- biomechanics data*			
date 02-Aug-17	time	2.74	3.87	4.97	6.09	7.20	8.31	9.41	10.54	11.64	12.81		14.30	4 / 2			
reaction time 0.179	interval		1.13	1.10	1.12	1.11	1.11	1.10	1.13	1.10	1.17	1.49			3.35	3.32	3.40
wind -0.7 m/s	velocity	5.01	8.09	8.31	8.16	8.23	8.23	8.31	8.09	8.31	7.81	9.41	7.69		8.19	8.26	8.06

Morris, Eli (USA) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 4 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis)													*Henson (2024) - Athlete First: 2024 year end hurdle report*			
date 24-Jun-24	time	2.62	3.67	4.70	5.78	6.80	7.83	8.87	9.93	11.00	12.08		13.57	9 / 7			
reaction time	interval		1.05	1.03	1.08	1.02	1.03	1.04	1.06	1.07	1.08	1.49			3.16	3.09	3.21
wind 1.2 m/s	velocity	5.24	8.70	8.87	8.46	8.96	8.87	8.79	8.62	8.54	8.46	9.41	8.11		8.68	8.87	8.54

Moses, Yume (JPN) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2009 Seiko Super Grand Prix (Kawasaki, JPN)													*Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*			
date 23-Sep-09	time	2.60	3.68	4.74	5.80	6.87	7.94	9.02	10.10	11.18	12.28		13.77	/ 2			
reaction time	interval		1.08	1.06	1.06	1.07	1.07	1.08	1.08	1.08	1.10	1.49			3.20	3.22	3.26
wind -1.3 m/s	velocity	5.28	8.46	8.62	8.62	8.54	8.54	8.46	8.46	8.46	8.31	9.41	7.99		8.57	8.52	8.41
FINAL - 2009 Japanese National Championships (Hiroshima, JPN)													*Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*			
date 27-Jun-09	time	2.64	3.75	4.81	5.87	6.92	7.99	9.07	10.17	11.29	12.41		13.89	6 / 7			
reaction time	interval		1.11	1.06	1.06	1.05	1.07	1.08	1.10	1.12	1.12	1.48			3.23	3.20	3.34
wind 1.6 m/s	velocity	5.20	8.23	8.62	8.62	8.70	8.54	8.46	8.31	8.16	8.16	9.47	7.92		8.49	8.57	8.21

Moshiashvili, Anatoliy (URS) (1950)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1975 International "Pravda'" Sportfest (Sotschi, URS)													Artyschenko (1977) - zwischen den hürden geht es um die sekunde, teil 1			
date 30-May-75	time	2.16	3.23	4.36	5.53	6.66	7.79	8.92	10.07	11.22			dnf	/ --			
reaction time	interval		1.07	1.13	1.17	1.13	1.13	1.13	1.15	1.15					3.37	3.39	
wind -0.2 m/s	velocity	6.35	8.54	8.09	7.81	8.09	8.09	8.09	7.95	7.95					8.14	8.09	

Mui Ching Yeung (HKG) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2019 Asian Athletics Championships (Doha, QAT)													*CAA Hurdle Development (2019)*			
date 24-Apr-19	time	2.63	3.71	4.78	5.84	6.92	7.97	9.10	10.22	11.36	12.51		13.96	8 / 8			
reaction time 0.151	interval		1.08	1.07	1.06	1.08	1.05	1.13	1.12	1.14	1.15	1.45			3.21	3.26	3.41
wind 1.7 m/s	velocity	5.22	8.46	8.54	8.62	8.46	8.70	8.09	8.16	8.02	7.95	9.67	7.88		8.54	8.41	8.04
FINAL - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN)													*CAA Hurdle Development (2019)*			
date 09-Apr-19	time	2.68	3.79	4.88	6.00	7.10	8.20	9.27	10.41	11.52	12.66		14.11	1 / --			
reaction time 0.184	interval		1.11	1.09	1.12	1.10	1.10	1.07	1.14	1.11	1.14	1.45			3.32	3.27	3.39
wind 0.2 m/s	velocity	5.12	8.23	8.39	8.16	8.31	8.31	8.54	8.02	8.23	8.02	9.67	7.80		8.26	8.39	8.09
Heat 2 - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN)													*CAA Hurdle Development (2019)*			
date 08-Apr-19	time	2.68	3.77	4.85	5.91	7.01	8.09	9.21	10.31	11.47	12.62		14.09	6 / --			
reaction time 0.172	interval		1.09	1.08	1.06	1.10	1.08	1.12	1.10	1.16	1.15	1.47			3.23	3.30	3.41
wind -0.6 m/s	velocity	5.12	8.39	8.46	8.62	8.31	8.46	8.16	8.31	7.88	7.95	9.54	7.81		8.49	8.31	8.04

Müller, Norman (GER) (1985)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 1 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 20-Aug-09	time	2.79	3.93	5.05	6.17	7.30	8.42	9.55	10.70	11.86	13.40		14.59	5 / 3			
reaction time 0.172	interval		1.14	1.12	1.12	1.13	1.12	1.13	1.15	1.16	1.54	1.19			3.38	3.38	3.85
wind 0.3 m/s	velocity	4.92	8.02	8.16	8.16	8.09	8.16	8.09	7.95	7.88	5.94	11.78	7.54		8.11	8.11	7.12

Mullings, Ken (BAH) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 3 - 2024 Olympic Games (Paris, FRA)													*Paris 2024 Olympic Games - Results Book (2024)*			
date 03-Aug-24	time	2.44	3.53	4.59	5.64	6.68	7.74	8.79	9.85	10.95	12.05		13.70	8 / 2			
reaction time 0.154	interval	7 steps	1.09	1.06	1.05	1.04	1.06	1.05	1.06	1.10	1.10	1.65			3.20	3.15	3.26
wind 0.7 m/s	velocity	5.62	8.39	8.62	8.70	8.79	8.62	8.70	8.62	8.31	8.31	8.50	8.03		8.57	8.70	8.41
Decathlon - Heat 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis)													*Henson (2024) - Athlete First: 2022 year end hurdle report*			
date 24-Jul-22	time	2.66	3.78	4.85	5.91	6.98	8.08	9.18	10.31	11.40	12.53		14.02	4 / 1			
reaction time 0.117	interval	7 steps	1.12	1.07	1.06	1.07	1.10	1.10	1.13	1.09	1.13	1.49	**PB**		3.25	3.27	3.35
wind 0.4 m/s	velocity	5.16	8.16	8.54	8.62	8.54	8.31	8.31	8.09	8.39	8.09	9.41	7.85		8.44	8.39	8.19

Munkelt, Thomas (GDR) (1952)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1982 European Championships (Athens, GRE)													*Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazyklus 1981/84*			
date 11-Sep-82	time	2.58		4.70		6.77		8.84			11.98		13.41	/ 1			
reaction time	interval			2.12		2.07		2.07			3.14	1.43					3.14
wind -0.9 m/s	velocity	5.32		8.62		8.83		8.83			8.73	9.80	8.20				8.73
FINAL - 1981 USSR vs. GDR (Tbilisi, URS)													*Chanon (1987) - analyse comparee des caracteristiques des courses de 100m haies et 110m haies*			
date 26-Jun-81	time	2.56	3.59	4.75	5.78	6.81	7.86	8.94	10.00	11.14	12.32		13.69	/ 1			
reaction time	interval		1.03	1.16	1.03	1.03	1.05	1.08	1.06	1.14	1.18	1.37			3.22	3.16	3.38
wind ???	velocity	5.36	8.87	7.88	8.87	8.87	8.70	8.46	8.62	8.02	7.75	10.23	8.04		8.52	8.68	8.11
FINAL - 1976 Olympic Games (Montreal, CAN)													*Tepper (1978) - Analyse der traininsgestaltung und leistungsentwicklung in den sprintdisziplinen der M & F der DVfL der DDR 73/76*			
date 28-Jul-76	time	2.59	3.67	4.73	5.75	6.77	7.83	8.87	9.91	10.97	12.04		13.44	1 / 5			
reaction time	interval	7 steps	1.08	1.06	1.02	1.02	1.06	1.04	1.04	1.06	1.07	1.40	**PB**		3.16	3.12	3.17
wind 0.0 m/s	velocity	5.30	8.46	8.62	8.96	8.96	8.62	8.79	8.79	8.62	8.54	10.01	8.18		8.68	8.79	8.65
Heat 3 - 1976 Olympic Games (Montreal, CAN)													*Lamare (1976) - les jeux de la XXI olympia, Montreal 1976*			
date 26-Jul-76	time	2.3			5.5	6.6							13.69	1 / 1			
reaction time	interval	7 steps			3.22	1.12									3.22		
wind 0.0 m/s	velocity	6.04			8.52	8.16							8.04		8.52		

Murakami, Masao (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2017 Japanese National Championships (Osaka, JPN)													*(2017) - tfdata-store.com/2017/07/13/post-1040/*			
date 24-Jun-17	time	2.64	3.74	4.83	5.92	7.00	8.09	9.19	10.32	11.46	12.64		14.14	3 / 8			
reaction time 0.167	interval		1.10	1.09	1.09	1.08	1.09	1.10	1.13	1.14	1.18	1.50			3.28	3.27	3.45
wind 1.3 m/s	velocity	5.20	8.31	8.39	8.39	8.46	8.39	8.31	8.09	8.02	7.75	9.35	7.78		8.36	8.39	7.95

Muratake, Rashid (JPN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)													*Omega Timing (2025) - diamond league race analysis*			
date 03-May-25	time	2.37	3.45	4.46	5.45	6.45	7.46	8.47	9.50	10.54	11.58		13.10	4 / 2			
reaction time 0.150	interval	7 steps	1.08	1.01	0.99	1.00	1.01	1.01	1.03	1.04	1.04	1.52			3.08	3.02	3.11
wind 0.6 m/s	velocity	5.79	8.46	9.05	9.23	9.14	9.05	9.05	8.87	8.79	8.79	9.22	8.40		8.90	9.08	8.82
FINAL - 2025 Xiamen Diamond League (Xiamen, CHN)													*Omega Timing (2025) - diamond league race analysis*			
date 26-Apr-25	time	2.40	3.47	4.48	5.47	6.48	7.48	8.49	9.52	10.55	11.60		13.14	3 / 2			
reaction time 0.167	interval	7 steps	1.07	1.01	0.99	1.01	1.00	1.01	1.03	1.03	1.05	1.54			3.07	3.02	3.11
wind 0.3 m/s	velocity	5.72	8.54	9.05	9.23	9.05	9.14	9.05	8.87	8.87	8.70	9.10	8.37		8.93	9.08	8.82
FINAL - 2024 Weltklasse (Zürich, SUI)													*Omega Timing (2024) - diamond league race analysis*			

date	05-Sep-24	time	2.43	3.48	4.49	5.49	6.49	7.51	8.53	9.57	10.61	11.66		13.20	3 / 6			
reaction time	0.161	interval	7 steps	1.05	1.01	1.00	1.00	1.02	1.02	1.04	1.04	1.05	1.54			3.06	3.04	3.13
wind	-0.3 m/s	velocity	5.65	8.70	9.05	9.14	9.14	8.96	8.96	8.79	8.79	8.70	9.10	8.33		8.96	9.02	8.76

FINAL - 2024 Olympic Games (Paris, FRA) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	08-Aug-24	time	2.59	3.63	4.66	5.65	6.66	7.68	8.69	9.73	10.75	11.83		13.21	9 / 5			
reaction time	0.161	interval	7 steps	1.04	1.03	0.99	1.01	1.02	1.01	1.04	1.02	1.08	1.38			3.06	3.04	3.14
wind	-0.1 m/s	velocity	5.30	8.79	8.87	9.23	9.05	8.96	9.05	8.79	8.96	8.46	10.16	8.33		8.96	9.02	8.73

Semi-Final 1 - 2024 Olympic Games (Paris, FRA) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	07-Aug-24	time	2.60	3.65	4.68	5.70	6.70	7.73	8.75	9.78	10.82	11.88		13.26	4 / 4			
reaction time	0.160	interval	7 steps	1.05	1.03	1.02	1.00	1.03	1.02	1.03	1.04	1.06	1.38			3.10	3.05	3.13
wind	0.1 m/s	velocity	5.28	8.70	8.87	8.96	9.14	8.87	8.96	8.87	8.79	8.62	10.16	8.30		8.85	8.99	8.76

Heat 1 - 2024 Olympic Games (Paris, FRA) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	04-Aug-24	time	2.58	3.62	4.63	5.65	6.66	7.66	8.69	9.73	10.78	11.85		13.22	8 / 1			
reaction time	0.139	interval	7 steps	1.04	1.01	1.02	1.01	1.00	1.03	1.04	1.05	1.07	1.37			3.07	3.04	3.16
wind	0.1 m/s	velocity	5.32	8.79	9.05	8.96	9.05	9.14	8.87	8.79	8.70	8.54	10.23	8.32		8.93	9.02	8.68

FINAL - 2024 Japanese National Championsips (Niigata, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	30-Jun-24	time	2.58	3.60	4.61	5.62	6.60	7.60	8.61	9.63	10.66	11.70		13.07	7 / 1			
reaction time	0.162	interval	7 steps	1.02	1.01	1.01	0.98	1.00	1.01	1.02	1.03	1.04	1.37			3.04	2.99	3.09
wind	0.2 m/s	velocity	5.32	8.96	9.05	9.05	9.33	9.14	9.05	8.96	8.87	8.79	10.23	8.42		9.02	9.17	8.87

Heat 1 - 2024 Meeting de Paris (Paris, FRA) *Omega Timing (2024) - diamond league race analysis*

date	07-Jul-24	time	2.41	3.46	4.47	5.48	6.48	7.49	8.51	9.54	10.59	11.64		13.15	6 / 1			
reaction time	0.149	interval	7 steps	1.05	1.01	1.01	1.00	1.01	1.02	1.03	1.05	1.05	1.51			3.07	3.03	3.13
wind	0.1 m/s	velocity	5.69	8.70	9.05	9.05	9.14	9.05	8.96	8.87	8.70	8.70	9.28	8.37		8.93	9.05	8.76

FINAL - 2024 Seiko Golden Grand Prix (Tokyo, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	19-May-24	time	2.60	3.65	4.65	5.68	6.68	7.69	8.73	9.75	10.80	11.83		13.22	6 / 1			
reaction time	0.144	interval	7 steps	1.05	1.00	1.03	1.00	1.01	1.04	1.02	1.05	1.03	1.39			3.08	3.05	3.10
wind	-0.6 m/s	velocity	5.28	8.70	9.14	8.87	9.14	9.05	8.79	8.96	8.70	8.87	10.09	8.32		8.90	8.99	8.85

FINAL - 2024 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	29-Apr-24	time	2.64	3.69	4.71	5.71	6.72	7.73	8.75	9.79	10.84	11.90		13.29	3 / 1			
reaction time	0.191	interval	7 steps	1.05	1.02	1.00	1.01	1.01	1.02	1.04	1.05	1.06	1.39			3.07	3.04	3.15
wind	-0.6 m/s	velocity	4.92	8.10	8.33	8.50	8.42	8.42	8.33	8.17	8.10	8.02	10.09	8.28		8.93	9.02	8.70

FINAL - 2023 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2023) - diamond league race analysis*

date	02-Sep-23	time	2.37	3.42	4.43	5.44	6.46	7.47	8.51	9.54	10.59	11.65		13.19	2 / 5			
reaction time	0.153	interval	7 steps	1.05	1.01	1.01	1.02	1.01	1.04	1.03	1.05	1.06	1.54			3.07	3.07	3.14
wind	0.0 m/s	velocity	5.79	8.70	9.05	9.05	8.96	9.05	8.79	8.87	8.70	8.62	9.10	8.34		8.93	8.93	8.73

Heat 4 - 2022 World Athletics Championships (Eugene, OR) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	16-Jul-22	time	2.67	3.78	4.83	5.86	6.92	7.98	9.03	10.09	11.16	12.30		13.73	8 / 6			
reaction time	0.182	interval	7 steps	1.11	1.05	1.03	1.06	1.06	1.05	1.06	1.07	1.14	1.43			3.19	3.17	3.27
wind	0.2 m/s	velocity	5.14	8.23	8.70	8.87	8.62	8.62	8.70	8.62	8.54	8.02	9.80	8.01		8.60	8.65	8.39

FINAL - 2022 Japanese National Championsips (Osaka, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	12-Jun-22	time	2.62	3.65	4.67	5.68	6.70	7.72	8.73	9.78	10.83	11.89		13.31	7 / 2			
reaction time	0.174	interval	7 steps	1.03	1.02	1.01	1.02	1.02	1.01	1.05	1.05	1.06	1.42			3.06	3.05	3.16
wind	-1.2 m/s	velocity	5.24	8.87	8.96	9.05	8.96	8.96	9.05	8.70	8.70	8.62	9.87	8.26		8.96	8.99	8.68

FINAL - 2022 Seiko Golden Grand Prix (Tokyo, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	08-May-22	time	2.60	3.66	4.69	5.71	6.73	7.75	8.80	9.84	10.89	11.95		13.34	5 / 1			
reaction time	0.159	interval	7 steps	1.06	1.03	1.02	1.02	1.02	1.05	1.04	1.05	1.06	1.39			3.11	3.09	3.15
wind	0.1 m/s	velocity	5.28	8.62	8.87	8.96	8.96	8.96	8.70	8.79	8.70	8.62	10.09	8.25		8.82	8.87	8.70

FINAL - 2022 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	29-Apr-22	time	2.66	3.73	4.78	5.80	6.84	7.88	8.92	9.97	11.03	12.12		13.55	6 / 1			
reaction time	0.159	interval	7 steps	1.07	1.05	1.02	1.04	1.04	1.04	1.05	1.06	1.09	1.43			3.14	3.12	3.20
wind	-1.5 m/s	velocity	5.16	8.54	8.70	8.96	8.79	8.79	8.79	8.70	8.62	8.39	9.80	8.12		8.73	8.79	8.57

FINAL - 2021 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	01-Jun-21	time	2.60	3.65	4.68	5.70	6.72	7.76	8.81	9.86	10.91	11.99		13.35	7 / 1			
reaction time	0.150	interval	7 steps	1.05	1.03	1.02	1.02	1.04	1.05	1.05	1.05	1.08	1.36	**NJR PB**		3.10	3.11	3.18
wind	0.3 m/s	velocity	5.28	8.70	8.87	8.96	8.96	8.79	8.70	8.70	8.70	8.46	10.31	8.24		8.85	8.82	8.62

FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	09-May-21	time	2.56	3.63	4.66	5.72	6.77	7.81	8.85	9.93	11.01	12.11		13.51	9 / 4			
reaction time	0.119	interval	7 steps	1.07	1.03	1.06	1.05	1.04	1.04	1.08	1.08	1.10	1.40	**PB**		3.16	3.13	3.26
wind	-0.8 m/s	velocity	5.36	8.54	8.87	8.62	8.70	8.79	8.79	8.46	8.46	8.31	10.01	8.14		8.68	8.76	8.41

FINAL - 2021 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	29-Apr-21	time	2.63	3.68	4.72	5.75	6.79	7.84	8.91	9.98	11.04	12.11		13.53	6 / 4			
reaction time		interval	7 steps	1.05	1.04	1.03	1.04	1.05	1.07	1.07	1.06	1.07	1.42	PB		3.12	3.16	3.20
wind	1.7 m/s	velocity	5.22	8.70	8.79	8.87	8.79	8.70	8.54	8.54	8.62	8.54	9.87	8.13		8.79	8.68	8.57

Heat 2 - 2020 Japanese National Championships (Niigata, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	02-Oct-20	time	2.63	3.69	4.74	5.80	6.85	7.90	8.98	10.05	11.12	12.20		13.61	5 / 4			
reaction time	0.168	interval		1.06	1.05	1.06	1.05	1.05	1.08	1.07	1.07	1.08	1.41	PB		3.17	3.18	3.22
wind	0.4 m/s	velocity	5.22	8.62	8.70	8.62	8.70	8.70	8.46	8.54	8.54	8.46	9.94	8.08		8.65	8.62	8.52

FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	23-Aug-20	time	2.58	3.67	4.72	5.79	6.84	7.90	8.96	10.04	11.13	12.22		13.65	2 / 2			
reaction time	0.138	interval		1.09	1.05	1.07	1.05	1.06	1.06	1.08	1.09	1.09	1.43	PB		3.21	3.17	3.26
wind	-0.4 m/s	velocity	5.32	8.39	8.70	8.54	8.70	8.62	8.62	8.46	8.39	8.39	9.80	8.06		8.54	8.65	8.41

U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (99cm) *Kijima (2019) - research on athlete performance and technique- 2019 data book*

date	18-Oct-19	time	2.60	3.64	4.70	5.74	6.78	7.83	8.87	9.94	11.01	12.08		13.54	5 / 1			
reaction time	0.144	interval		1.04	1.06	1.04	1.04	1.05	1.04	1.07	1.07	1.07	1.46			3.14	3.13	3.21
wind	-0.6 m/s	velocity	5.28	8.79	8.62	8.79	8.79	8.70	8.79	8.54	8.54	8.54	9.60	8.12		8.73	8.76	8.54

FINAL - 2019 National Sports Festival (Hitachinaka, JPN) (99cm) *Enomoto (2019) - research on athlete performance and technique- 2019 data book*

date	06-Oct-19	time	2.60	3.66	4.69	5.73	6.75	7.79	8.83	9.88	10.92	11.97		13.37	4 / 1			
reaction time	0.160	interval		1.06	1.03	1.04	1.02	1.04	1.04	1.05	1.04	1.05	1.40			3.13	3.10	3.14
wind	2.7 m/s	velocity	5.28	8.62	8.87	8.79	8.96	8.79	8.79	8.70	8.79	8.70	10.01	8.23		8.76	8.85	8.73

FINAL - 2019 Japanese National High School Championships (Okinawa, JPN) (99cm) *Kota (2019) - 72nd high school champs: JAF scientific committee - biomechanics data*

date	08-Aug-19	time	2.64	3.73	4.83	5.92	7.02	8.13	9.25	10.37	11.49	12.63		14.04	6 / 1			
reaction time		interval		1.09	1.10	1.09	1.10	1.11	1.12	1.12	1.12	1.14	1.41	PB		3.28	3.33	3.38
wind	-3.0 m/s	velocity	5.20	8.39	8.31	8.39	8.31	8.23	8.16	8.16	8.16	8.02	9.94	7.83		8.36	8.23	8.11

FINAL - 2018 Japanese National High School Championships (Nagoya, JPN) (99cm) *Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection*

date	06-Aug-18	time	2.66	3.75	4.89	5.99	7.11	8.24	9.43	10.60	11.77	12.98		14.43	4 / 8			
reaction time		interval		1.09	1.14	1.10	1.12	1.13	1.19	1.17	1.17	1.21	1.45			3.33	3.44	3.55
wind	1.6 m/s	velocity	5.16	8.39	8.02	8.31	8.16	8.09	7.68	7.81	7.81	7.55	9.67	7.62		8.23	7.97	7.72

Murray, Cameron (USA) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	28-Jun-24	time	2.56	3.60	4.61	5.63	6.64	7.65	8.66	9.68	10.72	11.76		13.15	1 / 6			
reaction time		interval	7 steps	1.04	1.01	1.02	1.01	1.01	1.01	1.02	1.04	1.04	1.39	PB		3.07	3.03	3.10
wind	2.0 m/s	velocity	5.36	8.79	9.05	8.96	9.05	9.05	9.05	8.96	8.79	8.79	10.09	8.37		8.93	9.05	8.85

Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	27-Jun-24	time	2.57	3.60	4.64	5.67	6.69	7.72	8.75	9.79	10.81	11.88		13.27	8 / 3			
reaction time		interval	7 steps	1.03	1.04	1.03	1.02	1.03	1.03	1.04	1.02	1.07	1.39			3.10	3.08	3.13
wind	0.3 m/s	velocity	5.34	8.87	8.79	8.87	8.96	8.87	8.87	8.79	8.96	8.54	10.09	8.29		8.85	8.90	8.76

Heat 4 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.55	3.60	4.63	5.66	6.65	7.63	8.66	9.68	10.73	11.80		13.23	7 / 4			
reaction time		interval	7 steps	1.05	1.03	1.03	0.99	0.98	1.03	1.02	1.05	1.07	1.43			3.11	3.00	3.14
wind	1.2 m/s	velocity	5.38	8.70	8.87	8.87	9.23	9.33	8.87	8.96	8.70	8.54	9.80	8.31		8.82	9.14	8.73

FINAL - 2024 USATF National Indoor Championships (Albuquerque, NM) (Altitude) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	16-Feb-24	time	2.52	3.56	4.57	5.57	6.58							7.45	4 / 2			
reaction time	0.146	interval	7 steps	1.04	1.01	1.00	1.01						0.87	PB		3.05		
		velocity	5.44	8.79	9.05	9.14	9.05						11.17	8.05		8.99		

Heat 1 - 2024 USATF National Indoor Championships (Albuquerque, NM) (Altitude) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	16-Feb-24	time	2.55	3.59	4.61	5.61	6.62							7.51	1 / 2			
reaction time	0.143	interval	7 steps	1.04	1.02	1.00	1.01						0.89	PB		3.06		
		velocity	5.38	8.79	8.96	9.14	9.05						10.92	7.99		8.96		

FINAL - 2023 NCAA Championships (Austin, TX) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	09-Jun-23	time	2.67											dnf	4 / --			
reaction time		interval	7 steps															
wind	1.8 m/s	velocity	5.14															

Myasnikov, Viktor (URS) (1948)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1975 International "Pravda'" Sportfest (Sotschi, URS) Artyschenko (1977) - zwischen den hürden geht es um die sekunde, teil 1

date	30-May-75	time	2.4	3.5	4.6	5.7	6.8	7.8	8.9	9.9	11.0	12.1		13.7	/ 1			
reaction time		interval		1.06	1.10	1.16	1.04	1.04	1.10	1.04	1.04	1.10	1.62			3.32	3.18	3.18
wind	-0.2 m/s	velocity	5.72	8.62	8.31	7.88	8.79	8.79	8.31	8.79	8.79	8.31	8.65	8.03		8.26	8.62	8.62

Nádenicek, Lubomir (TCH) (1947)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1972 Olympic Games (Munich, GER)													*Letzelter (1977) - Hurdensprint: geschwindigkeitsverlauf und spezielle eigenschaften*			
date 07-Sep-72	time	2.5			5.7							13.76	2 / 7			
reaction time	interval				3.20									3.20		
wind 0.3 m/s	velocity	5.60			8.57							7.99		8.57		

Nagamatsu, Hiroya (JPN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 2 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm)													*(2016.11.08) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 21-Oct-16	time	2.65	3.76	4.89	5.99	7.07	8.20	9.31	10.42	11.53	12.65		14.06	4 / 2			
reaction time	interval		1.11	1.13	1.10	1.08	1.13	1.11	1.11	1.11	1.12	1.41			3.34	3.32	3.34
wind 1.6 m/s	velocity	5.18	8.23	8.09	8.31	8.46	8.09	8.23	8.23	8.23	8.16	9.94	7.82		8.21	8.26	8.21
Heat 2 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm)													*(2016.11.07) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 21-Oct-16	time	2.67	3.77	4.86	6.00	7.10	8.22	9.33	10.45	11.59	12.72		14.19	8 / 2			
reaction time	interval		1.10	1.09	1.14	1.10	1.12	1.11	1.12	1.14	1.13	1.47			3.33	3.33	3.39
wind 2.3 m/s	velocity	5.14	8.31	8.39	8.02	8.31	8.16	8.23	8.16	8.02	8.09	9.54	7.75		8.23	8.23	8.09

Nagasawa, Rui (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2024 Shimane High School Championships (Izumo, JPN)													*Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*			
date 26-May-24	time	3.00	4.37	5.70	7.05	8.35	9.65	10.98	12.28	13.57	14.92		16.57	9 / 7			
reaction time	interval		1.37	1.33	1.35	1.30	1.30	1.33	1.30	1.29	1.35	1.65			4.05	3.93	3.94
wind 0.3 m/s	velocity	4.57	6.67	6.87	6.77	7.03	7.03	6.87	7.03	7.09	6.77	8.50	6.64		6.77	6.98	6.96

Naito, Masato (JPN) (1980)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2009 Nambu Chuhei Memorial (Sapporo, JPN)													*Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*			
date 09-Jul-09	time	2.67	3.76	4.81	5.87	6.91	8.00	9.08	10.18	11.31	12.42		13.88	/ 4			
reaction time	interval		1.09	1.05	1.06	1.04	1.09	1.08	1.10	1.13	1.11	1.46			3.20	3.21	3.34
wind 1.2 m/s	velocity	5.14	8.39	8.70	8.62	8.79	8.39	8.46	8.31	8.09	8.23	9.60	7.93		8.57	8.54	8.21
FINAL - 2009 Japanese National Championships (Hiroshima, JPN)													*Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*			
date 27-Jun-09	time	2.61	3.71	4.76	5.81	6.86	7.92	8.99	10.08	11.17	12.27		13.81	5 / 3			
reaction time	interval		1.10	1.05	1.05	1.05	1.06	1.07	1.09	1.09	1.10	1.54			3.20	3.18	3.28
wind 1.6 m/s	velocity	5.26	8.31	8.70	8.70	8.70	8.62	8.54	8.39	8.39	8.31	9.10	7.97		8.57	8.62	8.36
Semi-Final 1 - 2009 Japanese National Championships (Hiroshima, JPN)													*Akirabun (2010) - analysis of speed and stride on straight track events in the 2009 season*			
date 27-Jun-09	time	2.50	3.59	4.65	5.69	6.74	7.80	8.86	9.93	11.02	12.14		13.79	6 / 1			
reaction time	interval		1.09	1.06	1.04	1.05	1.06	1.06	1.07	1.09	1.12	1.65			3.19	3.17	3.28
wind 0.5 m/s	velocity	5.49	8.39	8.62	8.79	8.70	8.62	8.62	8.54	8.39	8.16	8.50	7.98		8.60	8.65	8.36
FINAL - 2008 Japanese National Championships (Kawasaki, JPN)													*Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles*			
date 28-Jun-08	time	2.41	3.49	4.53	5.57	6.60	7.64	8.69	9.75	10.85	11.96		13.66	/ 1			
reaction time	interval		1.08	1.04	1.04	1.03	1.04	1.05	1.06	1.10	1.11	1.70			3.16	3.12	3.27
wind -0.2 m/s	velocity	5.69	8.46	8.79	8.79	8.87	8.79	8.70	8.62	8.31	8.23	8.25	8.05		8.68	8.79	8.39
FINAL - 2007 Seiko Super Grand Prix (Yokohama, JPN)													*Akirabun (2008) - 2007 speed analysis of the men's & women's 100m, 100m hurdles, & 110m hurdles*			
date 30-Sep-07	time	2.48	3.53	4.58	5.63	6.68	7.76	8.86	9.95	11.06	12.14		13.83	/ 3			
reaction time	interval		1.05	1.05	1.05	1.05	1.08	1.10	1.09	1.11	1.08	1.69			3.15	3.23	3.28
wind -1.6 m/s	velocity	5.53	8.70	8.70	8.70	8.70	8.46	8.31	8.39	8.23	8.46	8.30	7.95		8.70	8.49	8.36
Heat 3 - 2007 IAAF World Championships (Osaka, JPN)													*Shibayama (2008) - analysis of racing patterns in the men's 110m & women's 100m sprint hurdles*			
date 29-Aug-07	time	2.62	3.68	4.70	5.73	6.73	7.77	8.83	9.90	10.98	12.08		13.54	9 / 3			
reaction time 0.164	interval		1.06	1.02	1.03	1.00	1.04	1.06	1.07	1.08	1.10	1.46			3.11	3.10	3.25
wind 0.6 m/s	velocity	5.24	8.62	8.96	8.87	9.14	8.79	8.62	8.54	8.46	8.31	9.60	8.12		8.82	8.85	8.44
FINAL - 2007 Osaka Grand Prix (Osaka, JPN)													*Akirabun (2008) - 2007 speed analysis of the men's & women's 100m, 100m hurdles, & 110m hurdles*			
date 05-May-07	time	2.43	3.51	4.55	5.58	6.62	7.66	8.71	9.78	10.87	11.96		13.60	/ 4			
reaction time	interval		1.08	1.04	1.03	1.04	1.04	1.05	1.07	1.09	1.09	1.64			3.15	3.13	3.25
wind 0.8 m/s	velocity	5.65	8.46	8.79	8.87	8.79	8.79	8.70	8.54	8.39	8.39	8.55	8.09		8.70	8.76	8.44
FINAL - 2007 Mikio Oda Memorial (Hiroshima, JPN)													*Akirabun (2008) - 2007 speed analysis of the men's & women's 100m, 100m hurdles, & 110m hurdles*			
date 29-Apr-07	time	2.42	3.50	4.55	5.59	6.64	7.69	8.75	9.82	10.90	12.01		13.64	/ 1			
reaction time	interval		1.08	1.05	1.04	1.05	1.05	1.06	1.07	1.08	1.11	1.63			3.17	3.16	3.26
wind 0.0 m/s	velocity	5.67	8.46	8.70	8.79	8.70	8.70	8.62	8.54	8.46	8.23	8.60	8.06		8.65	8.68	8.41
FINAL - 2006 Osaka Grand Prix (Osaka, JPN)													*Akirabun (2007) - speed analysis of the 100m and hurdles with a laser system*			
date 06-May-06	time	2.46	3.53	4.58	5.60	6.64	7.69	8.75	9.82	10.91	12.02		13.64	/ 3			
reaction time	interval		1.07	1.05	1.02	1.04	1.05	1.06	1.07	1.09	1.11	1.62			3.14	3.15	3.27
wind 1.2 m/s	velocity	5.58	8.54	8.70	8.96	8.79	8.70	8.62	8.54	8.39	8.23	8.65	8.06		8.73	8.70	8.39

Nakai, Shouta (JPN) (2004)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (99cm)													*Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*			
date 22-Oct-21	time	2.74	3.90	5.01	6.10	7.21	8.30	9.39	10.48	11.62	12.75		14.28	7 / 7			
reaction time 0.188	interval		1.16	1.11	1.09	1.11	1.09	1.09	1.09	1.14	1.13	1.53			3.36	3.29	3.36

wind	-0.6 m/s	velocity	5.01	7.88	8.23	8.39	8.23	8.39	8.39	8.39	8.02	8.09	9.16	7.70		8.16	8.33	8.16

Nakamura, Akihiko (JPN) (1990)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 2 - 2023 Japanese Multi-Event National Championsips (Akita, JPN)															*Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season*			
date	11-Jun-23	time	2.81	3.97	5.13	6.27	7.40	8.54	9.70	10.86	12.04	13.22		14.73	9 / 4			
reaction time		interval		1.16	1.16	1.14	1.13	1.14	1.16	1.16	1.18	1.18	1.51			3.46	3.43	3.52
wind	-0.1 m/s	velocity	4.88	7.88	7.88	8.02	8.09	8.02	7.88	7.88	7.75	7.75	9.28	7.47		7.92	7.99	7.79
Decathlon - FINAL - 2022 Japanese Multi-Event National Championsips (Akita, JPN)															*Takefu (2023) - performance analyisis of decathlon athletes in the 2022 season*			
date	05-Jun-22	time	2.76	3.92	5.06	6.21	7.35	8.49	9.64	10.81	11.98	13.15		14.65	5 / 3			
reaction time		interval		1.16	1.14	1.15	1.14	1.14	1.15	1.17	1.17	1.17	1.50			3.45	3.43	3.51
wind	-2.3 m/s	velocity	4.97	7.88	8.02	7.95	8.02	8.02	7.95	7.81	7.81	7.81	9.35	7.51		7.95	7.99	7.81
Decathlon - Heat 1 - 2022 Michitaka Kinami Memorial (Osaka, JPN)															*Takefu (2023) - performance analyisis of decathlon athletes in the 2022 season*			
date	01-May-22	time	2.79	3.95	5.09	6.22	7.36	8.50	9.63	10.78	11.94	13.11		14.64	9 / 2			
reaction time	0.147	interval		1.16	1.14	1.13	1.14	1.14	1.13	1.15	1.16	1.17	1.53			3.43	3.41	3.48
wind	0.0 m/s	velocity	4.92	7.88	8.02	8.09	8.02	8.02	8.09	7.95	7.88	7.81	9.16	7.51		7.99	8.04	7.88
Decathlon - Heat 3 - 2021 Japanese Multi-Event National Championships (Nagano, JPN)															*Matsubayashi (2021) - 110m hurdling race analysis of decathlon athletes in the 2021 season*			
date	13-Jun-21	time	2.73	3.85	4.97	6.09	7.21	8.32	9.45	10.58	11.72	12.85		14.34	2 / 2			
reaction time	0.152	interval		1.12	1.12	1.12	1.12	1.11	1.13	1.13	1.14	1.13	1.49			3.36	3.36	3.40
wind	-0.9 m/s	velocity	5.03	8.16	8.16	8.16	8.16	8.23	8.09	8.09	8.02	8.09	9.41	7.67		8.16	8.16	8.06
Decathlon - Heat 3 - 2020 Japanese Multi-Event National Championships (Nagano, JPN)															*Matsubayashi (2020) - research athlete performance technique- 2020 databook*			
date	27-Sep-20	time	2.71	3.85	4.94	6.05	7.15	8.26	9.37	10.49	11.60	12.73		14.21	4 / 2			
reaction time		interval		1.14	1.09	1.11	1.10	1.11	1.11	1.12	1.11	1.13	1.48			3.34	3.32	3.36
wind	0.7 m/s	velocity	5.06	8.02	8.39	8.23	8.31	8.23	8.23	8.16	8.23	8.09	9.47	7.74		8.21	8.26	8.16
Decathlon - Heat 2 - 2019 Japanese National Multi-Event Championships (Nagano, JPN)															*Matsubayashi (2019) - research on athlete performance and technique- 2019 data book*			
date	09-Jun-19	time	2.69	3.80	4.88	5.98	7.07	8.17	9.26	10.37	11.50	12.62		14.06	4 / 2			
reaction time		interval		1.11	1.08	1.10	1.09	1.10	1.09	1.11	1.13	1.12	1.44			3.29	3.28	3.36
wind	2.1 m/s	velocity	5.10	8.23	8.46	8.31	8.39	8.31	8.39	8.23	8.09	8.16	9.74	7.82		8.33	8.36	8.16
Decathlon - Heat 3 - 2018 Japanese National Multi-Event Championships (Nagano, JPN)															*Matsubayashi (2018) - research on athlete performance and technique*			
date	17-Jun-18	time	2.69	3.85	4.95	6.04	7.14	8.25	9.34	10.48	11.61	12.75		14.20	4 / 2			
reaction time		interval		1.16	1.10	1.09	1.10	1.11	1.09	1.14	1.13	1.14	1.45			3.35	3.30	3.41
wind	0.2 m/s	velocity	5.10	7.88	8.31	8.39	8.31	8.23	8.39	8.02	8.09	8.02	9.67	7.75		8.19	8.31	8.04
Decathlon - Heat 2 - 2018 Tokyo Combined Event Meeting (Tokyo, JPN)															*Matsubayashi (2018) - research on athlete performance and technique*			
date	22-Apr-18	time	2.73	3.85	4.96	6.06	7.16	8.26	9.36	10.49	11.62	12.76		14.22	5 / 1			
reaction time		interval		1.12	1.11	1.10	1.10	1.10	1.10	1.13	1.13	1.14	1.46			3.33	3.30	3.40
wind	1.1 m/s	velocity	5.03	8.16	8.23	8.31	8.31	8.31	8.31	8.09	8.09	8.02	9.60	7.74		8.23	8.31	8.06
Decathlon - Heat 2 - 2014 Asian Games (Incheon, KOR)															*Takeo (2014) - decathletes sprint ability and relationship of individual performance*			
date	01-Oct-14	time	2.74	3.86	4.97	6.09	7.21	8.33	9.47	10.59	11.73	12.89		14.33	/ 1			
reaction time	0.166	interval		1.12	1.11	1.12	1.12	1.12	1.14	1.12	1.14	1.16	1.44			3.35	3.38	3.42
wind	1.9 m/s	velocity	5.01	8.16	8.23	8.16	8.16	8.16	8.02	8.16	8.02	7.88	9.74	7.68		8.19	8.11	8.02
Decathlon - Heat 1 - 2014 Japanese Multi-Event National Championships (Nagano, JPN)															*Takeo (2014) - decathletes sprint ability and relationship of individual performance*			
date	01-Jun-14	time	2.68	3.79	4.93	6.04	7.14	8.27	9.40	10.52	11.64	12.77		14.21	5 / 2			
reaction time		interval		1.11	1.14	1.11	1.10	1.13	1.13	1.12	1.12	1.13	1.44			3.36	3.36	3.37
wind	0.1 m/s	velocity	5.12	8.23	8.02	8.23	8.31	8.09	8.09	8.16	8.16	8.09	9.74	7.74		8.16	8.16	8.14
Decathlon - Heat 1 - 2014 Nittai University Distance Meeting (Wakayama, JPN)															*Takeo (2014) - decathletes sprint ability and relationship of individual performance*			
date	27-Apr-14	time	2.71	3.84	4.97	6.09	7.21	8.32	9.43	10.54	11.67	12.80		14.23	4 / 1			
reaction time		interval		1.13	1.13	1.12	1.12	1.11	1.11	1.11	1.13	1.13	1.43			3.38	3.34	3.37
wind	1.0 m/s	velocity	5.06	8.09	8.09	8.16	8.16	8.23	8.23	8.23	8.09	8.09	9.80	7.73		8.11	8.21	8.14
Decathlon - Heat 1 - 2013 Japanese Multi-Event National Championships (Nagano, JPN)															*Takeo (2014) - decathletes sprint ability and relationship of individual performance*			
date	02-Jun-13	time	2.68	3.81	4.94	6.06	7.17	8.29	9.38	10.53	11.68	12.81		14.24	6 / 2			
reaction time		interval		1.13	1.13	1.12	1.11	1.12	1.09	1.15	1.15	1.13	1.43			3.38	3.32	3.43
wind	0.7 m/s	velocity	5.12	8.09	8.09	8.16	8.23	8.16	8.39	7.95	7.95	8.09	9.80	7.72		8.11	8.26	7.99
Decathlon - Heat 2 - 2013 Wakayama Athletics Meeting (Wakayama, JPN)															*Takeo (2014) - decathletes sprint ability and relationship of individual performance*			
date	28-Apr-13	time	2.69	3.81	4.91	6.03	7.12	8.23	9.34	10.46	11.58	12.72		14.16	6 / 2			
reaction time		interval		1.12	1.10	1.12	1.09	1.11	1.11	1.12	1.12	1.14	1.44			3.34	3.31	3.38
wind	1.5 m/s	velocity	5.10	8.16	8.31	8.16	8.39	8.23	8.23	8.16	8.16	8.02	9.74	7.77		8.21	8.28	8.11
Decathlon - Heat 1 - 2012 Japanese Multi-Event National Championships (Nagano, JPN)															*Takeo (2014) - decathletes sprint ability and relationship of individual performance*			
date	03-Jun-12	time	2.67	3.76	4.84	5.94	7.03	8.12	9.21	10.34	11.47	12.63		14.11	5 / 2			
reaction time		interval		1.09	1.08	1.10	1.09	1.09	1.09	1.13	1.13	1.16	1.48			3.27	3.27	3.42
wind	1.7 m/s	velocity	5.14	8.39	8.46	8.31	8.39	8.39	8.39	8.09	8.09	7.88	9.47	7.80		8.39	8.39	8.02

Decathlon - Heat ?? - 2012 Tokyo Athletics Championships (Chofu, JPN) *Takeo (2014) - decathletes sprint ability and relationship of individual performance*

date	22-Apr-12	time	2.71	3.83	4.94	6.05	7.15	8.26	9.35	10.46	11.59	12.72		14.15	???			
reaction time		interval		1.12	1.11	1.11	1.10	1.11	1.09	1.11	1.13	1.13	1.43			3.34	3.30	3.37
wind	-0.1 m/s	velocity	5.06	8.16	8.23	8.23	8.31	8.23	8.39	8.23	8.09	8.09	9.80	7.77		8.21	8.31	8.14

Decathlon - Heat 1 - 2011 Asian Championships (Kobe, JPN) *Takeo (2014) - decathletes sprint ability and relationship of individual performance*

date	08-Jul-11	time	2.70	3.83	4.95	6.07	7.21	8.34	9.48	10.66	11.82	13.00		14.50	/ 1			
reaction time		interval		1.13	1.12	1.12	1.14	1.13	1.14	1.18	1.16	1.18	1.50			3.37	3.41	3.52
wind	0.3 m/s	velocity	5.08	8.09	8.16	8.16	8.02	8.09	8.02	7.75	7.88	7.75	9.35	7.59		8.14	8.04	7.79

Decathlon - Heat ?? - 2011 Japanese Multi-Event National Championships (Kawasaki, JPN) *Takeo (2014) - decathletes sprint ability and relationship of individual performance*

date	05-Jun-11	time	2.70	3.83	4.95	6.06	7.17	8.28	9.40	10.52	11.65	12.79		14.25	???			
reaction time		interval		1.13	1.12	1.11	1.11	1.11	1.12	1.12	1.13	1.14	1.46			3.36	3.34	3.39
wind	1.4 m/s	velocity	5.08	8.09	8.16	8.23	8.23	8.23	8.16	8.16	8.09	8.02	9.60	7.72		8.16	8.21	8.09

Nakamura, Shyuunta (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 Japanese U16 National Championships (Matsuyama, JPN) (99cm) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	24-Oct-21	time	2.70	3.84	5.00	6.16	7.32	8.51	9.68	10.84	12.01	13.23		14.81	/ 4			
reaction time		interval		1.14	1.16	1.16	1.16	1.19	1.17	1.16	1.17	1.22	1.58			3.46	3.52	3.55
wind	1.0 m/s	velocity	5.08	8.02	7.88	7.88	7.88	7.68	7.81	7.88	7.81	7.49	8.87	7.43		7.92	7.79	7.72

Nakao, Kengo (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Nambu Memorial (Sapporo, JPN) *(2017) - tfdata-store.com/2017/07/12/post-1025/*

date	09-Jul-17	time	2.82	4.01	5.19	6.34	7.49	8.62	9.80	10.96	12.13	13.31		14.84	3 / 8			
reaction time		interval		1.19	1.18	1.15	1.15	1.13	1.18	1.16	1.17	1.18	1.53			3.52	3.46	3.51
wind	2.7 m/s	velocity	4.87	7.68	7.75	7.95	7.95	8.09	7.75	7.88	7.81	7.75	9.16	7.41		7.79	7.92	7.81

Nakata, Hidetoshi (JPN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Japanese National High School Championships (Yamagata, JPN) (99cm) *Kota (2017) - 70th high school championships: JAF scientific committee- biomechanics data*

date	02-Aug-17	time	2.69	3.81	4.94	6.05	7.17	8.27	9.41	10.56	11.73	12.91		14.44	5 / 4			
reaction time	0.130	interval		1.12	1.13	1.11	1.12	1.10	1.14	1.15	1.17	1.18	1.53			3.36	3.36	3.50
wind	-0.7 m/s	velocity	5.10	8.16	8.09	8.23	8.16	8.31	8.02	7.95	7.81	7.75	9.16	7.62		8.16	8.16	7.83

Namba, Niroshi (JPN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 5 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.08) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.77	3.92	5.05	6.18	7.30	8.41	9.53	10.68	11.81	12.95		14.42	4 / 2			
reaction time		interval		1.15	1.13	1.13	1.12	1.11	1.12	1.15	1.13	1.14	1.47			3.41	3.35	3.42
wind	1.3 m/s	velocity	4.95	7.95	8.09	8.09	8.16	8.23	8.16	7.95	8.09	8.02	9.54	7.63		8.04	8.19	8.02

Nardelli, Alexander (CZE) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.86	4.02	5.18	6.35	7.52	8.71	9.90	11.08	12.27	13.45		15.07	6 / 4			
reaction time	0.229	interval		1.16	1.16	1.17	1.17	1.19	1.19	1.18	1.19	1.18	1.62			3.49	3.55	3.55
wind	-3.7 m/s	velocity	4.80	7.88	7.88	7.81	7.81	7.68	7.68	7.75	7.68	7.75	8.65	7.30		7.86	7.72	7.72

Heat 1 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.87	4.04	5.21	6.37	7.50	8.65	9.79	10.96	12.12	13.34		14.93	8 / 2			
reaction time	0.372	interval		1.17	1.17	1.16	1.13	1.15	1.14	1.17	1.16	1.22	1.59			3.50	3.42	3.55
wind	-0.3 m/s	velocity	4.78	7.81	7.81	7.88	8.09	7.95	8.02	7.81	7.88	7.49	8.82	7.37		7.83	8.02	7.72

Nehemiah, Renaldo (USA) (1959)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1981 International Abendsportfest (Koblenz, FRG) *Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazyklus 1981/84*

date	26-Aug-81	time	2.50		4.53		6.54		8.54			11.63		13.04	/ 1			
reaction time		interval			2.03		2.01		2.00			3.09	1.41					3.09
wind	0.0 m/s	velocity	5.49		9.00		9.09		9.14			8.87	9.94	8.44				8.87

Nejedly, Adam (CZE) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2013 Czech Republic National Championships (Tábor, CZE) *Feher (2013) - Final report from the men's & women's Czech Republic national championships*

date	15-Jun-13	time	2.78	3.95	5.07	6.18	7.32	8.45	9.62	10.78	11.95	13.14		14.68	7 / 8			
reaction time	0.145	interval		1.17	1.12	1.11	1.14	1.13	1.17	1.16	1.17	1.19	1.54			3.40	3.44	3.52
wind	0.4 m/s	velocity	4.94	7.81	8.16	8.23	8.02	8.09	7.81	7.88	7.81	7.68	9.10	7.49		8.06	7.97	7.79

Heat 2 - 2013 Czech Republic National Championships (Tábor, CZE) *Feher (2013) - Final report from the men's & women's Czech Republic national championships*

date	15-Jun-13	time	2.81	3.95	5.06	6.18	7.31	8.44	9.59	10.75	11.91	13.08		14.63	3 / 2			
reaction time	0.142	interval		1.14	1.11	1.12	1.13	1.13	1.15	1.16	1.16	1.17	1.55			3.37	3.41	3.49
wind	-0.6 m/s	velocity	4.88	8.02	8.23	8.16	8.09	8.09	7.95	7.88	7.88	7.81	9.05	7.52		8.14	8.04	7.86

FINAL - 2012 Czech Republic National Indoor Championships (Praha, CZE) *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

date	25-Feb-12	time	2.78	3.95	5.06	6.20	7.29							8.27	2 / 8			
reaction time	0.187	interval		1.17	1.11	1.14	1.09						0.98			3.42		
		velocity	4.94	7.81	8.23	8.02	8.39						9.92	7.26		8.02		

Heat 3 - 2012 Czech Republic National Indoor Championships (Praha, CZE) *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

date	25-Feb-12	time	2.75	3.91	5.01	6.12	7.23						8.18	3 / 3			
reaction time	0.137	interval		1.16	1.10	1.11	1.11					0.95			3.37		
		velocity	4.99	7.88	8.31	8.23	8.23					10.23	7.33		8.14		

Nemec, Jan (CZE) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14 time	2.91	4.09	5.26	6.46	7.70	8.91	10.11	11.33	12.52	13.75		15.43	7 / 7			
reaction time 0.231 interval		1.18	1.17	1.20	1.24	1.21	1.20	1.22	1.19	1.23	1.68			3.55	3.65	3.64
wind -3.7 m/s velocity	4.71	7.75	7.81	7.62	7.37	7.55	7.62	7.49	7.68	7.43	8.35	7.13		7.72	7.51	7.53
Heat 1 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14 time	2.89	4.09	5.30	6.44	7.60	8.76	9.94	11.11	12.28	13.47		15.05	4 / 3			
reaction time 0.236 interval		1.20	1.21	1.14	1.16	1.16	1.18	1.17	1.17	1.19	1.58			3.55	3.50	3.53
wind -0.3 m/s velocity	4.75	7.62	7.55	8.02	7.88	7.88	7.75	7.81	7.81	7.68	8.87	7.31		7.72	7.83	7.77

Neugebauer, Leo (GER) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 2 - 2024 Olympic Games (Paris, FRA)													*Paris 2024 Olympic Games - Results Book (2024)*			
date 03-Aug-24 time	2.53	3.68	4.81	5.91	7.06	8.18	9.32	10.45	11.61	12.78		14.51	2 / 5			
reaction time 0.134 interval	7 steps	1.15	1.13	1.10	1.15	1.12	1.14	1.13	1.16	1.17	1.73			3.38	3.41	3.46
wind 0.2 m/s velocity	5.42	7.95	8.09	8.31	7.95	8.16	8.02	8.09	7.88	7.81	8.10	7.58		8.11	8.04	7.92
Decathlon - Heat 2 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis)													*Henson (2024) - Athlete First: 2023 year end hurdle report*			
date 26-Aug-23 time	2.76	3.92	5.12	6.24	7.40	8.56	9.65	10.82	12.02	13.22		14.75	5 / 6			
reaction time 0.169 interval	7 steps	1.16	1.20	1.12	1.16	1.16	1.09	1.17	1.20	1.20	1.53			3.48	3.41	3.57
wind 0.1 m/s velocity	4.97	7.88	7.62	8.16	7.88	7.88	8.39	7.81	7.62	7.62	9.16	7.46		7.88	8.04	7.68
Decathlon - Heat 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis)													*Henson (2024) - Athlete First: 2022 year end hurdle report*			
date 24-Jul-22 time	2.83	4.02	5.22	6.36	7.50	8.66	9.83	11.00	12.16	13.35		14.86	8 / 5			
reaction time 0.170 interval	7 steps	1.19	1.20	1.14	1.14	1.16	1.17	1.17	1.16	1.19	1.51			3.53	3.47	3.52
wind 1.5 m/s velocity	4.85	7.68	7.62	8.02	8.02	7.88	7.81	7.81	7.88	7.68	9.28	7.40		7.77	7.90	7.79

Ngo, Matteo (FRA) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2020 French National Championships (Albi, FRA) (TV Analysis)													*Henson (2020) - Athlete First: 2020 year end hurdle report*			
date 13-Sep-20 time	2.63	3.71	4.73	5.84	6.89	8.00	9.05	10.13	11.24	12.39		14.02	2 / 4			
reaction time 0.218 interval		1.08	1.02	1.11	1.05	1.11	1.05	1.08	1.11	1.15	1.63			3.21	3.21	3.34
wind 0.0 m/s velocity	5.22	8.46	8.96	8.23	8.70	8.23	8.70	8.46	8.23	7.95	8.60	7.85		8.54	8.54	8.21

Ni Mengfan (CHN) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
U18 FINAL - 2019 Chinese National Youth Games (Taiyuan, CHN) (91cm)													*CAA Hurdle Development (2019)*			
date 14-Aug-19 time	2.70	3.87	5.02	6.17	7.31	8.44	9.64	10.81	11.98	13.16		14.73	2 / 5			
reaction time 0.199 interval		1.17	1.15	1.15	1.14	1.13	1.20	1.17	1.17	1.18	1.57			3.47	3.47	3.52
wind -0.1 m/s velocity	5.08	7.81	7.95	7.95	8.02	8.09	7.62	7.81	7.81	7.75	8.93	7.47		7.90	7.90	7.79

Nilsson, Marcus (SWE) (1991)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 1 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis)													*Henson (2024) - Athlete First: 2023 year end hurdle report*			
date 26-Aug-23 time	2.86	4.07	5.23	6.40	7.53	8.70	9.88	11.06	12.25	13.45		15.06	5 / 6			
reaction time 0.183 interval		1.21	1.16	1.17	1.13	1.17	1.18	1.18	1.19	1.20	1.61			3.54	3.48	3.57
wind 0.2 m/s velocity	4.80	7.55	7.88	7.81	8.09	7.81	7.75	7.75	7.68	7.62	8.71	7.30		7.75	7.88	7.68

Nilsson, Nicklas (SWE) (1987)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
B FINAL - 2010 Folksam GP (Sollentuna, SWE)													*Blomkvist (2010) - www.sub13.se*			
date 01-Jul-10 time	2.66	3.86	5.04	6.23	7.43	8.66		11.07				15.42	/ 4			
reaction time		1.20	1.18	1.19	1.20	1.23		2.41				PB		3.57		
wind 0.8 m/s velocity	5.16	7.62	7.75	7.68	7.62	7.43		7.59				7.13		7.68		

Ning Xiaohan (CHN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2024 Chinese National Grand Prix Final (Rizhao, CHN)													*Shandong Athletics Sport Science (2024)*			
date 30-Jun-24 time	2.60	3.65	4.71	5.73	6.76	7.80	8.86	9.91	10.99	12.11		13.60	9 / 5			
reaction time 0.127 interval		1.05	1.06	1.02	1.03	1.04	1.06	1.05	1.08	1.12	1.49			3.13	3.13	3.25
wind 0.9 m/s velocity	5.28	8.70	8.62	8.96	8.87	8.79	8.62	8.70	8.46	8.16	9.41	8.09		8.76	8.76	8.44
B FINAL - 2024 Mikio Oda Memorial (Hiroshima, JPN)													*Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*			
date 29-Apr-24 time	2.65	3.73	4.78	5.82	6.87	7.94	9.00	10.08	11.15	12.25		13.77	4 / 1			
reaction time 0.154 interval		1.08	1.05	1.04	1.05	1.07	1.06	1.08	1.07	1.10	1.52			3.17	3.18	3.25
wind -0.7 m/s velocity	5.18	8.46	8.70	8.79	8.70	8.54	8.62	8.46	8.54	8.31	9.22	7.99		8.65	8.62	8.44
FINAL - 2021 Chinese National Games (Xi'an, CHN)													*Huo (2022) - research on the technical characteristics of elite chinese 110m hurdlers*			
date 22-Sep-21 time	2.56	3.63	4.67	5.70	6.73	7.76	8.79	9.84	10.90	11.99		13.45	/ 2			
reaction time 0.124 interval		1.07	1.04	1.03	1.03	1.03	1.03	1.05	1.06	1.09	1.46	PB		3.14	3.09	3.20
wind 0.0 m/s velocity	5.36	8.54	8.79	8.87	8.87	8.87	8.87	8.70	8.62	8.39	9.60	8.18		8.73	8.87	8.57
FINAL - 2021 Chinese National Championships (Chongqing, CHN)													*CAA Hurdle Development (2021)*			
date 25-Jun-21 time	2.57	3.64	4.67	5.70	6.74	7.77	8.86	9.94	11.05	12.18		13.75	4 / 3			

reaction time	0.134	interval		1.07	1.03	1.03	1.04	1.03	1.09	1.08	1.11	1.13	1.57			3.13	3.16	3.32
wind	1.6 m/s	velocity	5.34	8.54	8.87	8.87	8.79	8.87	8.39	8.46	8.23	8.09	8.93	8.00		8.76	8.68	8.26

Heat 4 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.65	3.72	4.80	5.87	6.92	7.99	9.08	10.16	11.28	12.41		13.96	3 / 1			
reaction time	0.149	interval		1.07	1.08	1.07	1.05	1.07	1.09	1.08	1.12	1.13	1.55			3.22	3.21	3.33
wind	-0.2 m/s	velocity	5.18	8.54	8.46	8.54	8.70	8.54	8.39	8.46	8.16	8.09	9.05	7.88		8.52	8.54	8.23

FINAL - 2020 Chinese Olympic Trials (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	12-Jun-21	time	2.62	3.68	4.72	5.76	6.81	7.86	8.91	9.98	11.09	12.19		13.69	3 / 1			
reaction time	0.143	interval		1.06	1.04	1.04	1.05	1.05	1.05	1.07	1.11	1.10	1.50			3.14	3.15	3.28
wind	0.9 m/s	velocity	5.24	8.62	8.79	8.79	8.70	8.70	8.70	8.54	8.23	8.31	9.35	8.04		8.73	8.70	8.36

Heat 1 - 2020 Chinese Olympic Trials (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	12-Jun-21	time	2.50	3.58	4.65	5.72	6.80	7.87	8.95	10.05	11.17	12.31		13.97	4 / 2			
reaction time	0.141	interval		1.08	1.07	1.07	1.08	1.07	1.08	1.10	1.12	1.14	1.66			3.22	3.23	3.36
wind	-0.4 m/s	velocity	5.49	8.46	8.54	8.54	8.46	8.54	8.46	8.31	8.16	8.02	8.45	7.87		8.52	8.49	8.16

FINAL - 2021 Philippe Cup Athletics Invitational (Wuhan, CHN) *CAA Hurdle Development (2021)*

date	19-May-21	time	2.60	3.67	4.70	5.74	6.79	7.82	8.89	9.98	11.08	12.20		13.70	3 / 1			
reaction time	0.158	interval		1.07	1.03	1.04	1.05	1.03	1.07	1.09	1.10	1.12	1.50			3.14	3.15	3.31
wind	1.9 m/s	velocity	5.28	8.54	8.87	8.79	8.70	8.87	8.54	8.39	8.31	8.16	9.35	8.03		8.73	8.70	8.28

FINAL - 2021 National Indoor Grand Prix (Jinan, CHN) *CAA Hurdle Development (2021)*

date	18-Mar-21	time	2.65	3.75	4.82	5.90	7.01							7.97	6 / 4			
reaction time	0.166	interval	7 steps	1.10	1.07	1.08	1.11						0.96			3.25		
		velocity	5.18	8.31	8.54	8.46	8.23						10.13	7.53		8.44		

FINAL - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.60	3.69	4.76	5.81	6.86	7.90	8.95	10.01	11.07	12.15		13.60	7 / 3			
reaction time	0.144	interval	7 steps	1.09	1.07	1.05	1.05	1.04	1.05	1.06	1.06	1.08	1.45	PB		3.21	3.14	3.20
wind	0.4 m/s	velocity	5.28	8.39	8.54	8.70	8.70	8.79	8.70	8.62	8.62	8.46	9.67	8.09		8.54	8.73	8.57

Heat 1 - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.60	3.67	4.72	5.77	6.82	7.87	8.94	10.01	11.08	12.18		13.63	2 / 1			
reaction time	0.142	interval	7 steps	1.07	1.05	1.05	1.05	1.05	1.07	1.07	1.07	1.10	1.45	PB		3.17	3.17	3.24
wind	0.3 m/s	velocity	5.28	8.54	8.70	8.70	8.70	8.70	8.54	8.54	8.54	8.31	9.67	8.07		8.65	8.65	8.46

U20 FINAL - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.57	3.62	4.65	5.67	6.69	7.71	8.74	9.78	10.83	11.91		13.39	4 / 1			
reaction time	0.134	interval		1.05	1.03	1.02	1.02	1.02	1.03	1.04	1.05	1.08	1.48	PB		3.10	3.07	3.17
wind	-0.3 m/s	velocity	5.34	8.70	8.87	8.96	8.96	8.96	8.87	8.79	8.70	8.46	9.47	8.22		8.85	8.93	8.65

U20 Heat 3 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.58	3.62	4.64	5.67	6.69	7.71	8.74	9.80	10.88	12.04		13.59	6 / 1			
reaction time	0.135	interval		1.04	1.02	1.03	1.02	1.02	1.03	1.06	1.08	1.16	1.55			3.09	3.07	3.30
wind	0.6 m/s	velocity	5.32	8.79	8.96	8.87	8.96	8.96	8.87	8.62	8.46	7.88	9.05	8.09		8.87	8.93	8.31

Heat 1 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.68	3.77	4.85	5.94	7.02	8.12	9.22	10.34	11.46	12.60		14.17	4 / 3			
reaction time	0.163	interval		1.09	1.08	1.09	1.08	1.10	1.10	1.12	1.12	1.14	1.57			3.26	3.28	3.38
wind	0.1 m/s	velocity	5.12	8.39	8.46	8.39	8.46	8.31	8.31	8.16	8.16	8.02	8.93	7.76		8.41	8.36	8.11

FINAL - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.68	3.80	4.86	5.96	7.02	8.14	9.24	10.38	11.52	12.67		14.19	5 / 5			
reaction time	0.163	interval		1.12	1.06	1.10	1.06	1.12	1.10	1.14	1.14	1.15	1.52			3.28	3.28	3.43
wind	-0.3 m/s	velocity	5.12	8.16	8.62	8.31	8.62	8.16	8.31	8.02	8.02	7.95	9.22	7.75		8.36	8.36	7.99

Heat 3 - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.68	3.78	4.86	5.94	7.02	8.10	9.22	10.32	11.45	12.60		14.15	5 / 2			
reaction time	0.145	interval		1.10	1.08	1.08	1.08	1.08	1.12	1.10	1.13	1.15	1.55			3.26	3.28	3.38
wind	0.0 m/s	velocity	5.12	8.31	8.46	8.46	8.46	8.46	8.16	8.31	8.09	7.95	9.05	7.77		8.41	8.36	8.11

FINAL - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	09-Apr-19	time	2.64	3.71	4.81	5.89	6.98	8.05	9.16	10.26	11.38	12.52		14.07	7 / 4			
reaction time	0.165	interval		1.07	1.10	1.08	1.09	1.07	1.11	1.10	1.12	1.14	1.55	PB		3.25	3.27	3.36
wind	0.2 m/s	velocity	5.20	8.54	8.31	8.46	8.39	8.54	8.23	8.31	8.16	8.02	9.05	7.82		8.44	8.39	8.16

Heat 4 - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	08-Apr-19	time	2.62	3.72	4.80	5.88	6.95	8.05	9.14	10.26	11.40	12.58		14.17	4 / 1			
reaction time	0.158	interval		1.10	1.08	1.08	1.07	1.10	1.09	1.12	1.14	1.18	1.59	PB		3.26	3.26	3.44
wind	-0.8 m/s	velocity	5.24	8.31	8.46	8.46	8.54	8.31	8.39	8.16	8.02	7.75	8.82	7.76		8.41	8.41	7.97

A-FINAL - 2019 Chinese Indoor National Grand Prix Final (Hangzhou, CHN) *CAA Hurdle Development (2019)*

date	20-Mar-19	time	2.64	3.71	4.79	5.82	6.91							7.85	4 / 3			
reaction time		interval		1.07	1.08	1.03	1.09					0.94				3.18		
		velocity	5.20	8.54	8.46	8.87	8.39					10.34	7.64			8.62		

A-FINAL - 2019 Chinese Indoor National Grand Prix 4 (Xi'an, CHN) *CAA Hurdle Development (2019)*

date	4-Mar-19	time	2.64	3.72	4.78	5.82	6.88							7.82	4 / 2			
reaction time		interval		1.08	1.06	1.04	1.06					0.94	PB			3.18		
		velocity	5.20	8.46	8.62	8.79	8.62					10.34	7.67			8.62		

FINAL - 2018 Chinese National U20 Championships (Nanchang, CHN) (99.1cm) *Zhang (2019) - comparative analysis characteristics Chinese elite 110m hurdles in different age*

date	13-May-18	time	2.63	3.69	4.74	5.79	6.84	7.89	8.93	10.00	11.07	12.17		13.40	5 / 1			
reaction time		interval		1.06	1.05	1.05	1.05	1.05	1.04	1.07	1.07	1.10	1.23			3.16	3.14	3.24
wind	1.0 m/s	velocity	5.22	8.62	8.70	8.70	8.70	8.70	8.79	8.54	8.54	8.31	11.40	8.21		8.68	8.73	8.46

Nishi, Kyohei (JPN) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2023 Fuse Sprint (Tottori, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	25-Jun-23	time	2.66	3.77	4.85	5.95	7.03	8.11	9.20	10.31	11.40	12.49		13.98	2 / 6			
reaction time	0.179	interval		1.11	1.08	1.10	1.08	1.08	1.09	1.11	1.09	1.09	1.49			3.29	3.25	3.29
wind	1.1 m/s	velocity	5.16	8.23	8.46	8.31	8.46	8.46	8.39	8.23	8.39	8.39	9.41	7.87		8.33	8.44	8.33

FINAL - 2016 Kyushu Championships (Kita-Kyushu, JPN) *(2016.08.30) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	27-Aug-16	time	2.70	3.81	4.95	6.05	7.15	8.28	9.39	10.51	11.65	12.81		14.32	4 / 1			
reaction time		interval		1.11	1.14	1.10	1.10	1.13	1.11	1.12	1.14	1.16	1.51			3.35	3.34	3.42
wind	-2.1 m/s	velocity	5.08	8.23	8.02	8.31	8.31	8.09	8.23	8.16	8.02	7.88	9.28	7.68		8.19	8.21	8.02

Nishi, Tetsuro (JPN) (2004)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	29-Apr-24	time	2.73	3.83	4.92	6.01	7.08	8.18	9.28	10.40	11.53	12.68		14.25	1 / 8			
reaction time	0.179	interval	7 steps	1.10	1.09	1.09	1.07	1.10	1.10	1.12	1.13	1.15	1.57			3.28	3.27	3.40
wind	-0.6 m/s	velocity	5.03	8.31	8.39	8.39	8.54	8.31	8.31	8.16	8.09	7.95	8.93	7.72		8.36	8.39	8.06

FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (99cm) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	22-Oct-21	time	2.61	3.68	4.72	5.75	6.77	7.80	8.83	9.87	10.92	11.98		13.48	5 / 1			
reaction time	0.131	interval	7 steps	1.07	1.04	1.03	1.02	1.03	1.03	1.04	1.05	1.06	1.50			3.14	3.08	3.15
wind	-0.6 m/s	velocity	5.26	8.54	8.79	8.87	8.96	8.87	8.87	8.79	8.70	8.62	9.35	8.16		8.73	8.90	8.70

FINAL - 2021 Japanese High School National Championships (Fukui, JPN) *Shibayama (2021) - national high school and U20 national championhsips*

date	01-Aug-21	time	2.65	3.74	4.79	5.85	6.89	7.95	9.00	10.07	11.14	12.23		13.69	3 / 1			
reaction time	0.128	interval	7 steps	1.09	1.05	1.06	1.04	1.06	1.05	1.07	1.07	1.09	1.46	PB		3.20	3.15	3.23
wind	1.4 m/s	velocity	5.18	8.39	8.70	8.62	8.79	8.62	8.70	8.54	8.54	8.39	9.60	8.04		8.57	8.70	8.49

Nishizawa, Masanori (JPN) (1987)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Nambu Memorial (Sapporo, JPN) *(2017) - tfdata-store.com/2017/07/12/post-1025/*

date	09-Jul-17	time	2.71	3.81	4.91	6.02	7.11	8.20	9.30	10.41	11.56	12.72		14.25	9 / 5			
reaction time		interval		1.10	1.10	1.11	1.09	1.09	1.10	1.11	1.15	1.16	1.53			3.31	3.28	3.42
wind	2.7 m/s	velocity	5.06	8.31	8.31	8.23	8.39	8.39	8.31	8.23	7.95	7.88	9.16	7.72		8.28	8.36	8.02

Semi-Final 1 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.66	3.75	4.82	5.91	6.97	8.03	9.11	10.20	11.32	12.41		13.87	3 / 7			
reaction time	0.133	interval		1.09	1.07	1.09	1.06	1.06	1.08	1.09	1.12	1.09	1.46			3.25	3.20	3.30
wind	0.6 m/s	velocity	5.16	8.39	8.54	8.39	8.62	8.62	8.46	8.39	8.16	8.39	9.60	7.93		8.44	8.57	8.31

Heat 2 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.63	3.71	4.79	5.86	6.93	8.01	9.08	10.18	11.28	12.39		13.83	4 / 4			
reaction time	0.138	interval		1.08	1.08	1.07	1.07	1.08	1.07	1.10	1.10	1.11	1.44			3.23	3.22	3.31
wind	0.0 m/s	velocity	5.22	8.46	8.46	8.54	8.54	8.46	8.54	8.31	8.31	8.23	9.74	7.95		8.49	8.52	8.28

FINAL - 2015 Japanese National Championships (Niigata, JPN) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	28-Jun-15	time	2.66	3.76	4.85	5.94	7.02	8.10	9.19	10.29	11.40	12.51		13.93	2 / 7			
reaction time	0.121	interval		1.10	1.09	1.09	1.08	1.08	1.09	1.10	1.11	1.11	1.42			3.28	3.25	3.32
wind	-1.4 m/s	velocity	5.16	8.31	8.39	8.39	8.46	8.46	8.39	8.31	8.23	8.23	9.87	7.90		8.36	8.44	8.26

Niwa, Hayato (JPN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.08) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.71	3.81	4.89	5.97	7.04	8.11	9.17	10.24	11.33	12.50		14.01	3 / 2			
reaction time		interval		1.10	1.08	1.08	1.07	1.07	1.06	1.07	1.09	1.17	1.51			3.26	3.20	3.33
wind	1.0 m/s	velocity	5.06	8.31	8.46	8.46	8.54	8.54	8.62	8.54	8.39	7.81	9.28	7.85		8.41	8.57	8.23

Heat 2 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.07) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.69	3.81	4.91	5.98	7.04	8.10	9.18	10.28	11.38	12.50		14.00	5 / 1			
reaction time		interval		1.12	1.10	1.07	1.06	1.06	1.08	1.10	1.10	1.12	1.50			3.29	3.20	3.32
wind	2.3 m/s	velocity	5.10	8.16	8.31	8.54	8.62	8.62	8.46	8.31	8.31	8.16	9.35	7.86		8.33	8.57	8.26

Noga, Artur (POL) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Golden Spike (Ostrava, CZE) (TV Analysis)													*Henson (2020) - Athlete First: 2017 year end hurdle report*			
date 28-Jun-17 time	2.56	3.64	4.70	5.72	6.76	7.80	8.84	9.90	10.98	12.10		13.62	1 / 8			
reaction time 0.164 interval	7 steps	1.08	1.06	1.02	1.04	1.04	1.04	1.06	1.08	1.12	1.52			3.16	3.12	3.26
wind 0.6 m/s velocity	5.36	8.46	8.62	8.96	8.79	8.79	8.79	8.62	8.46	8.16	9.22	8.08		8.68	8.79	8.41
FINAL - 2012 IAAF World Indoor Championships (Istanbul, TUR) (TV Analysis)													*Henson (2020) - Athlete First: 2012 Aries Merritt world record season*			
date 11-Mar-12 time	2.60	3.68	4.68	5.70	6.76							7.74	1 / 8			
reaction time 0.157 interval		1.08	1.00	1.02	1.06						0.98			3.10		
velocity	5.28	8.46	9.14	8.96	8.62						9.92	7.75		8.85		
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 20-Aug-09 time	2.67	3.73	4.77	5.78	6.79	7.91	8.84	9.89	10.93	12.01		13.43	7 / 4			
reaction time 0.174 interval		1.06	1.04	1.01	1.01	1.12	0.93	1.05	1.04	1.08	1.42			3.11	3.06	3.17
wind 0.9 m/s velocity	5.14	8.62	8.79	9.05	9.05	8.16	9.83	8.70	8.79	8.46	9.87	8.19		8.82	8.96	8.65
Heat 3 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 19-Aug-09 time	2.70	3.77	4.83	5.87	6.90	7.93	8.97	10.02	11.07	12.14		13.56	3 / 3			
reaction time 0.176 interval		1.07	1.06	1.04	1.03	1.03	1.04	1.05	1.05	1.07	1.42			3.17	3.10	3.17
wind 0.2 m/s velocity	5.08	8.54	8.62	8.79	8.87	8.87	8.79	8.70	8.70	8.54	9.87	8.11		8.65	8.85	8.65
FINAL - 2008 Olympic Games (Beijing, CHN)													*Tsiokanos (2018) - race pattern of men's 110m hurdles- time analysis of olympic hurdle performance*			
date 21-Aug-08 time	2.66	3.70	4.74	5.77	6.78	7.81	8.84	9.87	10.94	12.00		13.36	4 / 5			
reaction time 0.169 interval		1.04	1.04	1.03	1.01	1.03	1.03	1.03	1.07	1.06	1.36			3.11	3.07	3.16
wind 0.1 m/s velocity	5.16	8.79	8.79	8.87	9.05	8.87	8.87	8.87	8.54	8.62	10.31	8.23		8.82	8.93	8.68

Nomoto, Hideki (JPN) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2009 Osaka Grand Prix (Osaka, JPN)													*Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*			
date 09-May-09 time	2.61	3.69	4.77	5.83	6.90	7.97	9.05	10.15	11.25	12.37		13.94	/ 5			
reaction time interval		1.08	1.08	1.06	1.07	1.07	1.08	1.10	1.10	1.12	1.57			3.22	3.22	3.32
wind 0.2 m/s velocity	5.26	8.46	8.46	8.62	8.54	8.54	8.46	8.31	8.31	8.16	8.93	7.89		8.52	8.52	8.26
FINAL - 2009 Mikio Oda Memorial (Hiroshima, JPN)													*Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*			
date 29-Apr-09 time	2.66	3.74	4.82	5.88	6.93	8.00	9.08	10.16	11.27	12.40		13.99	/ 8			
reaction time interval		1.08	1.08	1.06	1.05	1.07	1.08	1.08	1.11	1.13	1.59			3.22	3.20	3.32
wind 1.9 m/s velocity	5.16	8.46	8.46	8.62	8.70	8.54	8.46	8.46	8.23	8.09	8.82	7.86		8.52	8.57	8.26
Heat 1 - 2008 Mikio Oda Memorial (Hiroshima, JPN)													*Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles*			
date 29-Apr-08 time	2.49	3.60	4.67	5.73	6.81	7.90	8.99	10.10	11.22	12.35		14.04	/ 4			
reaction time interval		1.11	1.07	1.06	1.08	1.09	1.09	1.11	1.12	1.13	1.69			3.24	3.26	3.36
wind 0.1 m/s velocity	5.51	8.23	8.54	8.62	8.46	8.39	8.39	8.23	8.16	8.09	8.30	7.83		8.46	8.41	8.16

Nomoto, Syuusei (JPN) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2024 Japanese National Championsips (Niigata, JPN)													*Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*			
date 30-Jun-24 time	2.52	3.59	4.63	5.64	6.66	7.70	8.72	9.81	10.89	11.98		13.43	8 / 5			
reaction time 0.145 interval	7 steps	1.07	1.04	1.01	1.02	1.04	1.02	1.09	1.08	1.09	1.45			3.12	3.08	3.26
wind 0.2 m/s velocity	5.44	8.54	8.79	9.05	8.96	8.79	8.96	8.39	8.46	8.39	9.67	8.19		8.79	8.90	8.41
FINAL - 2023 Fuse Sprint (Tottori, JPN)													*Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*			
date 25-Jun-23 time	2.53	3.58	4.64	5.66	6.69	7.71	8.76	9.80	10.84	11.90		13.28	7 / 1			
reaction time 0.148 interval	7 steps	1.05	1.06	1.02	1.03	1.02	1.05	1.04	1.04	1.06	1.38	**PB**		3.13	3.10	3.14
wind 1.1 m/s velocity	5.42	8.70	8.62	8.96	8.87	8.96	8.70	8.79	8.79	8.62	10.16	8.28		8.76	8.85	8.73
FINAL - 2022 Seiko Golden Grand Prix (Tokyo, JPN)													*Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*			
date 08-May-22 time	2.57	3.70	4.79	5.83	6.88	7.91	8.97	10.05	11.14	12.23		13.68	3 / 4			
reaction time 0.156 interval	7 steps	1.13	1.09	1.04	1.05	1.03	1.06	1.08	1.09	1.09	1.45			3.26	3.14	3.26
wind 0.1 m/s velocity	5.34	8.09	8.39	8.79	8.70	8.87	8.62	8.46	8.39	8.39	9.67	8.04		8.41	8.73	8.41
FINAL - 2022 Mikio Oda Memorial (Hiroshima, JPN)													*Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*			
date 29-Apr-22 time	2.59	3.66	4.73	5.79	6.86	7.92	8.98	10.08	11.18	12.31		13.83	3 / 3			
reaction time 0.157 interval	7 steps	1.07	1.07	1.06	1.07	1.06	1.06	1.10	1.10	1.13	1.52			3.20	3.19	3.33
wind -1.5 m/s velocity	5.30	8.54	8.54	8.62	8.54	8.62	8.62	8.31	8.31	8.09	9.22	7.95		8.57	8.60	8.23
Semi-Final 1 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)													*Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*			
date 20-Mar-22 time	2.40	3.46	4.50	5.55	6.60							7.57	8 / 3			
reaction time 0.127 interval	7 steps	1.06	1.04	1.05	1.05						0.97	**PB**		3.15		
velocity	5.72	8.62	8.79	8.70	8.70						10.02	7.93		8.70		
FINAL - 2021 Japanese National Championships (Osaka, JPN)													*Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*			
date 27-Jun-21 time	2.54	3.60	4.65	5.68	6.71	7.75	8.79	9.85	10.90	11.97		13.38	4 / 4			
reaction time 0.154 interval	7 steps	1.06	1.05	1.03	1.03	1.04	1.04	1.06	1.05	1.07	1.41	PB		3.14	3.11	3.18
wind 1.2 m/s velocity	5.40	8.62	8.70	8.87	8.87	8.79	8.79	8.62	8.70	8.54	9.94	8.22		8.73	8.82	8.62

FINAL - 2021 Fuse Sprint (Tottori, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	06-Jun-21	time	2.57	3.62	4.68	5.75	6.80	7.85	8.93	10.00	11.11	12.22		13.66	8 / 4			
reaction time	0.144	interval	7 steps	1.05	1.06	1.07	1.05	1.05	1.08	1.07	1.11	1.11	1.44			3.18	3.18	3.29
wind	1.8 m/s	velocity	5.34	8.70	8.62	8.54	8.70	8.70	8.46	8.54	8.23	8.23	9.74	8.05		8.62	8.62	8.33

FINAL - 2020 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	24-Oct-20	time	2.53	3.59	4.65	5.69	6.75	7.81	8.88	9.95	11.03	12.12		13.55	4 / 2			
reaction time		interval	7 steps	1.06	1.06	1.04	1.06	1.06	1.07	1.07	1.08	1.09	1.43			3.16	3.19	3.24
wind	0.6 m/s	velocity	5.42	8.62	8.62	8.79	8.62	8.62	8.54	8.54	8.46	8.39	9.80	8.12		8.68	8.60	8.46

FINAL - 2020 Japanese National Championships (Niigata, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	03-Oct-20	time	2.54	3.63	4.68	5.73	6.78	7.83	8.90	9.97	11.05	12.13		13.55	8 / 4			
reaction time	0.145	interval	7 steps	1.09	1.05	1.05	1.05	1.05	1.07	1.07	1.08	1.08	1.42			3.19	3.17	3.23
wind	-0.1 m/s	velocity	5.40	8.39	8.70	8.70	8.70	8.70	8.54	8.54	8.46	8.46	9.87	8.12		8.60	8.65	8.49

FINAL - 2020 Athlete Night Games (Fukui, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	29-Aug-20	time	2.55	3.62	4.68	5.71	6.75	7.80	8.84	9.91	10.99	12.06		13.45	7 / 4			
reaction time		interval	7 steps	1.07	1.06	1.03	1.04	1.05	1.04	1.07	1.08	1.07	1.39	PB		3.16	3.13	3.22
wind	1.4 m/s	velocity	5.38	8.54	8.62	8.87	8.79	8.70	8.79	8.54	8.46	8.54	10.09	8.18		8.68	8.76	8.52

FINAL - 2017 Nambu Memorial (Sapporo, JPN) *(2017) - tfdata-store.com/2017/07/12/post-1025/*

date	09-Jul-17	time	2.61	3.70	4.75	5.79	6.84	7.91	8.96	10.04	11.11	12.22		13.59	7 / 1			
reaction time		interval	7 steps	1.09	1.05	1.04	1.05	1.07	1.05	1.08	1.07	1.11	1.37			3.18	3.17	3.26
wind	2.7 m/s	velocity	5.26	8.39	8.70	8.79	8.70	8.54	8.70	8.46	8.54	8.23	10.23	8.09		8.62	8.65	8.41

Semi-Final 1 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.64	3.72	4.81	5.86	6.91	7.98	9.04	10.12	11.21	12.32		13.70	9 / 5			
reaction time	0.156	interval	7 steps	1.08	1.09	1.05	1.05	1.07	1.06	1.08	1.09	1.11	1.38			3.22	3.18	3.28
wind	0.6 m/s	velocity	5.20	8.46	8.39	8.70	8.70	8.54	8.62	8.46	8.39	8.23	10.16	8.03		8.52	8.62	8.36

Heat 2 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.59	3.71	4.77	5.85	6.93	8.02	9.10	10.18	11.30	12.40		13.81	2 / 3			
reaction time	0.154	interval	7 steps	1.12	1.06	1.08	1.08	1.09	1.08	1.08	1.12	1.10	1.41			3.26	3.25	3.30
wind	0.0 m/s	velocity	5.30	8.16	8.62	8.46	8.46	8.39	8.46	8.46	8.16	8.31	9.94	7.97		8.41	8.44	8.31

FINAL - 2017 Mikio Oda Memorial (Hiroshima, JPN) *(2017) - tfdata-store.com/2017/05/01/458/*

date	29-Apr-17	time	2.61	3.67	4.75	5.80	6.85	7.93	8.99	10.07	11.13	12.20		22.95	1 / 8			
reaction time		interval	7 steps	1.06	1.08	1.05	1.05	1.08	1.06	1.08	1.06	1.07	10.75			3.19	3.19	3.21
wind	1.5 m/s	velocity	5.26	8.62	8.46	8.70	8.70	8.46	8.62	8.46	8.62	8.54	1.30	4.79		8.60	8.60	8.54

FINAL - 2017 Tokyo Six School Meeting (Tokyo, JPN) *(2017) - tfdata-store.com/2017/04/10/post-342/*

date	08-Apr-17	time	2.60	3.70	4.76	5.86	6.94	8.02	9.10	10.18	11.28	12.39		13.80	4 / 3			
reaction time		interval	7 steps	1.10	1.06	1.10	1.08	1.08	1.08	1.08	1.10	1.11	1.41	PB		3.26	3.24	3.29
wind	0.5 m/s	velocity	5.28	8.31	8.62	8.31	8.46	8.46	8.46	8.46	8.31	8.23	9.94	7.97		8.41	8.46	8.33

Heat 2 - 2017 Tokyo Six School Meeting (Tokyo, JPN) *(2017) - tfdata-store.com/2017/04/10/post-342/*

date	08-Apr-17	time	2.63	3.72	4.80	5.89	6.97	8.05	9.14	10.22	11.35	12.47		13.91	5 / 2			
reaction time		interval	7 steps	1.09	1.08	1.09	1.08	1.08	1.09	1.08	1.13	1.12	1.44	PB		3.26	3.25	3.33
wind	0.8 m/s	velocity	5.22	8.39	8.46	8.39	8.46	8.46	8.39	8.46	8.09	8.16	9.74	7.91		8.41	8.44	8.23

Nossmy, Philip (SWE) (1982)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2013 Windsprint (Sundsvall, SWE) *(2013) - www.ssg.se/windsprint/Splittider/*

date	28-Jul-13	time	2.62	3.68	4.73	5.78	6.81	7.86	8.91	9.96	11.02	12.08		13.49	3 / 1			
reaction time		interval		1.06	1.05	1.05	1.03	1.05	1.05	1.05	1.06	1.06	1.41			3.16	3.13	3.17
wind	1.7 m/s	velocity	5.24	8.62	8.70	8.70	8.87	8.70	8.70	8.70	8.62	8.62	9.94	8.15		8.68	8.76	8.65

Semi-Final 1 - 2013 European Indoor Championships (Göteborg, SWE) *Blomkvist (2013) - www.elitlandslag.se/SprintHäck/KortHäck.aspx*

date	01-Mar-13	time	2.62	3.71	4.77	5.82	6.86							7.78	2 / 6			
reaction time	0.153	interval		1.09	1.06	1.05	1.04						0.92			3.20		
		velocity	5.24	8.39	8.62	8.70	8.79						10.57	7.71		8.57		

Heat 2 - 2013 European Indoor Championships (Göteborg, SWE) *Blomkvist (2013) - www.elitlandslag.se/SprintHäck/KortHäck.aspx*

date	01-Mar-13	time	2.63	3.73	4.80	5.84	6.89							7.76	1 / 4			
reaction time	0.162	interval		1.10	1.07	1.04	1.05						0.87			3.21		
		velocity	5.22	8.31	8.54	8.79	8.70						11.17	7.73		8.54		

FINAL - 2012 Windsprint (Sundsvall, SWE) *Blomkvist (2012) - www.sub13.se*

date	17-Jun-12	time	2.65	3.74	4.76	5.81	6.84	7.88	8.94	9.99	11.04	12.13		13.56	5 / 2			
reaction time		interval		1.09	1.02	1.05	1.03	1.04	1.06	1.05	1.05	1.09	1.43			3.16	3.13	3.19
wind	1.1 m/s	velocity	5.18	8.39	8.96	8.70	8.87	8.79	8.62	8.70	8.70	8.39	9.80	8.11		8.68	8.76	8.60

Race 1 - 2011 European Team Championships (Stockholm, SWE) *Blomkvist (2011) - www.sub13.se*

date	19-Jun-11	time	2.60	3.68	4.72	5.80	6.84	7.92	8.98	10.06	11.16	12.24		13.73	5 / 2			
reaction time	0.174	interval		1.08	1.04	1.08	1.04	1.08	1.06	1.08	1.10	1.08	1.49			3.20	3.18	3.26
wind	-0.8 m/s	velocity	5.28	8.46	8.79	8.46	8.79	8.46	8.62	8.46	8.31	8.46	9.41	8.01		8.57	8.62	8.41

FINAL - 2011 Folksam GP (Göteborg, SWE) *Blomkvist (2011) - www.sub13.se*

date	11-Jun-11	time	2.52	3.60	4.68	5.72	6.78	7.82	8.88	9.94	11.00	12.10		13.71	/ 4			
reaction time		interval		1.08	1.08	1.04	1.06	1.04	1.06	1.06	1.06	1.10	1.61			3.20	3.16	3.22
wind	0.6 m/s	velocity	5.44	8.46	8.46	8.79	8.62	8.79	8.62	8.62	8.62	8.31	8.71	8.02		8.57	8.68	8.52

FINAL - 2011 Swedish National Indoor Championships (Sätra, SWE) *Blomkvist (2011) - www.sub13.se*

date	28-Feb-11	time	2.66	3.71	4.77	5.80	6.83							7.73	/ 1			
reaction time		interval		1.05	1.06	1.03	1.03						0.90			3.14		
		velocity	5.16	8.70	8.62	8.87	8.87						10.80	7.76		8.73		

FINAL - 2010 Swedish National Championships (Falun, SWE) *Blomkvist (2010) - www.sub13.se*

date	22-Aug-10	time	2.70	3.79	4.85	5.92	6.98	8.06	9.15	10.29	11.42	12.55		14.14	/ 1			
reaction time		interval		1.09	1.06	1.07	1.06	1.08	1.09	1.14	1.13	1.13	1.59			3.22	3.23	3.40
wind	-0.7 m/s	velocity	5.08	8.39	8.62	8.54	8.62	8.46	8.39	8.02	8.09	8.09	8.82	7.78		8.52	8.49	8.06

FINAL - 2010 Windsprint (Sundsvall, SWE) *Blomkvist (2010) - www.sub13.se*

date	08-Aug-10	time	2.67	3.74	4.82	5.86	6.91	7.97	9.04	10.09	11.17	12.26		13.67	/ 2			
reaction time		interval		1.07	1.08	1.04	1.05	1.06	1.07	1.05	1.08	1.09	1.41			3.19	3.18	3.22
wind	1.1 m/s	velocity	5.14	8.54	8.46	8.79	8.70	8.62	8.54	8.70	8.46	8.39	9.94	8.05		8.60	8.62	8.52

FINAL - 2010 Folksam GP (Sollentuna, SWE) *Blomkvist (2010) - www.sub13.se*

date	01-Jul-10	time	2.49	3.56	4.62	5.66	6.70	7.75	8.80	9.86	10.91	11.99		13.56	4 / 2			
reaction time		interval		1.07	1.06	1.04	1.04	1.05	1.05	1.06	1.05	1.08	1.57			3.17	3.14	3.19
wind	0.4 m/s	velocity	5.51	8.54	8.62	8.79	8.79	8.70	8.70	8.62	8.70	8.46	8.93	8.11		8.65	8.73	8.60

FINAL - 2010 European Team Championships, 1st League (Budapest, HUN) *Blomkvist (2010) - www.sub13.se*

date	20-Jun-10	time	2.51	3.58	4.67	5.71	6.76	7.84	8.89	9.98	11.04	12.16		13.79	4 / 3			
reaction time	0.190	interval		1.07	1.09	1.04	1.05	1.08	1.05	1.09	1.06	1.12	1.63			3.20	3.18	3.27
wind	1.1 m/s	velocity	5.47	8.54	8.39	8.79	8.70	8.46	8.70	8.39	8.62	8.16	8.60	7.98		8.57	8.62	8.39

Semi-Final 3 - 2010 IAAF World Indoor Championships (Doha, QAT) *Blomkvist (2010) - 100/110m Hurdles: Development*

date	14-Mar-10	time	2.63	3.68	4.75	5.77	6.81							7.69	1 / 5			
reaction time	0.157	interval		1.05	1.07	1.02	1.04						0.88			3.14		
		velocity	5.22	8.70	8.54	8.96	8.79						11.05	7.80		8.73		

FINAL - 2010 Swedish National Indoor Championships (Sätra, SWE) *Blomkvist (2010) - www.sub13.se*

date	28-Feb-10	time	2.66	3.71	4.77	5.80	6.83							7.73	/ 1			
reaction time		interval		1.05	1.06	1.03	1.03						0.90			3.14		
		velocity	5.16	8.70	8.62	8.87	8.87						10.80	7.76		8.73		

FINAL - 2010 GE Galan (Stockholm, SWE) *Blomkvist (2010) - www.sub13.se*

date	10-Feb-10	time	2.45	3.51	4.56	5.58	6.60							7.68	/ 4			
reaction time		interval		1.06	1.05	1.02	1.02						1.08			3.13		
		velocity	5.60	8.62	8.70	8.96	8.96						9.00	7.81		8.76		

Heat 2 - 2010 Samsung Galan (Göteborg, SWE) *Blomkvist (2010) - www.sub13.se*

date	02-Feb-10	time	2.56	3.65	4.72	5.76	6.80							7.78	/ 2			
reaction time		interval		1.09	1.07	1.04	1.04						0.98			3.20		
		velocity	5.36	8.39	8.54	8.79	8.79						9.92	7.71		8.57		

FINAL - 2010 Five Nations (Glasgow, GBR) *Blomkvist (2010) - www.sub13.se*

date	30-Jan-10	time	2.46	3.50	4.55	5.58	6.61							7.71	/ 3			
reaction time	0.186	interval		1.04	1.05	1.03	1.03						1.10			3.12		
		velocity	5.58	8.79	8.70	8.87	8.87						8.84	7.78		8.79		

Notoya, Yuta (JPN) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.61	3.72	4.82	5.91	6.99	8.08	9.21	10.32	11.45	12.60		14.09	4 / 6			
reaction time	0.119	interval	*7 steps*	1.11	1.10	1.09	1.08	1.09	1.13	1.11	1.13	1.15	1.49			3.30	3.30	3.39
wind	0.5 m/s	velocity	5.26	8.23	8.31	8.39	8.46	8.39	8.09	8.23	8.09	7.95	9.41	7.81		8.31	8.31	8.09

FINAL - 2015 Japanese National Championships (Niigata, JPN) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	28-Jun-15	time	2.67	3.73	4.79	5.85	6.92	7.99	9.08	10.16	11.27	12.37		13.87	6 / 4			
reaction time	0.136	interval	7 steps	1.06	1.06	1.06	1.07	1.07	1.09	1.08	1.11	1.10	1.50			3.18	3.23	3.29
wind	-1.4 m/s	velocity	5.14	8.62	8.62	8.62	8.54	8.54	8.39	8.46	8.23	8.31	9.35	7.93		8.62	8.49	8.33

Novotny, Šimon (CZE) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2013 Czech Republic National Championships (Tábor, CZE) *Feher (2013) - Final report from the men's & women's Czech Republic national championships*

date	15-Jun-13	time	2.86	4.06	5.27	6.47	7.67	8.88	10.11	11.35	12.62			15.58	6 / 4			

reaction time	0.170	interval		1.20	1.21	1.20	1.20	1.21	1.23	1.24	1.27				3.61	3.64	
wind	-0.6 m/s	velocity	4.80	7.62	7.55	7.62	7.62	7.55	7.43	7.37	7.20		7.06		7.60	7.53	

Nowak, Tim (GER) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis)													*Henson (2024) - Athlete First: 2022 year end hurdle report*			
date 24-Jul-22 time	2.85	4.00	5.16	6.30	7.43	8.58	9.73	10.86	12.10	13.25		14.91	5 / 6			
reaction time 0.169 interval		1.15	1.16	1.14	1.13	1.15	1.15	1.13	1.24	1.15	1.66			3.45	3.43	3.52
wind 1.5 m/s velocity	4.81	7.95	7.88	8.02	8.09	7.95	7.95	8.09	7.37	7.95	8.45	7.38		7.95	7.99	7.79

Nsenga, Jonathan (BEL) (1973)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1999 IAAF World Championships (Sevilla, ESP)													*Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*			
date 25-Aug-99 time	2.61	3.65	4.72	5.77	6.80	7.86	8.90	9.93	11.01	12.08		13.54	1 / 8			
reaction time 0.142 interval		1.04	1.07	1.05	1.03	1.06	1.04	1.03	1.08	1.07	1.46			3.16	3.13	3.18
wind 1.0 m/s velocity	5.26	8.79	8.54	8.70	8.87	8.62	8.79	8.87	8.46	8.54	9.60	8.12		8.68	8.76	8.62
Semi-Final 2 - 1999 IAAF World Championships (Sevilla, ESP)													*Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*			
date 24-Aug-99 time	2.56	3.61	4.66	5.70	6.71	7.74	8.77	9.86	10.91	12.00		13.47	7 / 4			
reaction time 0.134 interval		1.05	1.05	1.04	1.01	1.03	1.03	1.09	1.05	1.09	1.47			3.14	3.07	3.23
wind 0.0 m/s velocity	5.36	8.70	8.70	8.79	9.05	8.87	8.87	8.39	8.70	8.39	9.54	8.17		8.73	8.93	8.49
FINAL - 1998 European Championships (Budapest, HUN)													*Sanchez (1998) - Budapest '98: análisis de la carreras con villas*			
date 22-Aug-98 time	2.62	3.66	4.71	5.76	6.81	7.83	8.87	9.94	11.02	12.12		13.54	1 / 8			
reaction time interval		1.04	1.05	1.05	1.05	1.02	1.04	1.07	1.08	1.10	1.42			3.14	3.11	3.25
wind 1.5 m/s velocity	5.24	8.79	8.70	8.70	8.70	8.96	8.79	8.54	8.46	8.31	9.87	8.12		8.73	8.82	8.44

Nunley, Booker (USA) (1990)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2007 USATF National Junior Championships (Indianapolis, IN) (99cm)													*USATF Men's Hurdle Development (2007)*			
date 21-Jun-07 time	2.69	3.77	4.85	5.95	7.01	8.14	9.26	10.39	11.51	12.68		14.28	/ 8			
reaction time interval		1.08	1.08	1.10	1.06	1.13	1.12	1.13	1.12	1.17	1.60			3.26	3.31	3.42
wind 2.7 m/s velocity	5.10	8.46	8.46	8.31	8.62	8.09	8.16	8.09	8.16	7.81	8.76	7.70		8.41	8.28	8.02

Obasuyi, Michael (BEL) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Short Hurdles - 2025 Grand Slam Track Miami (Miramar, FL) (TV Analysis)													*Henson (2025) - Athlete First: 2025 year end hurdle report*			
date 02-May-25 time	2.60	3.67	4.70	5.72	6.74	7.80	8.84	9.88	10.91	11.95		13.41	2 / 7			
reaction time 0.180 interval 7 steps	1.07	1.03	1.02	1.02	1.06	1.04	1.04	1.03	1.04	1.46				3.12	3.12	3.11
wind 1.4 m/s velocity	5.28	8.54	8.87	8.96	8.96	8.62	8.79	8.79	8.87	8.79	9.60	8.20		8.79	8.79	8.82
FINAL - 2025 European Athletics Indoor Championships (Apeldoorn, NED)													*European Athletics (2025) - european athletics indoor championships results book*			
date 07-Mar-25 time	2.48	3.54	4.57	5.58	6.60							7.63	7 / 6			
reaction time 0.142 interval 7 steps	1.06	1.03	1.01	1.02							1.03			3.10		
velocity	5.53	8.62	8.87	9.05	8.96						9.44	7.86		8.85		
Semi-Final 2 - 2025 European Athletics Indoor Championships (Apeldoorn, NED)													*European Athletics (2025) - european athletics indoor championships results book*			
date 07-Mar-25 time	2.41	3.47	4.50	5.51	6.51							7.55	8 / 3			
reaction time 0.129 interval 7 steps	1.06	1.03	1.01	1.00							1.04			3.10		
velocity	5.69	8.62	8.87	9.05	9.14						9.35	7.95		8.85		
FINAL - 2024 Memorial van damme (Brussels, BEL)													*Omega Timing (2024) - diamond league race analysis*			
date 13-Sep-24 time	2.44	3.51	4.53	5.54	6.56	7.56	8.61	9.65	10.70	11.75		13.31	8 / 5			
reaction time 0.160 interval 7 steps	1.07	1.02	1.01	1.02	1.00	1.05	1.04	1.05	1.05	1.56				3.10	3.07	3.14
wind 0.4 m/s velocity	5.62	8.54	8.96	9.05	8.96	9.14	8.70	8.79	8.70	8.70	8.99	8.26		8.85	8.93	8.73
Semi-Final 1 - 2024 Olympic Games (Paris, FRA)													*Paris 2024 Olympic Games - Results Book (2024)*			
date 07-Aug-24 time	2.42	3.50	4.55	5.58	6.60	7.63	8.66	9.70	10.75	11.80		13.36	8 / 5			
reaction time 0.149 interval 7 steps	1.08	1.05	1.03	1.02	1.03	1.03	1.04	1.04	1.05	1.05	1.56			3.16	3.08	3.14
wind 0.1 m/s velocity	5.67	8.46	8.70	8.87	8.96	8.87	8.87	8.79	8.70	8.70	8.99	8.23		8.68	8.90	8.73
Heat 2 - 2024 Olympic Games (Paris, FRA)													*Paris 2024 Olympic Games - Results Book (2024)*			
date 04-Aug-24 time	2.40	3.47	4.52	5.56	6.59	7.62	8.67	9.70	10.75	11.81		13.41	6 / 3			
reaction time 0.151 interval 7 steps	1.07	1.05	1.04	1.03	1.03	1.05	1.03	1.05	1.06	1.60				3.16	3.11	3.14
wind 1.2 m/s velocity	5.72	8.54	8.70	8.79	8.87	8.87	8.70	8.87	8.70	8.62	8.76	8.20		8.68	8.82	8.73
FINAL - 2024 Meeting de Paris (Paris, FRA)													*Omega Timing (2024) - diamond league race analysis*			
date 07-Jul-24 time	2.41	3.47	4.49	5.50	6.51	7.54	8.56	9.59	10.64	11.70		13.29	7 / 6			
reaction time 0.151 interval 7 steps	1.06	1.02	1.01	1.01	1.03	1.02	1.03	1.05	1.06	1.59				3.09	3.06	3.14
wind -0.6 m/s velocity	5.69	8.62	8.96	9.05	9.05	8.87	8.96	8.87	8.70	8.62	8.82	8.28		8.87	8.96	8.73
Heat 1 - 2024 Meeting de Paris (Paris, FRA)													*Omega Timing (2024) - diamond league race analysis*			
date 07-Jul-24 time	2.43	3.50	4.53	5.53	6.54	7.56	8.58	9.60	10.64	11.68		13.22	7 / 3			
reaction time 0.129 interval 7 steps	1.07	1.03	1.00	1.01	1.02	1.02	1.02	1.02	1.04	1.04	1.54			3.10	3.05	3.10
wind 0.1 m/s velocity	5.65	8.54	8.87	9.14	9.05	8.96	8.96	8.96	8.79	8.79	9.10	8.32		8.85	8.99	8.85

FINAL - 2024 European Athletics Championships (Roma, ITA) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	08-Jun-24	time	2.60	3.73	4.78	5.80	6.83	7.83	8.85	9.88	10.93	12.00		13.46	8 / 6			
reaction time	0.170	interval	7 steps	1.13	1.05	1.02	1.03	1.00	1.02	1.03	1.05	1.07	1.46			3.20	3.05	3.15
wind	0.6 m/s	velocity	5.28	8.09	8.70	8.96	8.87	9.14	8.96	8.87	8.70	8.54	9.60	8.17		8.57	8.99	8.70

FINAL - 2024 World Athletics Indoor Championships (Glasgow, GBR) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	02-Mar-24	time	2.57	3.61	4.64	5.66	6.65							7.55	8 / 7			
reaction time	0.144	interval	7 steps	1.04	1.03	1.02	0.99						0.90			3.09		
		velocity	5.34	8.79	8.87	8.96	9.23						10.80	7.95		8.87		

FINAL - 2024 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	10-Feb-24	time	2.50	3.52	4.52	5.56	6.58							7.61	1 / 5			
reaction time	0.159	interval	7 steps	1.02	1.00	1.04	1.02						1.03			3.06		
		velocity	5.49	8.96	9.14	8.79	8.96						9.44	7.88		8.96		

Semi-Final 3 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.56	3.60	4.63	5.63	6.66							7.58	5 / 4			
reaction time	0.130	interval	7 steps	1.04	1.03	1.00	1.03						0.92	PB		3.07		
		velocity	5.36	8.79	8.87	9.14	8.87						10.57	7.92		8.93		

Heat 2 - 2022 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	17-Feb-22	time	2.48	3.57	4.60	5.62	6.60							7.65	2 / 5			
reaction time	0.150	interval	7 steps	1.09	1.03	1.02	0.98						1.05			3.14		
		velocity	5.53	8.39	8.87	8.96	9.33						9.26	7.84		8.73		

Heat 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.62	3.70	4.77	5.82	6.83	7.86	8.90	10.00	11.06	12.20		13.65	8 / 6			
reaction time	0.141	interval	7 steps	1.08	1.07	1.05	1.01	1.03	1.04	1.10	1.06	1.14	1.45			3.20	3.08	3.30
wind	0.0 m/s	velocity	5.24	8.46	8.54	8.70	9.05	8.87	8.79	8.31	8.62	8.02	9.67	8.06		8.57	8.90	8.31

FINAL - 2021 Villa de Madrid (Madrid, ESP) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Feb-21	time	2.45	3.50	4.54	5.58	6.61							7.69	8 / 5			
reaction time		interval	7 steps	1.05	1.04	1.04	1.03						1.08			3.13		
		velocity	5.60	8.70	8.79	8.79	8.87						9.00	7.80		8.76		

Heat 2 - 2021 Villa de Madrid (Madrid, ESP) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Feb-21	time	2.60	3.66	4.73	5.75	6.78							7.74	3 / 3			
reaction time	0.172	interval	7 steps	1.06	1.07	1.02	1.03						0.96			3.15		
		velocity	5.28	8.62	8.54	8.96	8.87						10.13	7.75		8.70		

FINAL - 2021 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	09-Feb-21	time	2.57	3.60	4.62	5.62	6.64							7.67	8 / 7			
reaction time	0.158	interval	7 steps	1.03	1.02	1.00	1.02						1.03	=PB		3.05		
		velocity	5.34	8.87	8.96	9.14	8.96						9.44	7.82		8.99		

Heat 2 - 2021 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	09-Feb-21	time	2.45	3.50	4.53	5.56	6.60							7.67	7 / 3			
reaction time	0.152	interval	7 steps	1.05	1.03	1.03	1.04						1.07	PB		3.11		
		velocity	5.60	8.70	8.87	8.87	8.79						9.08	7.82		8.82		

FINAL - 2020 Meeting Pro Athlé Tour de Marseille (Marseille, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	03-Sep-20	time	2.66	3.74	4.81	5.86	6.93	8.01	9.05	10.16	11.24	12.32		13.88	7 / 5			
reaction time	0.208	interval	7 steps	1.08	1.07	1.05	1.07	1.08	1.04	1.11	1.08	1.08	1.56			3.20	3.19	3.27
wind	-0.3 m/s	velocity	5.16	8.46	8.54	8.70	8.54	8.46	8.79	8.23	8.46	8.46	8.99	7.93		8.57	8.60	8.39

FINAL - 2019 AG Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	06-Sep-19	time	2.52	3.64	4.68	5.72	6.78	7.82	8.88	9.92	11.00	12.08			1 / ~~8~~			
reaction time	0.149	interval	7 steps	1.12	1.04	1.04	1.06	1.04	1.06	1.04	1.08	1.08		DQ		3.20	3.16	3.20
wind	0.0 m/s	velocity	5.44	8.16	8.79	8.79	8.62	8.79	8.62	8.79	8.46	8.46				8.57	8.68	8.57

Odom, Marlon (USA) (1982)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

Semi-Final 2 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.70	3.75	4.82	5.89	6.92	7.96	9.03	10.11	11.21	12.31		13.79	8 / 8			
reaction time		interval		1.05	1.07	1.07	1.03	1.04	1.07	1.08	1.10	1.10	1.48			3.19	3.14	3.28
wind	-0.9 m/s	velocity	5.08	8.70	8.54	8.54	8.87	8.79	8.54	8.46	8.31	8.31	9.47	7.98		8.60	8.73	8.36

Heat 1 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.70	3.77	4.82	5.89	6.94	7.99	9.03	10.07	11.16	12.28		13.76	4 / 6			
reaction time		interval		1.07	1.05	1.07	1.05	1.05	1.04	1.04	1.09	1.12	1.48			3.19	3.14	3.25
wind	0.1 m/s	velocity	5.08	8.54	8.70	8.54	8.70	8.70	8.79	8.79	8.39	8.16	9.47	7.99		8.60	8.73	8.44

Odvárka, Jirí (CZE) (1996)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

FINAL - 2015 Czech Republic National U20 Indoor Championships (Praha, CZE) (99cm) *Feher (2015) - Final report U18 & U20 Czech Republic indoor national champs*

date	14-Feb-15	time	2.74	4.04	5.24	6.41	7.59							8.57	4 / 5			

reaction time	0.148	interval		1.30	1.20	1.17	1.18						0.98				3.67		
		velocity	5.01	7.03	7.62	7.81	7.75						9.92	7.00			7.47		

Heat 1 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.80	4.03	5.23	6.43	7.64	8.88	10.11	11.38	12.68	14.02		15.83	7 / 4				
reaction time	0.162	interval		1.23	1.20	1.20	1.21	1.24	1.23	1.27	1.30	1.34	1.81				3.63	3.68	3.91
wind	-1.6 m/s	velocity	4.90	7.43	7.62	7.62	7.55	7.37	7.43	7.20	7.03	6.82	7.75	6.95			7.55	7.45	7.01

O'Farrill, Yordan (CUB) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 3 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.51	3.58	4.62	5.65	6.68							dnf	2 / --				
reaction time	0.147	interval	7 steps	1.07	1.04	1.03	1.03										3.14		
wind	0.3 m/s	velocity	5.47	8.54	8.79	8.87	8.87										8.73		

FINAL - 2016 Golden Gala Pietro Mennea (Roma, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	02-Jun-16	time	2.54	3.58	4.64	5.66	6.70	7.74	8.76					dnf	6 / --				
reaction time	0.135	interval	7 steps	1.04	1.06	1.02	1.04	1.04	1.02								3.12	3.10	
wind	0.6 m/s	velocity	5.40	8.79	8.62	8.96	8.79	8.79	8.96								8.79	8.85	

Ogata, Akihiro (JPN) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2019 Asian Grand Prix 2 (Chongqing, CHN) *CAA Hurdle Development (2019)*

date	07-Jun-19	time	2.66	3.75	4.80	5.87	6.92	7.98	9.07	10.16	11.27	12.41		13.90	6 / 5				
reaction time	0.201	interval	7 steps	1.09	1.05	1.07	1.05	1.06	1.09	1.09	1.11	1.14	1.49				3.21	3.20	3.34
wind	1.2 m/s	velocity	5.16	8.39	8.70	8.54	8.70	8.62	8.39	8.39	8.23	8.02	9.41	7.91			8.54	8.57	8.21

FINAL - 2019 Asian Grand Prix 1 (Chongqing, CHN) *CAA Hurdle Development (2019)*

date	04-Jun-19	time	2.65	3.73	4.82	5.90	6.95	8.04	9.12	10.22	11.34	12.44		13.94	5 / 5				
reaction time	0.173	interval		1.08	1.09	1.08	1.05	1.09	1.08	1.10	1.12	1.10	1.50				3.25	3.22	3.32
wind	-0.3 m/s	velocity	5.18	8.46	8.39	8.46	8.70	8.39	8.46	8.31	8.16	8.31	9.35	7.89			8.44	8.52	8.26

A FINAL - 2019 Mikio Oda Memorial (Hiroshima, JPN) *Kobayashi (2019) - research on athlete performance and technique- 2019 data book*

date	28-Apr-19	time	2.65	3.73	4.78	5.82	6.89	7.97	9.07	10.17	11.29	12.42		13.97	3 / 6				
reaction time		interval	7 steps	1.08	1.05	1.04	1.07	1.08	1.10	1.10	1.12	1.13	1.55				3.17	3.25	3.35
wind	0.6 m/s	velocity	5.18	8.46	8.70	8.79	8.54	8.46	8.31	8.31	8.16	8.09	9.05	7.87			8.65	8.44	8.19

A FINAL - 2018 National Sports Festival (Fukui, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	08-Oct-18	time	2.60	3.66	4.72	5.75	6.80	7.87	8.93	10.00	11.08	12.18		13.65	4 / 3				
reaction time	0.161	interval		1.06	1.06	1.03	1.05	1.07	1.06	1.07	1.08	1.10	1.47	**=PB**			3.15	3.18	3.25
wind	1.2 m/s	velocity	5.28	8.62	8.62	8.87	8.70	8.54	8.62	8.54	8.46	8.31	9.54	8.06			8.70	8.62	8.44

FINAL - 2018 Japanese National Championships (Yamaguchi, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	24-Jun-18	time	2.62	3.69	4.75	5.78	6.86	7.85	9.03	10.11	11.20	12.32		13.80	9 / 5				
reaction time	0.183	interval	7 steps	1.07	1.06	1.03	1.08	0.99	1.18	1.08	1.09	1.12	1.48				3.16	3.25	3.29
wind	0.7 m/s	velocity	5.24	8.54	8.62	8.87	8.46	9.23	7.75	8.46	8.39	8.16	9.47	7.97			8.68	8.44	8.33

FINAL - 2018 Fuse Sprint (Tottori, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	03-Jun-18	time	2.58	3.64	4.69	5.73	6.77	7.82	8.89	9.98	11.07	12.18		13.71	/ 3				
reaction time		interval		1.06	1.05	1.04	1.04	1.05	1.07	1.09	1.09	1.11	1.53				3.15	3.16	3.29
wind	0.5 m/s	velocity	5.32	8.62	8.70	8.79	8.79	8.70	8.54	8.39	8.39	8.23	9.16	8.02			8.70	8.68	8.33

Heat 3 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.68	3.77	4.83	5.90	6.95	8.04	9.15	10.27	11.39	12.51		14.03	6 / 4				
reaction time	0.155	interval	7 steps	1.09	1.06	1.07	1.05	1.09	1.11	1.12	1.12	1.12	1.52				3.22	3.25	3.36
wind	0.5 m/s	velocity	5.12	8.39	8.62	8.54	8.70	8.39	8.23	8.16	8.16	8.16	9.22	7.84			8.52	8.44	8.16

FINAL - 2017 East Japan Business Athletics Championships (Yuma, JPN) *(2017) - tfdata-store.com/2017/05/20/post-579/*

date	20-May-17	time	2.59	3.66	4.73	5.83	6.88	7.96	9.05	10.16	11.30	12.43		13.95	5 / 4				
reaction time		interval	7 steps	1.07	1.07	1.10	1.05	1.08	1.09	1.11	1.14	1.13	1.52				3.24	3.22	3.38
wind	1.1 m/s	velocity	5.30	8.54	8.54	8.31	8.70	8.46	8.39	8.23	8.02	8.09	9.22	7.89			8.46	8.52	8.11

B FINAL - 2017 Mikio Oda Memorial (Hiroshima, JPN) *(2017) - tfdata-store.com/2017/05/01/458/*

date	29-Apr-17	time	2.64	3.74	4.83	5.90	6.98	8.07	9.16	10.25	11.39	12.52		14.04	8 / 1				
reaction time		interval	7 steps	1.10	1.09	1.07	1.08	1.09	1.09	1.09	1.14	1.13	1.52				3.26	3.26	3.36
wind	-1.5 m/s	velocity	5.20	8.31	8.39	8.54	8.46	8.39	8.39	8.39	8.02	8.09	9.22	7.83			8.41	8.41	8.16

Oguchi, Aoba (JPN) (2006)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN) *Takashima (2024) - national high school sports festival - biomechanics data*

date	01-Aug-24	time	2.70	3.82	4.89	5.98	7.05	8.14	9.23	10.34	11.47	12.59		14.07	8 / 4				
reaction time	0.134	interval		1.12	1.07	1.09	1.07	1.09	1.09	1.11	1.13	1.12	1.48	**PB**			3.28	3.25	3.36
wind	-0.7 m/s	velocity	5.08	8.16	8.54	8.39	8.54	8.39	8.39	8.23	8.09	8.16	9.47	7.82			8.36	8.44	8.16

Ohashi, Yuji (JPN) (1983)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2009 Nambu Chuhei Memorial (Sapporo, JPN) *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*

date	09-Jul-09	time	2.63	3.70	4.76	5.81	6.85	7.91	8.97	10.04	11.14	12.25		13.72	/ 2			
reaction time		interval		1.07	1.06	1.05	1.04	1.06	1.06	1.07	1.10	1.11	1.47			3.18	3.16	3.28
wind	1.2 m/s	velocity	5.22	8.54	8.62	8.70	8.79	8.62	8.62	8.54	8.31	8.23	9.54	8.02		8.62	8.68	8.36

FINAL - 2009 Japanese National Championships (Hiroshima, JPN) *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*

date	27-Jun-09	time	2.66	3.73	4.76	5.81	6.86	7.90	8.99	10.07	11.17	12.28		13.81	7 / 3			
reaction time		interval		1.07	1.03	1.05	1.05	1.04	1.09	1.08	1.10	1.11	1.53			3.15	3.18	3.29
wind	1.6 m/s	velocity	5.16	8.54	8.87	8.70	8.70	8.79	8.39	8.46	8.31	8.23	9.16	7.97		8.70	8.62	8.33

Heat 3 - 2009 Japanese National Championships (Hiroshima, JPN) *Akirabun (2010) - analysis of speed and stride on straight track events in the 2009 season*

date	26-Jun-09	time	2.46	3.55	4.61	5.65	6.70	7.76	8.83	9.90	11.00	12.12		13.78	3 / 1			
reaction time		interval		1.09	1.06	1.04	1.05	1.06	1.07	1.07	1.10	1.12	1.66			3.19	3.18	3.29
wind	0.6 m/s	velocity	5.58	8.39	8.62	8.79	8.70	8.62	8.54	8.54	8.31	8.16	8.45	7.98		8.60	8.62	8.33

FINAL - 2009 Mikio Oda Memorial (Hiroshima, JPN) *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*

date	29-Apr-09	time	2.62	3.71	4.75	5.83	6.87	7.95	9.01	10.08	11.18	12.29		13.76	/ 3			
reaction time		interval		1.09	1.04	1.08	1.04	1.08	1.06	1.07	1.10	1.11	1.47			3.21	3.18	3.28
wind	1.9 m/s	velocity	5.24	8.39	8.79	8.46	8.79	8.46	8.62	8.54	8.31	8.23	9.54	7.99		8.54	8.62	8.36

FINAL - 2008 Nambu Chuhei Memorial (Harodate, JPN) *Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles*

date	06-Jul-08	time	2.47	3.55	4.60	5.64	6.70	7.74	8.80	9.86	10.96	12.07		13.73	/ 2			
reaction time		interval		1.08	1.05	1.04	1.06	1.04	1.06	1.06	1.10	1.11	1.66			3.17	3.16	3.27
wind	0.5 m/s	velocity	5.55	8.46	8.70	8.79	8.62	8.79	8.62	8.62	8.31	8.23	8.45	8.01		8.65	8.68	8.39

Heat 2 - 2008 Nambu Chuhei Memorial (Harodate, JPN) *Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles*

date	06-Jul-08	time	2.44	3.51	4.55	5.57	6.63	7.72	8.78	9.84	10.92	12.03		13.67	/ 1			
reaction time		interval		1.07	1.04	1.02	1.06	1.09	1.06	1.06	1.08	1.11	1.64			3.13	3.21	3.25
wind	2.0 m/s	velocity	5.62	8.54	8.79	8.96	8.62	8.39	8.62	8.62	8.46	8.23	8.55	8.05		8.76	8.54	8.44

FINAL - 2008 Japanese National Championships (Kawasaki, JPN) *Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles*

date	28-Jun-08	time	2.42	3.51	4.57	5.65	6.71	7.77	8.84	9.92	11.01	12.12		13.83	/ 3			
reaction time		interval		1.09	1.06	1.08	1.06	1.06	1.07	1.08	1.09	1.11	1.71			3.23	3.19	3.28
wind	-0.2 m/s	velocity	5.67	8.39	8.62	8.46	8.62	8.62	8.54	8.46	8.39	8.23	8.20	7.95		8.49	8.60	8.36

FINAL - 2008 Mikio Oda Memorial (Hiroshima, JPN) *Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles*

date	29-Apr-08	time	2.45	3.53	4.59	5.64	6.69	7.74	8.80	9.89	10.98	12.09		13.73	/ 4			
reaction time		interval		1.08	1.06	1.05	1.05	1.05	1.06	1.09	1.09	1.11	1.64			3.19	3.16	3.29
wind	1.6 m/s	velocity	5.60	8.46	8.62	8.70	8.70	8.70	8.62	8.39	8.39	8.23	8.55	8.01		8.60	8.68	8.33

Heat 1 - 2008 Mikio Oda Memorial (Hiroshima, JPN) *Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles*

date	29-Apr-08	time	2.48	3.57	4.62	5.67	6.72	7.76	8.85	9.95	11.04	12.14		13.81	/ 2			
reaction time		interval		1.09	1.05	1.05	1.05	1.04	1.09	1.10	1.09	1.10	1.67			3.19	3.18	3.29
wind	0.1 m/s	velocity	5.53	8.39	8.70	8.70	8.70	8.79	8.39	8.31	8.39	8.31	8.40	7.97		8.60	8.62	8.33

Õiglane, Janek (EST) (1994)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Decathlon - Heat 1 - 2024 Olympic Games (Paris, FRA)															*Paris 2024 Olympic Games - Results Book (2024)*			
date	03-Aug-24	time	2.53	3.69	4.81	5.93	7.05	8.16	9.31	10.42	11.58	12.75		14.45	5 / 2			
reaction time	0.162	interval		1.16	1.12	1.12	1.12	1.11	1.15	1.11	1.16	1.17	1.70			3.40	3.38	3.44
wind	0.2 m/s	velocity	5.42	7.88	8.16	8.16	8.16	8.23	7.95	8.23	7.88	7.81	8.25	7.61		8.06	8.11	7.97

Decathlon - Heat 1 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2024) - Athlete First: 2023 year end hurdle report*

date	26-Aug-23	time	2.70	3.83	5.00	6.10	7.26	8.40	9.58	10.70	11.85	12.98		14.51	6 / 2			
reaction time	0.143	interval		1.13	1.17	1.10	1.16	1.14	1.18	1.12	1.15	1.13	1.53			3.40	3.48	3.40
wind	0.2 m/s	velocity	5.08	8.09	7.81	8.31	7.88	8.02	7.75	8.16	7.95	8.09	9.16	7.58		8.06	7.88	8.06

Decathlon - Heat 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2022 year end hurdle report*

date	24-Jul-22	time	2.73	3.86	4.98	6.15	7.28	8.40	9.56	10.73	11.88	13.06		14.69	6 / 6			
reaction time	0.181	interval		1.13	1.12	1.17	1.13	1.12	1.16	1.17	1.15	1.18	1.63			3.42	3.41	3.50
wind	0.4 m/s	velocity	5.03	8.09	8.16	7.81	8.09	8.16	7.88	7.81	7.95	7.75	8.60	7.49		8.02	8.04	7.83

Ojora, Tade (GBR) (1999)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)															*Paris 2024 Olympic Games - Results Book (2024)*			
date	07-Aug-24	time	2.35	3.45	4.52	5.56	6.60	7.64	8.70	9.75	10.81	11.88		13.47	3 / 7			
reaction time	0.141	interval	7 steps	1.10	1.07	1.04	1.04	1.04	1.06	1.05	1.06	1.07	1.59			3.21	3.14	3.18
wind	-0.1 m/s	velocity	5.84	8.31	8.54	8.79	8.79	8.79	8.62	8.70	8.62	8.54	8.82	8.17		8.54	8.73	8.62

Heat 4 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.35	3.44	4.50	5.51	6.52	7.54	8.59	9.65	10.70	11.76		13.35	5 / 4			
reaction time	0.138	interval	7 steps	1.09	1.06	1.01	1.01	1.02	1.05	1.06	1.05	1.06	1.59			3.16	3.08	3.17
wind	0.3 m/s	velocity	5.84	8.39	8.62	9.05	9.05	8.96	8.70	8.62	8.70	8.62	8.82	8.24		8.68	8.90	8.65

Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.58	3.63	4.67	5.70	6.72	7.78	8.80	9.83	10.87	11.93		13.43	7 / 5			

reaction time	0.144	interval	7 steps	1.05	1.04	1.03	1.02	1.06	1.02	1.03	1.04	1.06	1.50			3.12	3.10	3.13
wind	-0.2 m/s	velocity	5.32	8.70	8.79	8.87	8.96	8.62	8.96	8.87	8.79	8.62	9.35	8.19		8.79	8.85	8.76

Heat 5 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.58	3.62	4.68	5.70	6.72	7.74	8.77	9.82	10.88	11.92		13.32	2 / 1			
reaction time	0.148	interval	7 steps	1.04	1.06	1.02	1.02	1.02	1.03	1.05	1.06	1.04	1.40			3.12	3.07	3.15
wind	-0.9 m/s	velocity	5.32	8.79	8.62	8.96	8.96	8.96	8.87	8.70	8.62	8.79	10.01	8.26		8.79	8.93	8.70

FINAL - 2023 London Athletics Meet (London, GBR) *Omega Timing (2023) - diamond league race analysis*

date	23-Jul-23	time	2.42	3.51	4.54	5.54	6.54	7.55	8.57	9.61	10.66	11.70		13.27	8 / 5			
reaction time	0.148	interval	7 steps	1.09	1.03	1.00	1.00	1.01	1.02	1.04	1.05	1.04	1.57			3.12	3.03	3.13
wind	1.3 m/s	velocity	5.67	8.39	8.87	9.14	9.14	9.05	8.96	8.79	8.70	8.79	8.93	8.29		8.79	9.05	8.76

FINAL - 2023 NCAA Championships (Austin, TX) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	09-Jun-23	time	2.57	3.63	4.65	5.67	6.69	7.71	8.74	9.77	10.80	11.86		13.29	3 / 4			
reaction time		interval	7 steps	1.06	1.02	1.02	1.02	1.02	1.03	1.03	1.03	1.06	1.43	PB		3.10	3.07	3.12
wind	1.8 m/s	velocity	5.34	8.62	8.96	8.96	8.96	8.96	8.87	8.87	8.87	8.62	9.80	8.28		8.85	8.93	8.79

FINAL - 2023 Trackwired Arkansas Grand Prix (Fayetteville, AR) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	23-May-23	time	2.58	3.65	4.67	5.69	6.69	7.69	8.67	9.70	10.76	11.82		13.26	6 / 2			
reaction time		interval	7 steps	1.07	1.02	1.02	1.00	1.00	0.98	1.03	1.06	1.06	1.44	PB		3.11	2.98	3.15
wind	1.3 m/s	velocity	5.32	8.54	8.96	8.96	9.14	9.14	9.33	8.87	8.62	8.62	9.74	8.30		8.82	9.20	8.70

FINAL - 2022 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	10-Jun-22	time	2.53	3.60	4.67	5.70	6.74	7.81	8.86	9.93	10.98	12.05		13.58	2 / 8			
reaction time		interval	7 steps	1.07	1.07	1.03	1.04	1.07	1.05	1.07	1.05	1.07	1.53			3.17	3.16	3.19
wind	0.0 m/s	velocity	5.42	8.54	8.54	8.87	8.79	8.54	8.70	8.54	8.70	8.54	9.16	8.10		8.65	8.68	8.60

FINAL - 2021 Müller British Grand Prix (Gateshead, GBR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	13-Jul-21	time	2.64	3.72	4.80	5.84	6.92	8.00	9.04	10.18	11.28	12.40		13.87	7 / 6			
reaction time	0.151	interval		1.08	1.08	1.04	1.08	1.08	1.04	1.14	1.10	1.12	1.47			3.20	3.20	3.36
wind	0.8 m/s	velocity	5.20	8.46	8.46	8.79	8.46	8.46	8.79	8.02	8.31	8.16	9.54	7.93		8.57	8.57	8.16

FINAL - 2021 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	11-Jun-21	time	2.63	3.70	4.77	5.83	6.85	7.87	8.93	9.97	11.07	12.13		13.57	9 / 6			
reaction time	0.224	interval		1.07	1.07	1.06	1.02	1.02	1.06	1.04	1.10	1.06	1.44	PB		3.20	3.10	3.20
wind	-0.6 m/s	velocity	5.22	8.54	8.54	8.62	8.96	8.96	8.62	8.79	8.31	8.62	9.74	8.11		8.57	8.85	8.57

Okazaki, Masaki (JPN) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.65	3.79	4.90	6.00	7.11	8.23	9.35	10.48	11.62	12.76		14.21	7 / 8			
reaction time	0.142	interval	*7 steps*	1.14	1.11	1.10	1.11	1.12	1.12	1.13	1.14	1.14	1.45			3.35	3.35	3.41
wind	0.0 m/s	velocity	5.18	8.02	8.23	8.31	8.23	8.16	8.16	8.09	8.02	8.02	9.67	7.74		8.19	8.19	8.04

FINAL - 2017 East Japan Business Athletics Championships (Yuma, JPN) *(2017) - tfdata-store.com/2017/05/20/post-579/*

date	20-May-17	time	2.64	3.74	4.83	5.94	7.02	8.16	9.28	10.40	11.55	12.70		14.20	8 / 7			
reaction time		interval		1.10	1.09	1.11	1.08	1.14	1.12	1.12	1.15	1.15	1.50			3.30	3.34	3.42
wind	1.1 m/s	velocity	5.20	8.31	8.39	8.23	8.46	8.02	8.16	8.16	7.95	7.95	9.35	7.75		8.31	8.21	8.02

Semi-Final 2 - 2016 Japanese University Championships (Kumagaya, JPN) *(2016.09.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Sep-16	time	2.65	3.77	4.85	5.94	7.05	8.14	9.23	10.35	11.49	12.63		14.10	2 / 5			
reaction time	1.530	interval		1.12	1.08	1.09	1.11	1.09	1.09	1.12	1.14	1.14	1.47			3.29	3.29	3.40
wind	0.7 m/s	velocity	5.18	8.16	8.46	8.39	8.23	8.39	8.39	8.16	8.02	8.02	9.54	7.80		8.33	8.33	8.06

FINAL - 2016 Six College Meeting (Sagamihara, JPN) *(2016.07.18) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	17-Jul-16	time	2.64	3.72	4.81	5.91	6.98	8.06	9.16	10.26	11.37	12.48		13.90	6 / 1			
reaction time		interval		1.08	1.09	1.10	1.07	1.08	1.10	1.10	1.11	1.11	1.42	PB		3.27	3.25	3.32
wind	0.3 m/s	velocity	5.20	8.46	8.39	8.31	8.54	8.46	8.31	8.31	8.23	8.23	9.87	7.91		8.39	8.44	8.26

Okuda, Keisuke (JPN) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 1 - 2024 Japanese National Multi-Event Championships (Gifu, JPN) *Matsubayashi (2024) - performance analysis of decathlon athletes in the 2024 season*

date	23-Jun-24	time	2.81	3.98	5.12	6.28	7.41	8.56	9.70	10.84	12.01	13.15		14.65	1 / 1			
reaction time		interval		1.17	1.14	1.16	1.13	1.15	1.14	1.14	1.17	1.14	1.50			3.47	3.42	3.45
wind	0.4 m/s	velocity	4.88	7.81	8.02	7.88	8.09	7.95	8.02	8.02	7.81	8.02	9.35	7.51		7.90	8.02	7.95

Decathlon - FINAL - 2022 Japanese Multi-Event National Championsips (Akita, JPN) *Takefu (2023) - performance analyisis of decathlon athletes in the 2022 season*

date	05-Jun-22	time	2.75	3.90	5.05	6.20	7.35	8.50	9.66	10.82	12.00	13.21		14.71	9 / 4			
reaction time		interval		1.15	1.15	1.15	1.15	1.15	1.16	1.16	1.18	1.21	1.50			3.45	3.46	3.55
wind	-2.3 m/s	velocity	4.99	7.95	7.95	7.95	7.95	7.95	7.88	7.88	7.75	7.55	9.35	7.48		7.95	7.92	7.72

Decathlon - Heat 2 - 2022 Michitaka Kinami Memorial (Osaka, JPN) *Takefu (2023) - performance analyisis of decathlon athletes in the 2022 season*

date	01-May-22	time	2.79	3.96	5.13	6.30	7.47	8.65	9.84	11.03	12.23	13.44		14.95	5 / 3			
reaction time	0.132	interval		1.17	1.17	1.17	1.17	1.18	1.19	1.19	1.20	1.21	1.51			3.51	3.54	3.60

wind	1.2 m/s	velocity	4.92	7.81	7.81	7.81	7.81	7.75	7.68	7.68	7.62	7.55	9.28	7.36		7.81	7.75	7.62

Decathlon - Heat 2 - 2021 Japanese Multi-Event National Championships (Nagano, JPN) *Matsubayashi (2021) - 110m hurdling race analysis of decathlon athletes in the 2021 season*

date	13-Jun-21	time	2.74	3.88	5.02	6.15	7.26	8.41	9.56	10.71	11.86	13.06		14.54	2 / 1			
reaction time	0.151	interval		1.14	1.14	1.13	1.11	1.15	1.15	1.15	1.15	1.20	1.48			3.41	3.41	3.50
wind	-0.9 m/s	velocity	5.01	8.02	8.02	8.09	8.23	7.95	7.95	7.95	7.95	7.62	9.47	7.57		8.04	8.04	7.83

Olijar, Stanislav (LAT) (1979)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 4 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.72	3.79	4.83	5.85	6.87	7.91	8.96	10.00	11.07	12.15		13.59	8 / 4			
reaction time	0.160	interval		1.07	1.04	1.02	1.02	1.04	1.05	1.04	1.07	1.08	1.44			3.13	3.11	3.19
wind	0.5 m/s	velocity	5.04	8.54	8.79	8.96	8.96	8.79	8.70	8.79	8.54	8.46	9.74	8.09		8.76	8.82	8.60

FINAL - 2009 ISTAF (Berlin, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Jun-09	time	2.69	3.77	4.81	5.82	6.86	7.91	8.97	10.03	11.13	12.23		13.66	2 / 6			
reaction time	0.172	interval		1.08	1.04	1.01	1.04	1.05	1.06	1.06	1.10	1.10	1.43			3.13	3.15	3.26
wind	0.7 m/s	velocity	5.10	8.46	8.79	9.05	8.79	8.70	8.62	8.62	8.31	8.31	9.80	8.05		8.76	8.70	8.41

FINAL - 2006 European Championships (Göteborg, SWE) *(TV Analysis)* *Graubner (2009) - http://www.fgs.uni-halle.de*

date	12-Aug-06	time	2.64	3.68	4.70	5.71	6.69	7.68	8.70	9.72	10.76	11.84		13.24	/ 1			
reaction time	0.151	interval		1.04	1.02	1.01	0.98	0.99	1.02	1.02	1.04	1.08	1.40			3.07	2.99	3.14
wind	-1.0 m/s	velocity	5.20	8.79	8.96	9.05	9.33	9.23	8.96	8.96	8.79	8.46	10.01	8.31		8.93	9.17	8.73

FINAL - 2004 Olympic Games (Athens, GRE) *Ruiz (2004) - las carreras con vallas de juegos olimpicos de atenas '04*

date	27-Aug-04	time	2.49	3.52	4.54	5.55	6.56	7.56	8.57	9.61	10.67	11.74		13.21	2 / 5			
reaction time	0.174	interval		1.03	1.02	1.01	1.01	1.00	1.01	1.04	1.06	1.07	1.47			3.06	3.02	3.17
wind	0.3 m/s	velocity	5.51	8.87	8.96	9.05	9.05	9.14	9.05	8.79	8.62	8.54	9.54	8.33		8.96	9.08	8.65

FINAL - 2003 Athletissima Meeting (Lausanne, SUI) *Zhang (2005) - technical characteristics analysis of 110m hurdles race of Liu Xiang*

date	01-Jul-03	time	2.58	3.60	4.60	5.60	6.58	7.58	8.60	9.60	10.64	11.70		13.08	/ 2			
reaction time		interval		1.02	1.00	1.00	0.98	1.00	1.02	1.00	1.04	1.06	1.38	NR PB		3.02	3.00	3.10
wind	0.0 m/s	velocity	5.32	8.96	9.14	9.14	9.33	9.14	8.96	9.14	8.79	8.62	10.16	8.41		9.08	9.14	8.85

FINAL - 2002 IAAF World Cup (Madrid, ESP) *Sanchez (2002) - copa del mundo de Madrid '02: análisis de la carreras con villas*

date	21-Sep-02	time	2.52	3.54	4.57	5.60	6.64	7.70	8.76	9.83	10.90	11.97		13.58	3 / 3			
reaction time	0.151	interval		1.02	1.03	1.03	1.04	1.06	1.06	1.07	1.07	1.07	1.61			3.08	3.16	3.21
wind	-2.2 m/s	velocity	5.44	8.96	8.87	8.87	8.79	8.62	8.62	8.54	8.54	8.54	8.71	8.10		8.90	8.68	8.54

FINAL - 2002 European Championships (Munich, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	10-Aug-02	time	2.59	3.61	4.63	5.62	6.63	7.63	8.65	9.67	10.73	11.78		13.22	/ 2			
reaction time	0.157	interval		1.02	1.02	0.99	1.01	1.00	1.02	1.02	1.06	1.05	1.44			3.03	3.03	3.13
wind	0.4 m/s	velocity	5.30	8.96	8.96	9.23	9.05	9.14	8.96	8.96	8.62	8.70	9.74	8.32		9.05	9.05	8.76

Semi-Final 1 - 2002 European Championships (Munich, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	10-Aug-02	time	2.60	3.63	4.65	5.67	6.68	7.71	8.75	9.79	10.85	11.94		13.34	/ 1			
reaction time	0.143	interval		1.03	1.02	1.02	1.01	1.03	1.04	1.04	1.06	1.09	1.40			3.07	3.08	3.19
wind	-0.5 m/s	velocity	5.28	8.87	8.96	8.96	9.05	8.87	8.79	8.79	8.62	8.39	10.01	8.25		8.93	8.90	8.60

Heat 4 - 2002 European Championships (Munich, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	09-Aug-02	time	2.69	3.71	4.73	5.76	6.79	7.81	8.87	9.93	10.99	12.07		13.50	/ 1			
reaction time	0.157	interval		1.02	1.02	1.03	1.03	1.02	1.06	1.06	1.06	1.08	1.43			3.07	3.11	3.20
wind	-0.1 m/s	velocity	5.10	8.96	8.96	8.87	8.87	8.96	8.62	8.62	8.62	8.46	9.80	8.15		8.93	8.82	8.57

Semi-Final 2 - 1999 IAAF World Championships (Sevilla, ESP) *Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*

date	24-Aug-99	time	2.59	3.64	4.67	5.67	6.68	7.70	8.73	9.81	10.95	12.09		13.70	3 / 6			
reaction time	0.137	interval		1.05	1.03	1.00	1.01	1.02	1.03	1.08	1.14	1.14	1.61			3.08	3.06	3.36
wind	0.0 m/s	velocity	5.30	8.70	8.87	9.14	9.05	8.96	8.87	8.46	8.02	8.02	8.71	8.03		8.90	8.96	8.16

Oliver, David (USA) (1982)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	08-Jun-17	time	2.50	3.54	4.58	5.62	6.62	7.62	8.66	9.74	10.82	11.92		13.46	3 / 6			
reaction time	0.141	interval	7 steps	1.04	1.04	1.04	1.00	1.00	1.04	1.08	1.08	1.10	1.54			3.12	3.04	3.26
wind	-0.3 m/s	velocity	5.49	8.79	8.79	8.79	9.14	9.14	8.79	8.46	8.46	8.31	9.10	8.17		8.79	9.02	8.41

FINAL - 2017 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	27-May-17	time	2.48	3.56	4.58	5.60	6.62	7.64	8.68	9.72	10.78	11.86		13.40	7 / 7			
reaction time	0.172	interval	7 steps	1.08	1.02	1.02	1.02	1.02	1.04	1.04	1.06	1.08	1.54			3.12	3.08	3.18
wind	0.9 m/s	velocity	5.53	8.46	8.96	8.96	8.96	8.96	8.79	8.79	8.62	8.46	9.10	8.21		8.79	8.90	8.62

FINAL - 2017 Shanghai Diamond League (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	13-May-17	time	2.54	3.62	4.64	5.68	6.72	7.76	8.84	9.90	10.98	12.06		13.62	8 / 8			
reaction time	0.156	interval	7 steps	1.08	1.02	1.04	1.04	1.04	1.08	1.06	1.08	1.08	1.56			3.14	3.16	3.22
wind	0.5 m/s	velocity	5.40	8.46	8.96	8.79	8.79	8.79	8.46	8.62	8.46	8.46	8.99	8.08		8.73	8.68	8.52

FINAL - 2016 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	25-Aug-16	time	2.52	3.56	4.58	5.60	6.60	7.64	8.68	9.72	10.78	11.84		13.40	3 / 7			
reaction time	0.146	interval	7 steps	1.04	1.02	1.02	1.00	1.04	1.04	1.04	1.06	1.06	1.56			3.08	3.08	3.16
wind	0.5 m/s	velocity	5.44	8.79	8.96	8.96	9.14	8.79	8.79	8.79	8.62	8.62	8.99	8.21		8.90	8.90	8.68

FINAL - 2016 Racers Grand Prix (Kingston, JAM) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	11-Jun-16	time	2.43	3.46	4.46	5.46	6.46	7.43	8.46	9.50	10.50	11.56		13.09	4 / 1			
reaction time		interval	7 steps	1.03	1.00	1.00	1.00	0.97	1.03	1.04	1.00	1.06	1.53			3.03	3.00	3.10
wind	0.2 m/s	velocity	5.65	8.87	9.14	9.14	9.14	9.42	8.87	8.79	9.14	8.62	9.16	8.40		9.05	9.14	8.85

FINAL - 2016 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	28-May-16	time	2.44	3.52	4.56	5.58	6.60	7.62	8.64	9.70	10.78	11.82		13.38	6 / 2			
reaction time		interval	7 steps	1.08	1.04	1.02	1.02	1.02	1.02	1.06	1.08	1.04	1.56			3.14	3.06	3.18
wind	0.7 m/s	velocity	5.62	8.46	8.79	8.96	8.96	8.96	8.96	8.62	8.46	8.79	8.99	8.22		8.73	8.96	8.62

FINAL - 2016 Meeting International Mohammed VI D'Athletisme (Rabat, MAR) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	22-May-16	time	2.46	3.48	4.48	5.50	6.50	7.52	8.54	9.54	10.58	11.62		13.12	7 / 1			
reaction time	0.152	interval	7 steps	1.02	1.00	1.02	1.00	1.02	1.02	1.00	1.04	1.04	1.50			3.04	3.04	3.08
wind	1.4 m/s	velocity	5.58	8.96	9.14	8.96	9.14	8.96	8.96	9.14	8.79	8.79	9.35	8.38		9.02	9.02	8.90

FINAL - 2016 Shanghai Golden Grand Prix (Shanghai, CHN) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	14-May-16	time	2.48	3.54	4.56	5.60	6.64	7.66	8.70	9.76	10.84	11.90		13.38	7 / 5			
reaction time	0.141	interval	7 steps	1.06	1.02	1.04	1.04	1.02	1.04	1.06	1.08	1.06	1.48			3.12	3.10	3.20
wind	1.2 m/s	velocity	5.53	8.62	8.96	8.79	8.79	8.96	8.79	8.62	8.46	8.62	9.47	8.22		8.79	8.85	8.57

FINAL - 2016 Doha Diamond League (Doha, QAT) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	06-May-16	time	2.52	3.56	4.56	5.56	6.58	7.60	8.62	9.64	10.68	11.76		13.16	3 / 4			
reaction time	0.140	interval	7 steps	1.04	1.00	1.00	1.02	1.02	1.02	1.02	1.04	1.08	1.40			3.04	3.06	3.14
wind	1.4 m/s	velocity	5.44	8.79	9.14	9.14	8.96	8.96	8.96	8.96	8.79	8.46	10.01	8.36		9.02	8.96	8.73

FINAL - 2015 IAAF World Championships (Beijing, CHN) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	28-Aug-15	time	2.44	3.54	4.58	5.62	6.64	7.66	8.70	9.74	10.78	11.86		13.33	9 / 7			
reaction time	0.157	interval	7 steps	1.10	1.04	1.04	1.02	1.02	1.04	1.04	1.04	1.08	1.47			3.18	3.08	3.16
wind	0.2 m/s	velocity	5.62	8.31	8.79	8.79	8.96	8.96	8.79	8.79	8.79	8.46	9.54	8.25		8.62	8.90	8.68

FINAL - 2013 IAAF World Championships (Moscow, RUS) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	12-Aug-13	time	2.44	3.48	4.48	5.46	6.46	7.44	8.44	9.46	10.48	11.52		13.00	4 / 1			
reaction time	0.147	interval	7 steps	1.04	1.00	0.98	1.00	0.98	1.00	1.02	1.02	1.04	1.48			3.02	2.98	3.08
wind	0.3 m/s	velocity	5.62	8.79	9.14	9.33	9.14	9.33	9.14	8.96	8.96	8.79	9.47	8.46		9.08	9.20	8.90

FINAL - 2012 Memorial Van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	07-Sep-12	time	2.52	3.56	4.58	5.56	6.56	7.58	8.58	9.60	10.62	11.72		13.21	2 / 5			
reaction time	0.171	interval	7 steps	1.04	1.02	0.98	1.00	1.02	1.00	1.02	1.02	1.10	1.49			3.04	3.02	3.14
wind	0.3 m/s	velocity	5.44	8.79	8.96	9.33	9.14	8.96	9.14	8.96	8.96	8.31	9.41	8.33		9.02	9.08	8.73

FINAL - 2012 AVIVA Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	26-Aug-12	time	2.50	3.53	4.56	5.59	6.59	7.62	8.64	9.68	10.74	11.78		13.28	4 / 3			
reaction time	0.154	interval	7 steps	1.03	1.03	1.03	1.00	1.03	1.02	1.04	1.06	1.04	1.50			3.09	3.05	3.14
wind	-0.9 m/s	velocity	5.49	8.87	8.87	8.87	9.14	8.87	8.96	8.79	8.62	8.79	9.35	8.28		8.87	8.99	8.73

FINAL - 2012 Herculis Meeting International D'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	20-Jul-12	time	2.46	3.50	4.52	5.54	6.52	7.52	8.54	9.54	10.58	11.64		13.14	6 / 4			
reaction time	0.154	interval	7 steps	1.04	1.02	1.02	0.98	1.00	1.02	1.00	1.04	1.06	1.50			3.08	3.00	3.10
wind	0.0 m/s	velocity	5.58	8.79	8.96	8.96	9.33	9.14	8.96	9.14	8.79	8.62	9.35	8.37		8.90	9.14	8.85

FINAL - 2012 USA Olympic Trials (Eugene, OR) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	30-Jun-12	time	2.43	3.45	4.47	5.47	6.45	7.44	8.44	9.45	10.51	11.58		13.17	3 / 5			
reaction time	0.165	interval	7 steps	1.02	1.02	1.00	0.98	0.99	1.00	1.01	1.06	1.07	1.59			3.04	2.97	3.14
wind	1.2 m/s	velocity	5.65	8.96	8.96	9.14	9.33	9.23	9.14	9.05	8.62	8.54	8.82	8.35		9.02	9.23	8.73

FINAL - 2012 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	02-Jun-12	time	2.52	3.56	4.56	5.56	6.54	7.56	8.60	9.60	10.64	11.72		13.13	6 / 5			
reaction time	0.171	interval	7 steps	1.04	1.00	1.00	0.98	1.02	1.04	1.00	1.04	1.08	1.41			3.04	3.04	3.12
wind	2.4 m/s	velocity	5.44	8.79	9.14	9.14	9.33	8.96	8.79	9.14	8.79	8.46	9.94	8.38		9.02	9.02	8.79

FINAL - 2012 Golden Grand Prix (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	19-May-12	time	2.50	3.52	4.50	5.50	6.50	7.48	8.50	9.52	10.56	11.62		13.13	7 / 2			
reaction time	0.192	interval	7 steps	1.02	0.98	1.00	1.00	0.98	1.02	1.02	1.04	1.06	1.51			3.00	3.00	3.12
wind	0.4 m/s	velocity	5.49	8.96	9.33	9.14	9.14	9.33	8.96	8.96	8.79	8.62	9.28	8.38		9.14	9.14	8.79

FINAL - 2012 Colorful Daegu Meeting (Daegu, KOR) (TV Analysis) *Henson (2021) - Athlete First: 2012 Aries Merritt world record season*

date	16-May-12	time	2.56	3.60	4.60	5.60	6.60	7.60	8.64	9.67	10.71			13.22	5 / 2			

reaction time	0.180	interval	*7 steps*	1.04	1.00	1.00	1.00	1.00	1.04	1.03	1.04					3.04	3.04	
wind	-0.4 m/s	velocity	5.36	8.79	9.14	9.14	9.14	9.14	8.79	8.87	8.79		8.32			9.02	9.02	

FINAL - 2011 IAAF World Championships (Daegu, KOR) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	29-Aug-11	time	2.48	3.50	4.58	5.62	6.67	7.71	8.77	9.80	10.84	11.91		13.44	4 / ~~5~~ 4			
reaction time	0.171	interval	*7 steps*	1.02	1.08	1.04	1.05	1.04	1.06	1.03	1.04	1.07	1.53			3.14	3.15	3.14
wind	-1.1 m/s	velocity	5.53	8.96	8.46	8.79	8.70	8.79	8.62	8.87	8.79	8.54	9.16	8.18		8.73	8.70	8.73

FINAL - 2010 Areva Meeting (Saint-Denis, FRA) *Wang (2013) - research upon time characters of Liu Xiang's 110m hurdles*

date	16-Jul-10	time	2.53	3.53	4.56	5.56	6.53	7.50	8.50	9.50	10.50	11.50		12.89	/ 1			
reaction time	0.161	interval	7 steps	1.00	1.03	1.00	0.97	0.97	1.00	1.00	1.00	1.00	1.39	**AR PB**		3.03	2.94	3.00
wind	0.5 m/s	velocity	5.42	9.14	8.87	9.14	9.42	9.42	9.14	9.14	9.14	9.14	10.09	8.53		9.05	9.33	9.14

FINAL - 2010 Colorful Daegu Meeting (Daegu, KOR) *Hong (2018) - performance of men's 110m hurdles using rhythmic units*

date	19-May-10	time	2.61	3.66	4.68	5.66	6.66	7.64	8.64	9.66	10.68	11.75		13.11	/ 1			
reaction time	0.170	interval	7 steps	1.05	1.02	0.98	1.00	0.98	1.00	1.02	1.02	1.07	1.36			3.05	2.98	3.11
wind	-0.2 m/s	velocity	5.26	8.70	8.96	9.33	9.14	9.33	9.14	8.96	8.96	8.54	10.31	8.39		8.99	9.20	8.82

FINAL - 2010 IAAF World Indoor Championships (Doha, QAT) *Kuitunen (2010) - biomencanical analysis of the 14th IAAF World Indoor championships*

date	14-Mar-10	time	2.53	3.56	4.56	5.56	6.56							7.44	8 / 3			
reaction time	0.149	interval	*7 steps*	1.03	1.00	1.00	1.00						0.88	**PB**		3.03		
		velocity	5.42	8.87	9.14	9.14	9.14						11.05	8.06		9.05		

Heat 2 - 2010 Samsung Galan (Göteborg, SWE) *Blomkvist (2010) - www.sub13.se*

date	02-Feb-10	time	2.45	3.52	4.53	5.54	6.58							7.57	/ 1			
reaction time		interval	*7 steps*	1.07	1.01	1.01	1.04						0.99			3.09		
		velocity	5.60	8.54	9.05	9.05	8.79						9.82	7.93		8.87		

FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Sep-08	time	2.65	3.66	4.67	5.68	6.69	7.69	8.71	9.74	10.79	11.84		13.22	6 / 1			
reaction time	0.181	interval		1.01	1.01	1.01	1.01	1.00	1.02	1.03	1.05	1.05	1.38			3.03	3.03	3.13
wind	-1.3 m/s	velocity	5.18	9.05	9.05	9.05	9.05	9.14	8.96	8.87	8.70	8.70	10.16	8.32		9.05	9.05	8.76

FINAL - 2008 Olympic Games (Beijing, CHN) *Tsiokanos (2018) - race pattern of men's 110m hurdles- time analysis of olympic hurdle performance*

date	21-Aug-08	time	2.58	3.64	4.67	5.66	6.68	7.68	8.67	9.73	10.76	11.80		13.18	7 / 3			
reaction time	0.158	interval		1.06	1.03	0.99	1.02	1.00	0.99	1.06	1.03	1.04	1.38			3.08	3.01	3.13
wind	0.1 m/s	velocity	5.32	8.62	8.87	9.23	8.96	9.14	9.23	8.62	8.87	8.79	10.16	8.35		8.90	9.11	8.76

FINAL - 2008 USA Olympic Trials (Eugene, OR) *USATF Hurdle Development (2008)*

date	06-Jul-08	time	2.57	3.59	4.60	5.59	6.57	7.56	8.55	9.54	10.53	11.57		12.95	4 / 1			
reaction time	0.191	interval		1.02	1.01	0.99	0.98	0.99	0.99	0.99	0.99	1.04	1.38			3.02	2.96	3.02
wind	3.5 m/s	velocity	5.34	8.96	9.05	9.23	9.33	9.23	9.23	9.23	9.23	8.79	10.16	8.49		9.08	9.26	9.08

FINAL - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.65	3.67	4.72	5.72	6.72	7.72	8.74	9.73	10.76	11.78		13.18	6 / 3			
reaction time		interval		1.02	1.05	1.00	1.00	1.00	1.02	0.99	1.03	1.02	1.40			3.07	3.02	3.04
wind	0.5 m/s	velocity	5.18	8.96	8.70	9.14	9.14	9.14	8.96	9.23	8.87	8.96	10.01	8.35		8.93	9.08	9.02

Semi-Final 2 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.65	3.70	4.74	5.74	6.76	7.76	8.79	9.81	10.88	11.93		13.29	4 / 2			
reaction time		interval		1.05	1.04	1.00	1.02	1.00	1.03	1.02	1.07	1.05	1.36			3.09	3.05	3.14
wind	-0.9 m/s	velocity	5.18	8.70	8.79	9.14	8.96	9.14	8.87	8.96	8.54	8.70	10.31	8.28		8.87	8.99	8.73

Heat 4 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.64	3.69	4.77	5.81	6.84	7.91	8.96	10.01	11.08	12.15		13.56	7 / 1			
reaction time		interval		1.05	1.08	1.04	1.03	1.07	1.05	1.05	1.07	1.07	1.41			3.17	3.15	3.19
wind	-2.8 m/s	velocity	5.20	8.70	8.46	8.79	8.87	8.54	8.70	8.70	8.54	8.54	9.94	8.11		8.65	8.70	8.60

FINAL - 2005 USATF National Championships (Carson, CA) *USATF Women's Sprint Development (2005)*

date	24-Jun-05	time	2.66	3.71	4.76	5.76	6.76	7.81	8.83	9.86	10.92	11.97		13.46	3 / 8			
reaction time		interval		1.05	1.05	1.00	1.00	1.05	1.02	1.03	1.06	1.05	1.49			3.10	3.07	3.14
wind	0.2 m/s	velocity	5.16	8.70	8.70	9.14	9.14	8.70	8.96	8.87	8.62	8.70	9.41	8.17		8.85	8.93	8.73

Olsen, Derrick (USA) (1998)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

Heat 3 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.56	3.62	4.66	5.70	6.73	7.80	8.86	9.87	11.16	12.35		13.97	5 / 8			
reaction time		interval		1.06	1.04	1.04	1.03	1.07	1.06	1.01	1.29	1.19	1.62			3.14	3.16	3.49
wind	1.8 m/s	velocity	5.36	8.62	8.79	8.79	8.87	8.54	8.62	9.05	7.09	7.68	8.65	7.87		8.73	8.68	7.86

Olson, Petter (SWE) (1991)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

Heptathlon - Heat 1 - 2013 European Indoor Championships (Göteborg, SWE) *Blomkvist (2013) - www.elitlandslag.se/SprintHäck/KortHäck.aspx*

date	03-Mar-13	time	2.70	3.85	4.95	6.05	7.16							8.11	4 / 2			
reaction time	0.150	interval		1.15	1.10	1.10	1.11						0.95			3.35		

		velocity	5.08	7.95	8.31	8.31	8.23						10.23	7.40		8.19		

Olsson, Carl-Johan (SWE) (1980)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2007 Windsprint (Sundsvall, SWE)															*(2007) - www.ssg.se/en/Windsprint/Split-times/*			
date	24-Jul-07	time		3.95			7.48			11.07				15.33	/ 8			
reaction time		interval					3.53			3.59			4.26					
wind	1.3 m/s	velocity		5.79			7.77			7.64			7.58	7.18				

Omoregie, David (GBR) (1995)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Müller's Anniversary Games (London, GBR) (TV Analysis)															*Henson (2020) - Athlete First: 2017 year end hurdle report*			
date	09-Jul-17	time	2.52	3.64	4.74	5.80	6.84	7.88	8.92	9.98	11.06	12.16		13.70	7 / 8			
reaction time	0.127	interval		1.12	1.10	1.06	1.04	1.04	1.04	1.06	1.08	1.10	1.54			3.28	3.12	3.24
wind	0.0 m/s	velocity	5.44	8.16	8.31	8.62	8.79	8.79	8.79	8.62	8.46	8.31	9.10	8.03		8.36	8.79	8.46
FINAL - 2016 Memorial van Damme (Brussels, BEL) (TV Analysis)															*Henson (2020) - Athlete First: 2016 year end hurdle report*			
date	09-Sep-16	time	2.53	3.57	4.60	5.62	6.64	7.67	8.72	9.77	10.84	11.94		13.43	3 / 5			
reaction time	0.153	interval		1.04	1.03	1.02	1.02	1.03	1.05	1.05	1.07	1.10	1.49			3.09	3.10	3.22
wind	0.2 m/s	velocity	5.42	8.79	8.87	8.96	8.96	8.87	8.70	8.70	8.54	8.31	9.41	8.19		8.87	8.85	8.52
FINAL - 2016 London Anniversary Games (London, GBR) (TV Analysis)															*Henson (2021) - Athlete First: 2016 year end hurdle report*			
date	23-Jul-16	time	2.50	3.60	4.63	5.70	6.78	7.83	8.90	10.02	11.08	12.16		13.64	4 / 5			
reaction time	0.153	interval		1.10	1.03	1.07	1.08	1.05	1.07	1.12	1.06	1.08	1.48			3.20	3.20	3.26
wind	-1.0 m/s	velocity	5.49	8.31	8.87	8.54	8.46	8.70	8.54	8.16	8.62	8.46	9.47	8.06		8.57	8.57	8.41

Omuro, Hideki (JPN) (1990)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
B FINAL - 2022 Mikio Oda Memorial (Hiroshima, JPN)															*Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*			
date	29-Apr-22	time	2.68	3.78	4.87	5.95	7.02	8.12	9.23	10.35	11.46	12.58		14.04	7 / 5			
reaction time	0.124	interval		1.10	1.09	1.08	1.07	1.10	1.11	1.12	1.11	1.12	1.46			3.27	3.28	3.35
wind	-0.7 m/s	velocity	5.12	8.31	8.39	8.46	8.54	8.31	8.23	8.16	8.23	8.16	9.60	7.83		8.39	8.36	8.19
FINAL - 2021 Fuse Sprint (Tottori, JPN)															*Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*			
date	06-Jun-21	time	2.60	3.68	4.74	5.81	6.87	7.95	9.02	10.10	11.19	12.30		13.80	2 / 7			
reaction time	0.150	interval		1.08	1.06	1.07	1.06	1.08	1.07	1.08	1.09	1.11	1.50			3.21	3.21	3.28
wind	1.8 m/s	velocity	5.28	8.46	8.62	8.54	8.62	8.46	8.54	8.46	8.39	8.23	9.35	7.97		8.54	8.54	8.36
FINAL - 2021 Michitaka Kinami Memorial (Osaka, JPN)															*Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*			
date	01-Jun-21	time	2.65	3.78	4.88	6.00	7.13	8.25	9.42	10.56	11.75	12.95		14.65	5 / 8			
reaction time	0.165	interval		1.13	1.10	1.12	1.13	1.12	1.17	1.14	1.19	1.20	1.70			3.35	3.42	3.53
wind	0.3 m/s	velocity	5.18	8.09	8.31	8.16	8.09	8.16	7.81	8.02	7.68	7.62	8.25	7.51		8.19	8.02	7.77
FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)															*Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*			
date	09-May-21	time	2.59	3.66	4.74	5.81	6.90	7.99	9.09	10.21	11.33	12.73		14.46	1 / 9			
reaction time	0.153	interval		1.07	1.08	1.07	1.09	1.09	1.10	1.12	1.12	1.40	1.73			3.22	3.28	3.64
wind	-0.8 m/s	velocity	5.30	8.54	8.46	8.54	8.39	8.39	8.31	8.16	8.16	6.53	8.10	7.61		8.52	8.36	7.53
FINAL - 2021 Mikio Oda Memorial (Hiroshima, JPN)															*Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*			
date	29-Apr-21	time	2.60	3.66	4.72	5.76	6.82	7.88	8.96	10.03	11.14	12.25		13.75	7 / 7			
reaction time		interval		1.06	1.06	1.04	1.06	1.06	1.08	1.07	1.11	1.11	1.50			3.16	3.20	3.29
wind	1.7 m/s	velocity	5.28	8.62	8.62	8.79	8.62	8.62	8.46	8.54	8.23	8.23	9.35	8.00		8.68	8.57	8.33
FINAL - 2020 Michitaka Kinami Memorial (Osaka, JPN)															*Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*			
date	24-Oct-20	time	2.61	3.69	4.78	5.88	6.97	8.04	9.14	10.24	11.33	12.44		13.94	8 / 8			
reaction time		interval		1.08	1.09	1.10	1.09	1.07	1.10	1.10	1.09	1.11	1.50			3.27	3.26	3.30
wind	0.6 m/s	velocity	5.26	8.46	8.39	8.31	8.39	8.54	8.31	8.31	8.39	8.23	9.35	7.89		8.39	8.41	8.31
FINAL - 2020 All Japan Corporate Championships (Kumagaya, JPN)															*Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*			
date	20-Sep-20	time	2.60	3.68	4.74	5.82	6.89	7.98	9.07	10.18	11.30	12.44		13.92	8 / 4			
reaction time	0.142	interval		1.08	1.06	1.08	1.07	1.09	1.09	1.11	1.12	1.14	1.48			3.22	3.25	3.37
wind	0.1 m/s	velocity	5.28	8.46	8.62	8.46	8.54	8.39	8.39	8.23	8.16	8.02	9.47	7.90		8.52	8.44	8.14
FINAL - 2019 Seiko Golden Grand Prix (Osaka, JPN)															*Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*			
date	19-May-19	time	2.59	3.70	4.77	5.86	6.95	8.03	9.08	10.16	11.24	12.33		13.76	1 / 8			
reaction time	0.143	interval		1.11	1.07	1.09	1.09	1.08	1.05	1.08	1.08	1.09	1.43			3.27	3.22	3.25
wind	2.9 m/s	velocity	5.30	8.23	8.54	8.39	8.39	8.46	8.70	8.46	8.46	8.39	9.80	7.99		8.39	8.52	8.44
A FINAL - 2019 Mikio Oda Memorial (Hiroshima, JPN)															*Kobayashi (2019) - research on athlete performance and technique- 2019 data book*			
date	28-Apr-19	time	2.64	3.73	4.79	5.83	6.89	7.95	9.04	10.12	11.23	12.35		13.78	2 / 3			
reaction time		interval		1.09	1.06	1.04	1.06	1.06	1.09	1.08	1.11	1.12	1.43			3.19	3.21	3.31
wind	0.6 m/s	velocity	5.20	8.39	8.62	8.79	8.62	8.62	8.39	8.46	8.23	8.16	9.80	7.98		8.60	8.54	8.28
FINAL - 2018 Mikio Oda Memorial (Hiroshima, JPN)															*Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*			
date	29-Apr-18	time	2.61	3.69	4.74	5.78	6.83	7.89	8.94	10.00	11.07	12.17		13.57	3 / 3			
reaction time		interval		1.08	1.05	1.04	1.05	1.06	1.05	1.06	1.07	1.10	1.40			3.17	3.16	3.23

wind	2.6 m/s	velocity	5.26	8.46	8.70	8.79	8.70	8.62	8.70	8.62	8.54	8.31	10.01	8.11		8.65	8.68	8.49

Semi-Final 1 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.64	3.71	4.78	5.86	6.94	8.00	9.08	10.17	11.26	12.35		13.75	7 / 6			
reaction time	0.147	interval	*7 steps*	1.07	1.07	1.08	1.08	1.06	1.08	1.09	1.09	1.09	1.40			3.22	3.22	3.27
wind	0.6 m/s	velocity	5.20	8.54	8.54	8.46	8.46	8.62	8.46	8.39	8.39	8.39	10.01	8.00		8.52	8.52	8.39

Heat 1 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.63	3.70	4.76	5.83	6.88	7.92	8.98	10.05	11.13	12.22		13.63	7 / 1			
reaction time	0.161	interval	*7 steps*	1.07	1.06	1.07	1.05	1.04	1.06	1.07	1.08	1.09	1.41			3.20	3.15	3.24
wind	1.3 m/s	velocity	5.22	8.54	8.62	8.54	8.70	8.79	8.62	8.54	8.46	8.39	9.94	8.07		8.57	8.70	8.46

Heat 5 - 2017 Fuse Sprint (Tottori, JPN) *(2017) - tfdata-store.com/2017/06/04/post-848/*

date	04-Jun-17	time	2.58	3.65	4.69	5.74	6.79	7.84	8.88	9.94	11.03	12.12		13.54	4 / 1			
reaction time		interval		1.07	1.04	1.05	1.05	1.05	1.04	1.06	1.09	1.09	1.42			3.16	3.14	3.24
wind	1.5 m/s	velocity	5.32	8.54	8.79	8.70	8.70	8.70	8.79	8.62	8.39	8.39	9.87	8.12		8.68	8.73	8.46

FINAL - 2017 Seiko Golden Grand Prix (Kawasaki, JPN) *(2017) - tfdata-store.com/2017/05/22/post-599/*

date	21-May-17	time	2.59	3.65	4.69	5.74	6.81	7.87	8.92	9.99	11.06	12.14		13.59	7 / 3			
reaction time	0.141	interval		1.06	1.04	1.05	1.07	1.06	1.05	1.07	1.07	1.08	1.45			3.15	3.18	3.22
wind	-1.8 m/s	velocity	5.30	8.62	8.79	8.70	8.54	8.62	8.70	8.54	8.54	8.46	9.67	8.09		8.70	8.62	8.52

FINAL - 2017 Michitaka Memorial (Osaka, JPN) *(2017) - tfdata-store.com/2017/05/08/post-413/*

date	07-May-17	time	2.63	3.69	4.75	5.80	6.86	7.90	8.96	10.01	11.08	12.17		13.57	7 / 1			
reaction time		interval		1.06	1.06	1.05	1.06	1.04	1.06	1.05	1.07	1.09	1.40			3.17	3.16	3.21
wind	-0.8 m/s	velocity	5.22	8.62	8.62	8.70	8.62	8.79	8.62	8.70	8.54	8.39	10.01	8.11		8.65	8.68	8.54

FINAL - 2017 Mikio Oda Memorial (Hiroshima, JPN) *(2017) - tfdata-store.com/2017/05/01/458/*

date	29-Apr-17	time	2.61	3.67	4.73	5.77	6.82	7.87	8.92	9.98	11.07	12.13		13.52	5 / 1			
reaction time		interval		1.06	1.06	1.04	1.05	1.05	1.05	1.06	1.09	1.06	1.39			3.16	3.15	3.21
wind	1.5 m/s	velocity	5.26	8.62	8.62	8.79	8.70	8.70	8.70	8.62	8.39	8.62	10.09	8.14		8.68	8.70	8.54

FINAL - 2017 Tokushima Athletics Carnival (Naruto, JPN) *(2017) - tfdata-store.com/2017/04/09/post-285/*

date	08-Apr-17	time	2.65	3.74	4.79	5.86	6.91	7.96	9.03	10.10	11.16	12.23		13.63	6 / 1			
reaction time		interval		1.09	1.05	1.07	1.05	1.05	1.07	1.07	1.06	1.07	1.40			3.21	3.17	3.20
wind	0.7 m/s	velocity	5.18	8.39	8.70	8.54	8.70	8.70	8.54	8.54	8.62	8.54	10.01	8.07		8.54	8.65	8.57

FINAL - 2016 West Japan Carnival (Kita-Kyushu, JPN) *(2016.11.07) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	03-Nov-16	time	2.62	3.69	4.74	5.79	6.84	7.91	8.98	10.05	11.13	12.24		13.68	5 / 1			
reaction time		interval		1.07	1.05	1.05	1.05	1.07	1.07	1.07	1.08	1.11	1.44			3.17	3.19	3.26
wind	1.1 m/s	velocity	5.24	8.54	8.70	8.70	8.70	8.54	8.54	8.54	8.46	8.23	9.74	8.04		8.65	8.60	8.41

Heat 5 - 2016 West Japan Carnival (Kita-Kyushu, JPN) *(2016.11.07) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	03-Nov-16	time	2.63	3.69	4.75	5.81	6.86	7.91	8.98	10.06	11.16	12.25		13.70	3 / 1			
reaction time		interval		1.06	1.06	1.06	1.05	1.05	1.07	1.08	1.10	1.09	1.45			3.18	3.17	3.27
wind	1.5 m/s	velocity	5.22	8.62	8.62	8.62	8.70	8.70	8.54	8.46	8.31	8.39	9.67	8.03		8.62	8.65	8.39

FINAL - 2016 Tashima Memorial (Yamaguchi, JPN) *(2016.10.26) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	23-Oct-16	time	2.62	3.68	4.73	5.78	6.83	7.89	8.96	10.05	11.16	12.26		13.69	4 / 1			
reaction time		interval		1.06	1.05	1.05	1.05	1.06	1.07	1.09	1.11	1.10	1.43			3.16	3.18	3.30
wind	0.2 m/s	velocity	5.24	8.62	8.70	8.70	8.70	8.62	8.54	8.39	8.23	8.31	9.80	8.04		8.68	8.62	8.31

FINAL - 2016 All-Star Night Athletics (Hiratsuka, JPN) *(2016.07.23) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	23-Jul-16	time	2.62	3.68	4.73	5.78	6.83	7.89	8.96	10.05	11.16	12.26		13.69	4 / 1			
reaction time	0.144	interval		1.06	1.05	1.05	1.05	1.06	1.07	1.09	1.11	1.10	1.43			3.16	3.18	3.30
wind	0.5 m/s	velocity	5.24	8.62	8.70	8.70	8.70	8.62	8.54	8.39	8.23	8.31	9.80	8.04		8.68	8.62	8.31

FINAL - 2016 Japanese National Championships (Nagoya, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	26-Jun-16	time	2.60	3.68	4.74	5.80	6.86	7.92	8.98	10.06	11.14	12.23		13.66	6 / 4			
reaction time	0.144	interval		1.08	1.06	1.06	1.06	1.06	1.06	1.08	1.08	1.09	1.43			3.20	3.18	3.25
wind	2.4 m/s	velocity	5.28	8.46	8.62	8.62	8.62	8.62	8.62	8.46	8.46	8.39	9.80	8.05		8.57	8.62	8.44

FINAL - 2016 Fuse Sprint (Tottori, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	05-Jun-16	time	2.62	3.68	4.72	5.77	6.81	7.86	8.95	10.03	11.13	12.21		13.65	7 / 3			
reaction time		interval		1.06	1.04	1.05	1.04	1.05	1.09	1.08	1.10	1.08	1.44			3.15	3.18	3.26
wind	1.4 m/s	velocity	5.24	8.62	8.79	8.70	8.79	8.70	8.39	8.46	8.31	8.46	9.74	8.06		8.70	8.62	8.41

FINAL - 2016 Kansai Corporate Championships (Nagai, JPN) *(2016.05.22) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	22-May-16	time	2.62	3.66	4.71	5.75	6.79	7.84	8.89	9.97	11.05	12.13		13.54	3 / 1			
reaction time		interval		1.04	1.05	1.04	1.04	1.05	1.05	1.08	1.08	1.08	1.41	**=PB**		3.13	3.14	3.24
wind	0.3 m/s	velocity	5.24	8.79	8.70	8.79	8.79	8.70	8.70	8.46	8.46	8.46	9.94	8.12		8.76	8.73	8.46

FINAL - 2016 Seiko Golden Grand Prix (Kawasaki, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	08-May-16	time	2.58	3.64	4.67	5.72	6.78	7.84	8.92	10.00	11.09	12.19		13.61	4 / 3			
reaction time	0.123	interval		1.06	1.03	1.05	1.06	1.06	1.08	1.08	1.09	1.10	1.42			3.14	3.20	3.27
wind	-0.6 m/s	velocity	5.32	8.62	8.87	8.70	8.62	8.62	8.46	8.46	8.39	8.31	9.87	8.08		8.73	8.57	8.39

FINAL - 2016 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	29-Apr-16	time	2.63	3.69	4.73	5.80	6.85	7.95	9.02	10.11	11.25	12.39		13.98	/ 6			
reaction time		interval		1.06	1.04	1.07	1.05	1.10	1.07	1.09	1.14	1.14	1.59			3.17	3.22	3.37
wind	-0.5 m/s	velocity	5.22	8.62	8.79	8.54	8.70	8.31	8.54	8.39	8.02	8.02	8.82	7.87		8.65	8.52	8.14

FINAL - 2015 Japanese National Championships (Niigata, JPN) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	28-Jun-15	time	2.62	3.70	4.77	5.84	6.94	8.01	9.10	10.21	11.31	12.42		13.90	8 / 6			
reaction time	0.133	interval		1.08	1.07	1.07	1.10	1.07	1.09	1.11	1.10	1.11	1.48			3.22	3.26	3.32
wind	-1.4 m/s	velocity	5.24	8.46	8.54	8.54	8.31	8.54	8.39	8.23	8.31	8.23	9.47	7.91		8.52	8.41	8.26

FINAL - 2015 Shizuoka International Athletics Meeting (Fukuroi, JPN) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	03-May-15	time	2.66	3.76	4.85	5.95	7.03	8.12	9.23	10.33	11.46	12.61		14.09	/ 6			
reaction time		interval		1.10	1.09	1.10	1.08	1.09	1.11	1.10	1.13	1.15	1.48			3.29	3.28	3.38
wind	-0.8 m/s	velocity	5.16	8.31	8.39	8.31	8.46	8.39	8.23	8.31	8.09	7.95	9.47	7.81		8.33	8.36	8.11

FINAL - 2013 Japanese National Championships (Chofu, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	09-Jun-13	time	2.58	3.64	4.70	5.76	6.82	7.87	8.97	10.05	11.13	12.22		13.67	5 / 4			
reaction time		interval		1.06	1.06	1.06	1.06	1.05	1.10	1.08	1.08	1.09	1.45			3.18	3.21	3.25
wind	1.3 m/s	velocity	5.32	8.62	8.62	8.62	8.62	8.70	8.31	8.46	8.46	8.39	9.67	8.05		8.62	8.54	8.44

Semi-Final 1 - 2013 Japanese National Championships (Chofu, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	09-Jun-13	time	2.61	3.66	4.71	5.75	6.80	7.86	8.93	10.01	11.07	12.16		13.58	7 / 1			
reaction time		interval		1.05	1.05	1.04	1.05	1.06	1.07	1.08	1.06	1.09	1.42			3.14	3.18	3.23
wind	1.5 m/s	velocity	5.26	8.70	8.70	8.79	8.70	8.62	8.54	8.46	8.62	8.39	9.87	8.10		8.73	8.62	8.49

Heat 2 - 2013 Japanese National Championships (Chofu, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	08-Jun-13	time	2.62	3.70	4.76	5.83	6.91	8.00	9.08	10.19	11.29	12.42		13.85	6 / 1			
reaction time		interval		1.08	1.06	1.07	1.08	1.09	1.08	1.11	1.10	1.13	1.43			3.21	3.25	3.34
wind	0.1 m/s	velocity	5.24	8.46	8.62	8.54	8.46	8.39	8.46	8.23	8.31	8.09	9.80	7.94		8.54	8.44	8.21

FINAL - 2013 Seiko Golden Grand Prix (Tokyo, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	05-May-13	time	2.66	3.75	4.83	5.93	7.01	8.08	9.17	10.28	11.37	12.50		13.94	3 / 5			
reaction time		interval		1.09	1.08	1.10	1.08	1.07	1.09	1.11	1.09	1.13	1.44			3.27	3.24	3.33
wind	-1.4 m/s	velocity	5.16	8.39	8.46	8.31	8.46	8.54	8.39	8.23	8.39	8.09	9.74	7.89		8.39	8.46	8.23

FINAL - 2013 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-13	time	2.63	3.71	4.76	5.82	6.87	7.94	9.01	10.11	11.19	12.27		13.70	/ 1			
reaction time		interval		1.08	1.05	1.06	1.05	1.07	1.07	1.10	1.08	1.08	1.43			3.19	3.19	3.26
wind	0.7 m/s	velocity	5.22	8.46	8.70	8.62	8.70	8.54	8.54	8.31	8.46	8.46	9.80	8.03		8.60	8.60	8.41

Heat 1 - 2013 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-13	time	2.64	3.69	4.76	5.81	6.87	7.93	9.01	10.09	11.20	12.31		13.76	/ 1			
reaction time		interval		1.05	1.07	1.05	1.06	1.06	1.08	1.08	1.11	1.11	1.45			3.17	3.20	3.30
wind	1.5 m/s	velocity	5.20	8.70	8.54	8.70	8.62	8.62	8.46	8.46	8.23	8.23	9.67	7.99		8.65	8.57	8.31

FINAL - 2012 Kanto (Tokyo, JPN) *Karube (2013) - the analysis of hurdle clearance and interval sprint in men's 110m sprint hurdle*

date	13-May-12	time	2.67	3.78	4.86	5.94	7.05	8.11	9.20	10.28	11.37	12.47		13.88	/ 2			
reaction time		interval		1.11	1.08	1.08	1.11	1.06	1.09	1.08	1.09	1.10	1.41			3.27	3.26	3.27
wind	2.0 m/s	velocity	5.14	8.23	8.46	8.46	8.23	8.62	8.39	8.46	8.39	8.31	9.94	7.93		8.39	8.41	8.39

FINAL - 2012 Mito Invitational Athletics Meeting (Mito, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	04-May-12	time	2.65	3.72	4.80	5.87	6.91	7.99	9.07	10.16	11.25	12.35		13.78	/ 3			
reaction time		interval		1.07	1.08	1.07	1.04	1.08	1.08	1.09	1.09	1.10	1.43			3.22	3.20	3.28
wind	-0.3 m/s	velocity	5.18	8.54	8.46	8.54	8.79	8.46	8.46	8.39	8.39	8.31	9.80	7.98		8.52	8.57	8.36

B FINAL - 2012 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-12	time	2.60	3.70	4.76	5.84	6.92	8.00	9.08	10.17	11.27	12.39		13.83	7 / 2			
reaction time		interval		1.10	1.06	1.08	1.08	1.08	1.08	1.09	1.10	1.12	1.44			3.24	3.24	3.31
wind	2.1 m/s	velocity	5.28	8.31	8.62	8.46	8.46	8.46	8.46	8.39	8.31	8.16	9.74	7.95		8.46	8.46	8.28

FINAL - 2011 Japanese National Championships (Kumagaya, JPN) *Hisashi (2012) - perfromance analysis of Japanese record holder Keisuke Ushiro*

date	11-Jun-11	time	2.63	3.74	4.84	5.92	7.02	8.10	9.21	10.31	11.41	12.53		13.98	/ 6			
reaction time		interval		1.11	1.10	1.08	1.10	1.08	1.11	1.10	1.10	1.12	1.45			3.29	3.29	3.32
wind	-0.1 m/s	velocity	5.22	8.23	8.31	8.46	8.31	8.46	8.23	8.31	8.31	8.16	9.67	7.87		8.33	8.33	8.26

Semi-Final 1 - 2011 Japanese National Championships (Kumagaya, JPN) *Hisashi (2012) - perfromance analysis of Japanese record holder Keisuke Ushiro*

date	11-Jun-11	time	2.67	3.76	4.85	5.94	7.03	8.14	9.26	10.39	11.52	12.66		14.09	/ 2			
reaction time		interval		1.09	1.09	1.09	1.09	1.11	1.12	1.13	1.13	1.14	1.43			3.27	3.32	3.40
wind	-2.0 m/s	velocity	5.14	8.39	8.39	8.39	8.39	8.23	8.16	8.09	8.09	8.02	9.80	7.81		8.39	8.26	8.06

FINAL - 2011 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-11	time	2.59	3.67	4.72	5.80	6.87	7.90	8.98	10.04	11.14	12.23		13.66	/ 2			
reaction time		interval		1.08	1.05	1.08	1.07	1.03	1.08	1.06	1.10	1.09	1.43			3.21	3.18	3.25
wind	2.4 m/s	velocity	5.30	8.46	8.70	8.46	8.54	8.87	8.46	8.62	8.31	8.39	9.80	8.05		8.54	8.62	8.44

Ono, Kazuto (JPN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2019 National Sports Festival (Hitachinaka, JPN) (99cm) *Enomoto (2019) - research on athlete performance and technique- 2019 data book*

date	06-Oct-19	time	2.68	3.76	4.84	5.91	6.97	8.03	9.10	10.16	11.24	12.32		13.79	3 / 7			
reaction time	0.157	interval		1.08	1.08	1.07	1.06	1.06	1.07	1.06	1.08	1.08	1.47			3.23	3.19	3.22
wind	2.7 m/s	velocity	5.12	8.46	8.46	8.54	8.62	8.62	8.54	8.62	8.46	8.46	9.54	7.98		8.49	8.60	8.52

Ortega, Orlando (ESP) (1991)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2022 Müller Indoor Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	19-Feb-22	time	2.50	3.58	4.62	5.67	6.72							7.79	2 / 7			
reaction time	0.165	interval		1.08	1.04	1.05	1.05						1.07			3.17		
		velocity	5.49	8.46	8.79	8.70	8.70						9.08	7.70		8.65		

FINAL - 2021 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	06-Jul-21	time	2.47	3.50	4.54	5.54	6.54	7.54	8.56	9.57	10.58	11.63		13.15	5 / 2			
reaction time	0.134	interval	7 steps	1.03	1.04	1.00	1.00	1.00	1.02	1.01	1.01	1.05	1.52			3.07	3.02	3.07
wind	-0.1 m/s	velocity	5.55	8.87	8.79	9.14	9.14	9.14	8.96	9.05	9.05	8.70	9.22	8.37		8.93	9.08	8.93

FINAL - 2020 Meeting Pro Athlé Tour de Marseille (Marseille, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	03-Sep-20	time	2.49	3.55	4.61	5.59	6.60	7.57	8.55	9.62	10.67	11.70		13.15	5 / 1			
reaction time	0.214	interval	7 steps	1.06	1.06	0.98	1.01	0.97	0.98	1.07	1.05	1.03	1.45			3.10	2.96	3.15
wind	-0.3 m/s	velocity	5.51	8.62	8.62	9.33	9.05	9.42	9.33	8.54	8.70	8.87	9.67	8.37		8.85	9.26	8.70

FINAL - 2020 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	19-Aug-20	time	2.50	3.54	4.57	5.60	6.64	7.64	8.66	9.68	10.71	11.74		13.21	4 / 1			
reaction time	0.146	interval	7 steps	1.04	1.03	1.03	1.04	1.00	1.02	1.02	1.03	1.03	1.47			3.10	3.06	3.08
wind	0.3 m/s	velocity	5.49	8.79	8.87	8.87	8.79	9.14	8.96	8.96	8.87	8.87	9.54	8.33		8.85	8.96	8.90

FINAL - 2020 Herculis Meeting International d'Athletisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	14-Aug-20	time	2.54	3.57	4.60	5.60	6.57	7.57	8.61	9.61	10.67	11.71		13.11	4 / 1			
reaction time	0.125	interval	7 steps	1.03	1.03	1.00	0.97	1.00	1.04	1.00	1.06	1.04	1.40			3.06	3.01	3.10
wind	0.8 m/s	velocity	5.40	8.87	8.87	9.14	9.42	9.14	8.79	9.14	8.62	8.79	10.01	8.39		8.96	9.11	8.85

FINAL - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.58	3.60	4.65	5.63	6.66	7.65	8.63	9.66	10.69	11.79		13.30	5 / 3			
reaction time	0.130	interval	7 steps	1.02	1.05	0.98	1.03	0.99	0.98	1.03	1.03	1.10	1.51			3.05	3.00	3.16
wind	0.6 m/s	velocity	5.32	8.96	8.70	9.33	8.87	9.23	9.33	8.87	8.87	8.31	9.28	8.27		8.99	9.14	8.68

Semi-Final 3 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.58	3.63	4.63	5.67	6.66	7.67	8.68	9.69	10.74	11.77		13.16	4 / 1			
reaction time	0.131	interval	7 steps	1.05	1.00	1.04	0.99	1.01	1.01	1.01	1.05	1.03	1.39			3.09	3.01	3.09
wind	0.6 m/s	velocity	5.32	8.70	9.14	8.79	9.23	9.05	9.05	9.05	8.70	8.87	10.09	8.36		8.87	9.11	8.87

Heat 5 - 2019 IAAF World Championships (Doha, QAT) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	30-Sep-19	time	2.58	3.63	4.63	5.63	6.63	7.64	8.63	9.66	10.68	11.74		13.15	9 / 1			
reaction time	0.140	interval	7 steps	1.05	1.00	1.00	1.00	1.01	0.99	1.03	1.02	1.06	1.41			3.05	3.00	3.11
wind	-0.5 m/s	velocity	5.32	8.70	9.14	9.14	9.14	9.05	9.23	8.87	8.96	8.62	9.94	8.37		8.99	9.14	8.82

FINAL - 2019 The Match - Europe v USA (Minsk, BLR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	10-Sep-19	time	2.58	3.64	4.66	5.71	6.71	7.73	8.73	9.73	10.75	11.77		13.21	5 / 1			
reaction time	0.158	interval	7 steps	1.06	1.02	1.05	1.00	1.02	1.00	1.00	1.02	1.02	1.44			3.13	3.02	3.04
wind	0.1 m/s	velocity	5.32	8.62	8.96	8.70	9.14	8.96	9.14	9.14	8.96	8.96	9.74	8.33		8.76	9.08	9.02

FINAL - 2019 AG Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	06-Sep-19	time	2.52	3.56	4.58	5.60	6.58	7.58	8.60	9.64	10.68	11.72		13.22	5 / 1			
reaction time	0.126	interval	7 steps	1.04	1.02	1.02	0.98	1.00	1.02	1.04	1.04	1.04	1.50			3.08	3.00	3.12
wind	0.0 m/s	velocity	5.44	8.79	8.96	8.96	9.33	9.14	8.96	8.79	8.79	8.79	9.35	8.32		8.90	9.14	8.79

FINAL - 2019 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	24-Aug-19	time	2.50	3.52	4.54	5.54	6.52	7.56	8.58	9.62	10.66	11.70		13.14	6 / 2			
reaction time	0.132	interval	7 steps	1.02	1.02	1.00	0.98	1.04	1.02	1.04	1.04	1.04	1.44			3.04	3.04	3.12
wind	0.8 m/s	velocity	5.49	8.96	8.96	9.14	9.33	8.79	8.96	8.79	8.79	8.79	9.74	8.37		9.02	9.02	8.79

FINAL - 2019 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	05-Jul-19	time	2.52	3.52	4.54	5.54	6.54	7.54	8.54	9.56	10.58	11.62		13.05	4 / 1			
reaction time	0.134	interval	7 steps	1.00	1.02	1.00	1.00	1.00	1.00	1.02	1.02	1.04	1.43			3.02	3.00	3.08
wind	1.0 m/s	velocity	5.44	9.14	8.96	9.14	9.14	9.14	9.14	8.96	8.96	8.79	9.80	8.43		9.08	9.14	8.90

FINAL - 2019 Prefontaine Classic (Stanford, CA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	30-Jun-19	time	2.55	3.60	4.62	5.63	6.62	7.64	8.68	9.70	10.75	11.80		13.24	4 / 1			
reaction time	0.163	interval	7 steps	1.05	1.02	1.01	0.99	1.02	1.04	1.02	1.05	1.05	1.44			3.08	3.05	3.12
wind	0.3 m/s	velocity	5.38	8.70	8.96	9.05	9.23	8.96	8.79	8.96	8.70	8.70	9.74	8.31		8.90	8.99	8.79

FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	06-Jun-19	time	2.60	3.71	4.80	5.82	6.87	7.89	8.97	10.02	11.13	12.27		14.00	6 / 9			
reaction time	0.127	interval	7 steps	1.11	1.09	1.02	1.05	1.02	1.08	1.05	1.11	1.14	1.73			3.22	3.15	3.30
wind	0.4 m/s	velocity	5.28	8.23	8.39	8.96	8.70	8.96	8.46	8.70	8.23	8.02	8.10	7.86		8.52	8.70	8.31

FINAL - 2019 Nanjing World Challenge (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	21-May-19	time	2.57	3.63	4.65	5.68	6.68	7.72	8.74	9.78	10.81	11.87		13.27	5 / 1			
reaction time	0.145	interval	7 steps	1.06	1.02	1.03	1.00	1.04	1.02	1.04	1.03	1.06	1.40			3.11	3.06	3.13
wind	0.1 m/s	velocity	5.34	8.62	8.96	8.87	9.14	8.79	8.96	8.79	8.87	8.62	10.01	8.29		8.82	8.96	8.76

FINAL - 2019 Shanghai Diamond League (Shanghai, CHN) *CAA Hurdle Development (2019)*

date	18-May-19	time	2.58	3.62	4.64	5.64	6.66	7.68	8.70	9.74	10.80	11.86		13.28	6 / 4			
reaction time	0.154	interval	7 steps	1.04	1.02	1.00	1.02	1.02	1.02	1.04	1.06	1.06	1.42			3.06	3.06	3.16
wind	0.7 m/s	velocity	5.32	8.79	8.96	9.14	8.96	8.96	8.96	8.79	8.62	8.62	9.87	8.28		8.96	8.96	8.68

FINAL - 2019 PSD Bank Meeting (Düsseldorf, GER) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	20-Feb-19	time	2.43	3.46	4.48	5.50	6.48							7.52	4 / 1			
reaction time	0.120	interval	7 steps	1.03	1.02	1.02	0.98						1.04			3.07		
		velocity	5.65	8.87	8.96	8.96	9.33						9.35	7.98		8.93		

FINAL - 2018 AG Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	31-Aug-18	time	2.54	3.56	4.58	5.58	6.56	7.56	8.58	9.58	10.62	11.66		13.10	6 / 2			
reaction time	0.124	interval	7 steps	1.02	1.02	1.00	0.98	1.00	1.02	1.00	1.04	1.04	1.44			3.04	3.00	3.08
wind	-0.1 m/s	velocity	5.40	8.96	8.96	9.14	9.33	9.14	8.96	9.14	8.79	8.79	9.74	8.40		9.02	9.14	8.90

FINAL - 2018 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	18-Aug-18	time	2.48	3.52	4.54	5.54	6.52	7.52	8.52	9.54	10.56	11.58		13.08	6 / 1			
reaction time	0.139	interval	7 steps	1.04	1.02	1.00	0.98	1.00	1.00	1.02	1.02	1.02	1.50			3.06	2.98	3.06
wind	1.3 m/s	velocity	5.53	8.79	8.96	9.14	9.33	9.14	9.14	8.96	8.96	8.96	9.35	8.41		8.96	9.20	8.96

FINAL - 2018 Herculis Meeting International d'Athletisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	20-Jul-18	time	2.48	3.56	4.56	5.56	6.58	7.60	8.60	9.64	10.66	11.70		13.18	5 / 2			
reaction time	0.129	interval	7 steps	1.08	1.00	1.00	1.02	1.02	1.00	1.04	1.02	1.04	1.48			3.08	3.04	3.10
wind	-0.2 m/s	velocity	5.53	8.46	9.14	9.14	8.96	8.96	9.14	8.79	8.96	8.79	9.47	8.35		8.90	9.02	8.85

FINAL - 2018 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	30-Jun-18	time	2.52	3.60	4.64	5.68	6.68	7.70	8.72	9.74	10.80	11.88		13.44	5 / 6			
reaction time	0.135	interval	7 steps	1.08	1.04	1.04	1.00	1.02	1.02	1.02	1.06	1.08	1.56			3.16	3.04	3.16
wind	1.5 m/s	velocity	5.44	8.46	8.79	8.79	9.14	8.96	8.96	8.96	8.62	8.46	8.99	8.18		8.68	9.02	8.68

FINAL - 2018 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	26-May-18	time	2.54	3.60	4.62	5.62	6.62	7.64	8.64	9.66	10.66	11.72		13.17	5 / 4			
reaction time	0.158	interval	7 steps	1.06	1.02	1.00	1.00	1.02	1.00	1.02	1.00	1.06	1.45			3.08	3.02	3.08
wind	3.0 m/s	velocity	5.40	8.62	8.96	9.14	9.14	8.96	9.14	8.96	9.14	8.62	9.67	8.35		8.90	9.08	8.90

FINAL - 2018 Shanghai Diamond League (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	12-May-18	time	2.52	3.58	4.60	5.60	6.62	7.64	8.64	9.64	10.68	11.72		13.17	8 / 2			
reaction time	0.135	interval	7 steps	1.06	1.02	1.00	1.02	1.02	1.00	1.00	1.04	1.04	1.45			3.08	3.04	3.08
wind	0.2 m/s	velocity	5.44	8.62	8.96	9.14	8.96	8.96	9.14	9.14	8.79	8.79	9.67	8.35		8.90	9.02	8.90

FINAL - 2017 Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	01-Sep-17	time	2.54	3.62	4.62	5.62	6.62	7.64	8.64	9.66	10.68	11.72		13.17	7 / 2			
reaction time	0.102	interval	7 steps	1.08	1.00	1.00	1.00	1.02	1.00	1.02	1.02	1.04	1.45			3.08	3.02	3.08
wind	0.5 m/s	velocity	5.40	8.46	9.14	9.14	9.14	8.96	9.14	8.96	8.96	8.79	9.67	8.35		8.90	9.08	8.90

FINAL - 2017 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	20-Aug-17	time	2.56	3.62	4.68	5.72	6.74	7.78	8.82	9.86	10.92	12.02		13.48	4 / 5			
reaction time	0.140	interval		1.06	1.06	1.04	1.02	1.04	1.04	1.04	1.06	1.10	1.46			3.16	3.10	3.20
wind	-0.6 m/s	velocity	5.36	8.62	8.62	8.79	8.96	8.79	8.79	8.79	8.62	8.31	9.60	8.16		8.68	8.85	8.57

FINAL - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	07-Aug-17	time	2.45	3.51	4.55	5.60	6.62	7.65	8.68	9.71	10.73	11.78		13.37	3 / 7			
reaction time	0.140	interval		1.06	1.04	1.05	1.02	1.03	1.03	1.03	1.02	1.05	1.59			3.15	3.08	3.10
wind	0.0 m/s	velocity	5.60	8.62	8.79	8.70	8.96	8.87	8.87	8.87	8.96	8.70	8.82	8.23		8.70	8.90	8.85

Semi-Final 1 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.45	3.51	4.54	5.56	6.60	7.61	8.60	9.62	10.66	11.71		13.23	4 / 4			
reaction time	0.148	interval		1.06	1.03	1.02	1.04	1.01	0.99	1.02	1.04	1.05	1.52			3.11	3.04	3.11

wind	0.2 m/s	velocity	5.60	8.62	8.87	8.96	8.79	9.05	9.23	8.96	8.79	8.70	9.22	8.31		8.82	9.02	8.82

FINAL - 2017 Bauhaus Athletics (Stockholm, SWE) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	18-Jun-17	time	2.56	3.56	4.58	5.62	6.62	7.62	8.62	9.60	10.62	11.64		13.09	4 / 1			
reaction time	0.146	interval		1.00	1.02	1.04	1.00	1.00	1.00	0.98	1.02	1.02	1.45			3.06	3.00	3.02
wind	3.5 m/s	velocity	5.36	9.14	8.96	8.79	9.14	9.14	9.14	9.33	8.96	8.96	9.67	8.40		8.96	9.14	9.08

FINAL - 2017 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	08-Jun-17	time	2.58	3.62	4.64	5.66	6.68	7.66	8.68	9.70	10.72	11.76		13.17	6 / 2			
reaction time	0.152	interval	7 steps	1.04	1.02	1.02	1.02	0.98	1.02	1.02	1.02	1.04	1.41			3.08	3.02	3.08
wind	-0.3 m/s	velocity	5.32	8.79	8.96	8.96	8.96	9.33	8.96	8.96	8.96	8.79	9.94	8.35		8.90	9.08	8.90

FINAL - 2017 Shanghai Diamond League (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	13-May-17	time	2.50	3.56	4.58	5.58	6.58	7.58	8.60	9.60	10.64	11.70		13.15	6 / 2			
reaction time	0.136	interval	7 steps	1.06	1.02	1.00	1.00	1.00	1.02	1.00	1.04	1.06	1.45			3.08	3.02	3.10
wind	0.5 m/s	velocity	5.49	8.62	8.96	9.14	9.14	9.14	8.96	9.14	8.79	8.62	9.67	8.37		8.90	9.08	8.85

FINAL - 2017 European Indoor Championships (Beograd, SRB) *(2017.03.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	03-Mar-17	time	2.63	3.67	4.71	5.69	6.75							7.64	7 / 7			
reaction time		interval	7 steps	1.04	1.04	0.98	1.06						0.89			3.06		
		velocity	5.22	8.79	8.79	9.33	8.62						10.92	7.85		8.96		

FINAL - 2016 Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	09-Sep-16	time	2.50	3.54	4.57	5.57	6.57	7.57	8.57	9.59	10.61	11.64		13.08	5 / 1			
reaction time	0.145	interval	7 steps	1.04	1.03	1.00	1.00	1.00	1.00	1.02	1.02	1.03	1.44			3.07	3.00	3.07
wind	0.2 m/s	velocity	5.49	8.79	8.87	9.14	9.14	9.14	9.14	8.96	8.96	8.87	9.74	8.41		8.93	9.14	8.93

FINAL - 2016 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	25-Aug-16	time	2.52	3.56	4.58	5.60	6.60	7.60	8.62	9.64	10.64	11.68		13.11	5 / 1			
reaction time	0.133	interval	7 steps	1.04	1.02	1.02	1.00	1.00	1.02	1.02	1.00	1.04	1.43			3.08	3.02	3.06
wind	0.5 m/s	velocity	5.44	8.79	8.96	8.96	9.14	9.14	8.96	8.96	9.14	8.79	9.80	8.39		8.90	9.08	8.96

FINAL - 2016 Olympic Games (Rio de Janeiro, BRA) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	16-Aug-16	time	2.56	3.62	4.64	5.64	6.64	7.64	8.64	9.68	10.70	11.74		13.17	7 / 2			
reaction time	0.127	interval	7 steps	1.06	1.02	1.00	1.00	1.00	1.00	1.04	1.02	1.04	1.43			3.08	3.00	3.10
wind	0.2 m/s	velocity	5.36	8.62	8.96	9.14	9.14	9.14	9.14	8.79	8.96	8.79	9.80	8.35		8.90	9.14	8.85

FINAL - 2016 Spanish National Championships (Gijón, ESP) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	24-Jul-16	time	2.50	3.56	4.57	5.56	6.54	7.56	8.56	9.56	10.56	11.60		13.09	4 / 1			
reaction time	0.161	interval	7 steps	1.06	1.01	0.99	0.98	1.02	1.00	1.00	1.00	1.04	1.49			3.06	3.00	3.04
wind	1.0 m/s	velocity	5.49	8.62	9.05	9.23	9.33	8.96	9.14	9.14	9.14	8.79	9.41	8.40		8.96	9.14	9.02

FINAL - 2016 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	15-Jul-16	time	2.48	3.52	4.54	5.54	6.54	7.54	8.56	9.56	10.56	11.60		13.04	3 / 1			
reaction time	0.136	interval	7 steps	1.04	1.02	1.00	1.00	1.00	1.02	1.00	1.00	1.04	1.44	NR		3.06	3.02	3.04
wind	0.0 m/s	velocity	5.53	8.79	8.96	9.14	9.14	9.14	8.96	9.14	9.14	8.79	9.74	8.44		8.96	9.08	9.02

FINAL - 2016 Golden Gala Pietro Mennea (Roma, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	02-Jun-16	time	2.56	3.60	4.64	5.66	6.66	7.66	8.66	9.68	10.70	11.74		13.22	7 / 1			
reaction time		interval	7 steps	1.04	1.04	1.02	1.00	1.00	1.00	1.02	1.02	1.04	1.48			3.10	3.00	3.08
wind	0.6 m/s	velocity	5.36	8.79	8.79	8.96	9.14	9.14	9.14	8.96	8.96	8.79	9.47	8.32		8.85	9.14	8.90

FINAL - 2016 Meeting International Mohammed VI D'Athletisme (Rabat, MAR) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	22-May-16	time	2.50	3.54	4.54	5.52	6.52	7.54	8.56	9.60	10.62	11.66		13.13	6 / 2			
reaction time	0.150	interval	7 steps	1.04	1.00	0.98	1.00	1.02	1.02	1.04	1.02	1.04	1.47			3.02	3.04	3.10
wind	1.4 m/s	velocity	5.49	8.79	9.14	9.33	9.14	8.96	8.96	8.79	8.96	8.79	9.54	8.38		9.08	9.02	8.85

FINAL - 2016 Doha Diamond League (Doha, QAT) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	06-May-16	time	2.56	3.58	4.60	5.60	6.60	7.60	8.60	9.64	10.68	11.72		13.12	6 / 3			
reaction time	0.118	interval	7 steps	1.02	1.02	1.00	1.00	1.00	1.00	1.04	1.04	1.04	1.40	NR		3.04	3.00	3.12
wind	1.4 m/s	velocity	5.36	8.96	8.96	9.14	9.14	9.14	9.14	8.79	8.79	8.79	10.01	8.38		9.02	9.14	8.79

FINAL - 2012 Olympic Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	08-Aug-12	time	2.54	3.62	4.64	5.64	6.66	7.68	8.70	9.74	10.80	11.90		13.43	9 / 6			
reaction time	0.135	interval	7 steps	1.08	1.02	1.00	1.02	1.02	1.02	1.04	1.06	1.10	1.53			3.10	3.06	3.20
wind	-0.3 m/s	velocity	5.40	8.46	8.96	9.14	8.96	8.96	8.96	8.79	8.62	8.31	9.16	8.19		8.85	8.96	8.57

Semi-Final 1 - 2012 Olympic Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	08-Aug-12	time	2.52	3.56	4.60	5.60	6.60	7.62	8.62	9.62	10.66	11.74		13.26	6 / 2			
reaction time	0.151	interval	7 steps	1.04	1.04	1.00	1.00	1.02	1.00	1.00	1.04	1.08	1.52			3.08	3.02	3.12
wind	-0.5 m/s	velocity	5.44	8.79	8.79	9.14	9.14	8.96	9.14	9.14	8.79	8.46	9.22	8.30		8.90	9.08	8.79

Osaghae, Omo (USA) (1988)	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2007 USATF National Junior Championships (Indianapolis, IN) (99cm) *USATF Men's Hurdle Development (2007)*

date	21-Jun-07	time	2.72	3.80	4.87	5.92	6.96	7.99	9.06	10.13	11.18	12.28		13.71	/ 5			
reaction time		interval		1.08	1.07	1.05	1.04	1.03	1.07	1.07	1.05	1.10	1.43			3.20	3.14	3.22
wind	2.7 m/s	velocity	5.04	8.46	8.54	8.70	8.79	8.87	8.54	8.54	8.70	8.31	9.80	8.02		8.57	8.73	8.52

Oschkenat, Andreas (GDR) (1962)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1986 East German National Championships (Jena, GDR) *Aubert (1987) - mesures et observations biomecaniques a propos des courses de haies hautes*

date	27-Jun-86	time	2.62	3.68	4.73	5.76	6.82	7.88	8.95	10.01	11.10	12.17		13.63	/ 2			
reaction time		interval		1.06	1.05	1.03	1.06	1.06	1.07	1.06	1.09	1.07	1.46			3.14	3.19	3.22
wind	1.7 m/s	velocity	5.24	8.62	8.70	8.87	8.62	8.62	8.54	8.62	8.39	8.54	9.60	8.07		8.73	8.60	8.52

Otobe, Takumi (JPN) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 1 - 2014 Nittai University Distance Meeting (Wakayama, JPN) *Takeo (2014) - decathletes sprint ability and relationship of individual performance*

date	27-Apr-14	time	2.70	3.90	5.06	6.21	7.36	8.52	9.66	10.84	12.00	13.19		14.74	6 / 3		*Matsuo (2014)*	
reaction time		interval		1.20	1.16	1.15	1.15	1.16	1.14	1.18	1.16	1.19	1.55	PB		3.51	3.45	3.53
wind	1.0 m/s	velocity	5.08	7.62	7.88	7.95	7.95	7.88	8.02	7.75	7.88	7.68	9.05	7.46		7.81	7.95	7.77

Owens-Delerme, Ayden (PUR) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 3 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	03-Aug-24	time	2.47	3.57	4.66	5.76	6.85	7.94	9.04	10.16	11.30	12.42		14.09	4 / 7			
reaction time	0.160	interval	7 steps	1.10	1.09	1.10	1.09	1.09	1.10	1.12	1.14	1.12	1.67			3.29	3.28	3.38
wind	0.7 m/s	velocity	5.55	8.31	8.39	8.31	8.39	8.39	8.31	8.16	8.02	8.16	8.40	7.81		8.33	8.36	8.11

Decathlon - Heat 3 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2024) - Athlete First: 2023 year end hurdle report*

date	26-Aug-23	time	2.64	3.74	4.83	5.92	7.02	8.08	9.18	10.28	11.42	12.56		14.04	7 / 4			
reaction time	0.073	interval	7 steps	1.10	1.09	1.09	1.10	1.06	1.10	1.10	1.14	1.14	1.48			3.28	3.26	3.38
wind	0.2 m/s	velocity	5.20	8.31	8.39	8.39	8.31	8.62	8.31	8.31	8.02	8.02	9.47	7.83		8.36	8.41	8.11

Decathlon - Heat 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2022 year end hurdle report*

date	24-Jul-22	time	2.60	3.73	4.78	5.83	6.92	7.98	9.05	10.20	11.26	12.40		13.88	7 / 2			
reaction time	0.133	interval		1.13	1.05	1.05	1.09	1.06	1.07	1.15	1.06	1.14	1.48			3.23	3.22	3.35
wind	1.1 m/s	velocity	5.28	8.09	8.70	8.70	8.39	8.62	8.54	7.95	8.62	8.02	9.47	7.93		8.49	8.52	8.19

Oyeniyi, Abejoye (NGR) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 IAAF Continental Cup (Ostrava, CZE) (TV Analysis) *Henson (2021) - Athlete First: 2018 year end hurdle report*

date	09-Sep-18	time	2.60	3.76	4.82	5.88	6.96	8.00	9.08	10.14	11.20	12.30		13.85	8 / 8			
reaction time	0.225	interval	7 steps	1.16	1.06	1.06	1.08	1.04	1.08	1.06	1.06	1.10	1.55	PB		3.28	3.20	3.22
wind	0.9 m/s	velocity	5.28	7.88	8.62	8.62	8.46	8.79	8.46	8.62	8.62	8.31	9.05	7.94		8.36	8.57	8.52

Pan Yicheng (CHN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

U20 Heat 3 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.70	3.79	4.87	5.95	7.04	8.11	9.21	10.31	11.44	12.58		14.05	5 / 4			
reaction time	0.163	interval		1.09	1.08	1.08	1.09	1.07	1.10	1.10	1.13	1.14	1.47			3.25	3.26	3.37
wind	0.6 m/s	velocity	5.08	8.39	8.46	8.46	8.39	8.54	8.31	8.31	8.09	8.02	9.54	7.83		8.44	8.41	8.14

Pan Zijie (CHN) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.64	3.75	4.81	5.88	6.95	8.02	9.16	10.29	11.43	12.55		14.10	9 / 8			
reaction time	0.185	interval		1.11	1.06	1.07	1.07	1.07	1.14	1.13	1.14	1.12	1.55			3.24	3.28	3.39
wind	1.6 m/s	velocity	5.20	8.23	8.62	8.54	8.54	8.54	8.02	8.09	8.02	8.16	9.05	7.80		8.46	8.36	8.09

Heat 3 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.62	3.70	4.76	5.87	6.96	8.04	9.11	10.20	11.32	12.47		14.00	6 / 3			
reaction time	0.167	interval		1.08	1.06	1.11	1.09	1.08	1.07	1.09	1.12	1.15	1.53			3.25	3.24	3.36
wind	0.5 m/s	velocity	5.24	8.46	8.62	8.23	8.39	8.46	8.54	8.39	8.16	7.95	9.16	7.86		8.44	8.46	8.16

FINAL - 2020 Chinese Olympic Trials (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	12-Jun-21	time	2.63	3.74	4.81	5.93	7.03	8.13	9.22	10.30	11.43	12.55		14.02	1 / 5			
reaction time	0.158	interval		1.11	1.07	1.12	1.10	1.10	1.09	1.08	1.13	1.12	1.47			3.30	3.29	3.33
wind	0.9 m/s	velocity	5.22	8.23	8.54	8.16	8.31	8.31	8.39	8.46	8.09	8.16	9.54	7.85		8.31	8.33	8.23

Heat 1 - 2020 Chinese Olympic Trials (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	12-Jun-21	time	2.51	3.61	4.72	5.80	6.91	8.03	9.14	10.25	11.40	12.53		14.16	7 / 4			
reaction time	0.111	interval		1.10	1.11	1.08	1.11	1.12	1.11	1.11	1.15	1.13	1.63			3.29	3.34	3.39
wind	-0.4 m/s	velocity	5.47	8.31	8.23	8.46	8.23	8.16	8.23	8.23	7.95	8.09	8.60	7.77		8.33	8.21	8.09

FINAL - 2021 East China District Meeting (Zhaoqing, CHN) *CAA Hurdle Development (2021)*

date	24-Apr-21	time	2.68	3.79	4.91	5.99	7.08	8.19	9.28	10.39	11.54	12.68		14.19	2 / 5			
reaction time	0.186	interval		1.11	1.12	1.08	1.09	1.11	1.09	1.11	1.15	1.14	1.51			3.31	3.29	3.40
wind	-0.3 m/s	velocity	5.12	8.23	8.16	8.46	8.39	8.23	8.39	8.23	7.95	8.02	9.28	7.75		8.28	8.33	8.06

Heat 2 - 2021 East China District Meeting (Zhaoqing, CHN) *CAA Hurdle Development (2021)*

date	24-Apr-21	time	2.68	3.80	4.90	5.98	7.10	8.25	9.36	10.50	11.63	12.78		14.31	9 / 4			

reaction time	0.178	interval		1.12	1.10	1.08	1.12	1.15	1.11	1.14	1.13	1.15	1.53			3.30	3.38	3.42
wind	-1.2 m/s	velocity	5.12	8.16	8.31	8.46	8.16	7.95	8.23	8.02	8.09	7.95	9.16	7.69		8.31	8.11	8.02

FINAL - 2021 Yangtze River Delta Athletics Meeting (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	08-Apr-21	time	2.72	3.84	4.96	6.04	7.16	8.28	9.40	10.52	11.66	12.78		14.33	3 / 6			
reaction time		interval		1.12	1.12	1.08	1.12	1.12	1.12	1.12	1.14	1.12	1.55			3.32	3.36	3.38
wind	-0.1 m/s	velocity	5.04	8.16	8.16	8.46	8.16	8.16	8.16	8.16	8.02	8.16	9.05	7.68		8.26	8.16	8.11

Heat 2 - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.64	3.78	4.90	6.00	7.13	8.26	9.39	10.53	11.68	12.84		14.40	9 / 7			
reaction time	0.154	interval		1.14	1.12	1.10	1.13	1.13	1.13	1.14	1.15	1.16	1.56			3.36	3.39	3.45
wind	-0.5 m/s	velocity	5.20	8.02	8.16	8.31	8.09	8.09	8.09	8.02	7.95	7.88	8.99	7.64		8.16	8.09	7.95

FINAL - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	24-Aug-19	time	2.68	3.80	4.90	6.00	7.09	8.17	9.27	10.38	11.49	12.61		14.08	2 / 4			
reaction time	0.204	interval		1.12	1.10	1.10	1.09	1.08	1.10	1.11	1.11	1.12	1.47			3.32	3.27	3.34
wind	-0.1 m/s	velocity	5.12	8.16	8.31	8.31	8.39	8.46	8.31	8.23	8.23	8.16	9.54	7.81		8.26	8.39	8.21

Heat 2 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.67	3.80	4.90	6.01	7.12	8.24	9.36	10.52	11.67	12.86		14.48	7 / 2			
reaction time	0.195	interval		1.13	1.10	1.11	1.11	1.12	1.12	1.16	1.15	1.19	1.62			3.34	3.35	3.50
wind	-0.2 m/s	velocity	5.14	8.09	8.31	8.23	8.23	8.16	8.16	7.88	7.95	7.68	8.65	7.60		8.21	8.19	7.83

FINAL - 2019 Chinese World Championship Trials (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	02-Aug-19	time	2.62	3.70	4.77	5.84	6.91	7.96	9.04	10.11	11.21	12.32		13.77	8 / 3			
reaction time	0.171	interval		1.08	1.07	1.07	1.07	1.05	1.08	1.07	1.10	1.11	1.45	**PB**		3.22	3.20	3.28
wind	0.0 m/s	velocity	5.24	8.46	8.54	8.54	8.54	8.70	8.46	8.54	8.31	8.23	9.67	7.99		8.52	8.57	8.36

Heat 1 - 2019 Chinese World Championship Trials (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	02-Aug-19	time	2.65	3.77	4.87	6.00	7.14	8.24	9.35	10.46	11.57	12.68		14.17	3 / 3			
reaction time	0.173	interval		1.12	1.10	1.13	1.14	1.10	1.11	1.11	1.11	1.11	1.49			3.35	3.35	3.33
wind	-0.3 m/s	velocity	5.18	8.16	8.31	8.09	8.02	8.31	8.23	8.23	8.23	8.23	9.41	7.76		8.19	8.19	8.23

FINAL - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.63	3.70	4.80	5.87	6.96	8.02	9.11	10.21	11.31	12.41		13.87	3 / 3			
reaction time	0.187	interval		1.07	1.10	1.07	1.09	1.06	1.09	1.10	1.10	1.10	1.46			3.24	3.24	3.30
wind	0.1 m/s	velocity	5.22	8.54	8.31	8.54	8.39	8.62	8.39	8.31	8.31	8.31	9.60	7.93		8.46	8.46	8.31

Heat 2 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.65	3.77	4.83	5.90	6.97	8.06	9.14	10.23	11.33	12.43		13.88	4 / 2			
reaction time	0.191	interval		1.12	1.06	1.07	1.07	1.09	1.08	1.09	1.10	1.10	1.45			3.25	3.24	3.29
wind	0.4 m/s	velocity	5.18	8.16	8.62	8.54	8.54	8.39	8.46	8.39	8.31	8.31	9.67	7.93		8.44	8.46	8.33

FINAL - 2019 Chinese National Grand Prix 4 (Luoyang, CHN) *CAA Hurdle Development (2019)*

date	30-May-19	time	2.64	3.72	4.82	5.89	6.97	8.05	9.14	10.24	11.34	12.51		14.03	2 / 4			
reaction time	0.177	interval		1.08	1.10	1.07	1.08	1.08	1.09	1.10	1.10	1.17	1.52			3.25	3.25	3.37
wind	0.0 m/s	velocity	5.20	8.46	8.31	8.54	8.46	8.46	8.39	8.31	8.31	7.81	9.22	7.84		8.44	8.44	8.14

FINAL - 2019 Chinese National Grand Prix 3 (Jinhau, CHN) *CAA Hurdle Development (2019)*

date	23-May-19	time	2.68	3.76	4.84	5.92	7.00	8.08	9.14	10.20	11.30	12.38		13.83	5 / 2			
reaction time	0.182	interval		1.08	1.08	1.08	1.08	1.08	1.06	1.06	1.10	1.08	1.45			3.24	3.22	3.24
wind	2.5 m/s	velocity	5.12	8.46	8.46	8.46	8.46	8.46	8.62	8.62	8.31	8.46	9.67	7.95		8.46	8.52	8.46

B-FINAL - 2019 Chinese Indoor National Grand Prix Final (Hangzhou, CHN) *CAA Hurdle Development (2019)*

date	20-Mar-19	time	2.66	3.76	4.89	5.96	7.05							7.97	4 / 3			
reaction time		interval		1.10	1.13	1.07	1.09						0.92			3.30		
		velocity	5.16	8.31	8.09	8.54	8.39						10.57	7.53		8.31		

A-FINAL - 2019 Chinese Indoor National Grand Prix 2 (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	24-Feb-19	time	2.60	3.75	4.85	5.94	7.04							7.97	4 / 2			
reaction time		interval		1.15	1.10	1.09	1.10						0.93			3.34		
		velocity	5.28	7.95	8.31	8.39	8.31						10.45	7.53		8.21		

B-FINAL - 2019 Chinese Indoor National Grand Prix 1 (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	20-Feb-19	time	2.68	3.78	4.89	5.95	7.04							7.96	3 / 2			
reaction time		interval		1.10	1.11	1.06	1.09						0.92			3.27		
		velocity	5.12	8.31	8.23	8.62	8.39						10.57	7.54		8.39		

FINAL - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	16-Sep-18	time	2.64	3.75	4.84	5.96	7.04	8.13	9.23	10.33	11.46	12.60		14.12	8 / 5			
reaction time		interval		1.11	1.09	1.12	1.08	1.09	1.10	1.10	1.13	1.14	1.52			3.32	3.27	3.37
wind	-0.3 m/s	velocity	5.20	8.23	8.39	8.16	8.46	8.39	8.31	8.31	8.09	8.02	9.22	7.79		8.26	8.39	8.14

Heat 2 - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	15-Sep-18	time	2.70	3.80	4.87	5.98	7.07	8.15	9.26	10.38	11.48	12.64		14.11	7 / 3			
reaction time		interval		1.10	1.07	1.11	1.09	1.08	1.11	1.12	1.10	1.16	1.47			3.28	3.28	3.38
wind	0.7 m/s	velocity	5.08	8.31	8.54	8.23	8.39	8.46	8.23	8.16	8.31	7.88	9.54	7.80		8.36	8.36	8.11

Parakhonka, Vitali (BLR) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.69	3.73	4.73	5.75	6.80	7.82	8.89	9.94	11.04	12.12		13.61	9 / 5			
reaction time	0.133	interval		1.04	1.00	1.02	1.05	1.02	1.07	1.05	1.10	1.08	1.49			3.06	3.14	
wind	-0.1 m/s	velocity	5.10	8.79	9.14	8.96	8.70	8.96	8.54	8.70	8.31	8.46	9.41	8.08		8.96	8.73	

FINAL - 2019 The Match - Europe v USA (Minsk, BLR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	10-Sep-19	time	2.63	3.73	4.78	5.80	6.83	7.92	8.96	10.10	11.16	12.28		13.80	9 / 6			
reaction time	0.162	interval		1.10	1.05	1.02	1.03	1.09	1.04	1.14	1.06	1.12	1.52			3.17	3.16	3.32
wind	0.1 m/s	velocity	5.22	8.31	8.70	8.96	8.87	8.39	8.79	8.02	8.62	8.16	9.22	7.97		8.65	8.68	8.26

Parchment, Hansle (JAM) (1990)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN) *Omega Timing (2025) - diamond league race analysis*

date	03-May-25	time	2.46	3.55	4.59	5.61	6.61	7.62	8.63	9.65	10.69	11.74		13.32	8 / 6			
reaction time	0.156	interval	7 steps	1.09	1.04	1.02	1.00	1.01	1.01	1.02	1.04	1.05	1.58			3.15	3.02	3.11
wind	0.6 m/s	velocity	5.58	8.39	8.79	8.96	9.14	9.05	9.05	8.96	8.79	8.70	8.87	8.26		8.70	9.08	8.82

FINAL - 2025 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2025) - diamond league race analysis*

date	26-Apr-25	time	2.51	3.57	4.60	5.62	6.63	7.64	8.67	9.71	10.76	11.84		13.49	8 / 9			
reaction time	0.150	interval	7 steps	1.06	1.03	1.02	1.01	1.01	1.03	1.04	1.05	1.08	1.65			3.11	3.05	3.17
wind	0.3 m/s	velocity	5.47	8.62	8.87	8.96	9.05	9.05	8.87	8.79	8.70	8.46	8.50	8.15		8.82	8.99	8.65

FINAL - 2024 Weltklasse (Zürich, SUI) *Omega Timing (2024) - diamond league race analysis*

date	05-Sep-24	time	2.45	3.50	4.52	5.54	6.55	7.57	8.58	9.59	10.61	11.63		13.18	8 / 4			
reaction time	0.131	interval	7 steps	1.05	1.02	1.02	1.01	1.02	1.01	1.01	1.02	1.02	1.55			3.09	3.04	3.05
wind	-0.3 m/s	velocity	5.60	8.70	8.96	8.96	9.05	8.96	9.05	9.05	8.96	8.96	9.05	8.35		8.87	9.02	8.99

FINAL - 2024 Athletissima (Lausanne, SUI) *Omega Timing (2024) - diamond league race analysis*

date	22-Aug-24	time	2.44	3.49	4.49	5.49	6.49	7.49	8.49	9.50	10.55	11.63		13.23	7 / 3			
reaction time	0.154	interval	7 steps	1.05	1.00	1.00	1.00	1.00	1.00	1.01	1.05	1.08	1.60			3.05	3.00	3.14
wind	-0.1 m/s	velocity	5.62	8.70	9.14	9.14	9.14	9.14	9.14	9.05	8.70	8.46	8.76	8.31		8.99	9.14	8.73

FINAL - 2024 Olympic Games (Paris, FRA) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	08-Aug-24	time	2.60	3.67	4.69	5.70	6.73	7.75	8.78	9.81	10.84	11.91		13.39	2 / 8			
reaction time	0.144	interval	7 steps	1.07	1.02	1.01	1.03	1.02	1.03	1.03	1.03	1.07	1.48			3.10	3.08	3.13
wind	-0.1 m/s	velocity	5.28	8.54	8.96	9.05	8.87	8.96	8.87	8.87	8.87	8.54	9.47	8.22		8.85	8.90	8.76

Semi-Final 1 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	2.46	3.51	4.51	5.53	6.52	7.51	8.52	9.54	10.59	11.64		13.19	3 / 3			
reaction time	0.148	interval	7 steps	1.05	1.00	1.02	0.99	0.99	1.01	1.02	1.05	1.05	1.55			3.07	2.99	3.12
wind	0.1 m/s	velocity	5.58	8.70	9.14	8.96	9.23	9.23	9.05	8.96	8.70	8.70	9.05	8.34		8.93	9.17	8.79

Heat 3 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.46	3.54	4.56	5.58	6.60	7.61	8.66	9.70	10.76	11.83		13.43	8 / 5			
reaction time	0.159	interval	7 steps	1.08	1.02	1.02	1.02	1.01	1.05	1.04	1.06	1.07	1.60			3.12	3.08	3.17
wind	1.1 m/s	velocity	5.58	8.46	8.96	8.96	8.96	9.05	8.70	8.79	8.62	8.54	8.76	8.19		8.79	8.90	8.65

FINAL - 2024 Prefontaine Classic (Eugene, OR) *Omega Timing (2024) - diamond league race analysis*

date	25-May-24	time	2.51	3.56	4.59	5.59	6.59	7.59	8.60	9.61	10.64	11.70		13.28	6 / 4			
reaction time	0.151	interval	7 steps	1.05	1.03	1.00	1.00	1.00	1.01	1.01	1.03	1.06	1.58			3.08	3.01	3.10
wind	-0.1 m/s	velocity	5.47	8.70	8.87	9.14	9.14	9.14	9.05	9.05	8.87	8.62	8.87	8.28		8.90	9.11	8.85

FINAL - 2024 Yangtze River Delta Athletics Diamond Gala (Suzhou, CHN) (TV Analysis) *Omega Timing (2024) - diamond league race analysis*

date	27-Apr-24	time	2.54	3.62	4.65	5.65	6.65	7.65	8.66	9.69	10.74	11.80		13.26	5 / 3			
reaction time	0.143	interval	7 steps	1.08	1.03	1.00	1.00	1.00	1.01	1.03	1.05	1.06	1.46			3.11	3.01	3.14
wind	0.8 m/s	velocity	5.40	8.46	8.87	9.14	9.14	9.14	9.05	8.87	8.70	8.62	9.60	8.30		8.82	9.11	8.73

FINAL - 2024 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2024) - diamond league race analysis*

date	20-Apr-24	time	2.50	3.57	4.59	5.61	6.61	7.63	8.64	9.66	10.70	11.75		13.33	5 / 6			
reaction time	0.157	interval	7 steps	1.07	1.02	1.02	1.00	1.02	1.01	1.02	1.04	1.05	1.58			3.11	3.03	3.11
wind	-0.3 m/s	velocity	5.49	8.54	8.96	8.96	9.14	8.96	9.05	8.96	8.79	8.70	8.87	8.25		8.82	9.05	8.82

FINAL - 2023 Prefontaine Classic (Eugene, OR) *Omega Timing (2023) - diamond league race analysis*

date	17-Sep-23	time	2.47	3.50	4.48	5.47	6.45	7.42	8.40	9.40	10.40	11.41		12.93	5 / 1			
reaction time	0.168	interval	7 steps	1.03	0.98	0.99	0.98	0.97	0.98	1.00	1.00	1.01	1.52	PB		3.00	2.93	3.01
wind	0.9 m/s	velocity	5.55	8.87	9.33	9.23	9.33	9.42	9.33	9.14	9.14	9.05	9.22	8.51		9.14	9.36	9.11

FINAL - 2023 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2023) - diamond league race analysis*

date	02-Sep-23	time	2.40	3.40	4.40	5.40	6.40	7.40	8.40	9.40	10.40	11.40		12.96	5 / 1				
reaction time	0.163	interval	7 steps	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.56			3.00	3.00	3.00	
wind	0.0 m/s	velocity	5.72	9.14	9.14	9.14	9.14	9.14	9.14	9.14	9.14	9.14	8.99	8.49		9.14	9.14	9.14	

FINAL - 2023 World Athletics Championships (Budapest, HUN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	21-Aug-23	time	2.58	3.64	4.64	5.62	6.61	7.63	8.63	9.62	10.63	11.66		13.07	8 / 2				
reaction time	0.169	interval	7 steps	1.06	1.00	0.98	0.99	1.02	1.00	0.99	1.01	1.03	1.41			3.04	3.01	3.03	
wind	0.0 m/s	velocity	5.32	8.62	9.14	9.33	9.23	8.96	9.14	9.23	9.05	8.87	9.94	8.42		9.02	9.11	9.05	

Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.52	3.55	4.55	5.53	6.56	7.56	8.60	9.63	10.66	11.73		13.18	5 / 2				
reaction time	0.138	interval	7 steps	1.03	1.00	0.98	1.03	1.00	1.04	1.03	1.03	1.07	1.45			3.01	3.07	3.13	
wind	-0.1 m/s	velocity	5.44	8.87	9.14	9.33	8.87	9.14	8.79	8.87	8.87	8.54	9.67	8.35		9.11	8.93	8.76	

Heat 1 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.58	3.63	4.63	5.65	6.63	7.66	8.70	9.73	10.77	11.80		13.30	3 / 1				
reaction time	0.195	interval	7 steps	1.05	1.00	1.02	0.98	1.03	1.04	1.03	1.04	1.03	1.50			3.07	3.05	3.10	
wind	-0.3 m/s	velocity	5.32	8.70	9.14	8.96	9.33	8.87	8.79	8.87	8.79	8.87	9.35	8.27		8.93	8.99	8.85	

FINAL - 2023 London Athletics Meet (London, GBR) *Omega Timing (2023) - diamond league race analysis*

date	23-Jul-23	time	2.41	3.45	4.44	5.43	6.44	7.45	8.46	9.49	10.56	11.63		13.26	4 / 4				
reaction time	0.135	interval	7 steps	1.04	0.99	0.99	1.01	1.01	1.01	1.03	1.07	1.07	1.63			3.02	3.03	3.17	
wind	1.3 m/s	velocity	5.69	8.79	9.23	9.23	9.05	9.05	9.05	8.87	8.54	8.54	8.60	8.30		9.08	9.05	8.65	

FINAL - 2023 Jamaican National Championships (Kingston, JAM) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	09-Jul-23	time	2.53	3.58	4.60	5.58	6.56	7.56	8.54	9.56	10.58	11.62		13.12	4 / 2				
reaction time		interval	7 steps	1.05	1.02	0.98	0.98	1.00	0.98	1.02	1.02	1.04	1.50			3.05	2.96	3.08	
wind	0.7 m/s	velocity	5.42	8.70	8.96	9.33	9.33	9.14	9.33	8.96	8.96	8.79	9.35	8.38		8.99	9.26	8.90	

FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) *Omega Timing (2023) - diamond league race analysis*

date	28-May-23	time	2.48	3.52	4.52	5.53	6.52	7.52	8.53	9.55	10.58	11.65		13.24	4 / 3				
reaction time	0.157	interval	7 steps	1.04	1.00	1.01	0.99	1.00	1.01	1.02	1.03	1.07	1.59			3.05	3.00	3.12	
wind	-1.3 m/s	velocity	5.53	8.79	9.14	9.05	9.23	9.14	9.05	8.96	8.87	8.54	8.82	8.31		8.99	9.14	8.79	

FINAL - 2022 Weltklasse (Zürich, SUI) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	08-Sep-22	time	2.53	3.60	4.64	5.64	6.64	7.64	8.65	9.67	10.71	11.75		13.26	5 / 3				
reaction time	0.153	interval	7 steps	1.07	1.04	1.00	1.00	1.00	1.01	1.02	1.04	1.04	1.51			3.11	3.01	3.10	
wind	-1.0 m/s	velocity	5.42	8.54	8.79	9.14	9.14	9.14	9.05	8.96	8.79	8.79	9.28	8.30		8.82	9.11	8.85	

FINAL - 2022 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	26-Aug-22	time	2.60	3.64	4.64	5.64	6.64	7.64	8.64	9.64	10.67	11.71		13.13	4 / 4				
reaction time	0.151	interval	7 steps	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.03	1.04	1.42			3.04	3.00	3.07	
wind	0.0 m/s	velocity	5.28	8.79	9.14	9.14	9.14	9.14	9.14	9.14	8.87	8.79	9.87	8.38		9.02	9.14	8.93	

FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	10-Aug-22	time	2.50	3.53	4.53	5.53	6.53	7.53	8.53	9.56	10.56	11.60		13.08	5 / 3				
reaction time	0.128	interval	7 steps	1.03	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.04	1.48			3.03	3.00	3.07	
wind	0.6 m/s	velocity	5.49	8.87	9.14	9.14	9.14	9.14	9.14	8.87	9.14	8.79	9.47	8.41		9.05	9.14	8.93	

Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	17-Jul-22	time	2.57	3.60	4.60	5.57	6.53	7.55	8.53	9.53	10.55	11.58		13.02	3 / 1				
reaction time	0.128	interval	7 steps	1.03	1.00	0.97	0.96	1.02	0.98	1.00	1.02	1.03	1.44			3.00	2.96	3.05	
wind	2.5 m/s	velocity	5.34	8.87	9.14	9.42	9.52	8.96	9.33	9.14	8.96	8.87	9.74	8.45		9.14	9.26	8.99	

Heat 4 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.53	3.56	4.63	5.63	6.66	7.66	8.66	9.66	10.66	11.70		13.17	4 / 1				
reaction time	0.153	interval	7 steps	1.03	1.07	1.00	1.03	1.00	1.00	1.00	1.00	1.04	1.47			3.10	3.03	3.04	
wind	0.2 m/s	velocity	5.42	8.87	8.54	9.14	8.87	9.14	9.14	9.14	9.14	8.79	9.54	8.35		8.85	9.05	9.02	

FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	21-May-22	time	2.47	3.50	4.50	5.49	6.47	7.45	8.45	9.45	10.49	11.53		13.09	4 / 1				
reaction time	0.143	interval	7 steps	1.03	1.00	0.99	0.98	0.98	1.00	1.00	1.04	1.04	1.56			3.02	2.96	3.08	
wind	0.7 m/s	velocity	5.55	8.87	9.14	9.23	9.33	9.33	9.14	9.14	8.79	8.79	8.99	8.40		9.08	9.26	8.90	

FINAL - 2021 Boris Hanžeković Memorial (Zagreb, CRO) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	14-Sep-21	time	2.50	3.55	4.55	5.54	6.53	7.52	8.53	9.54	10.56	11.63		13.12	6 / 3				
reaction time	0.141	interval	7 steps	1.05	1.00	0.99	0.99	0.99	1.01	1.01	1.02	1.07	1.49			3.04	2.99	3.10	
wind	0.7 m/s	velocity	5.49	8.70	9.14	9.23	9.23	9.23	9.05	9.05	8.96	8.54	9.41	8.38		9.02	9.17	8.85	

FINAL - 2021 Weltklasse (Zürich, SUI) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	09-Sep-21	time	2.50	3.52	4.54	5.52	6.54	7.54	8.54	9.56	10.60	11.68		13.17	5 / 3				
reaction time	0.132	interval	7 steps	1.02	1.02	0.98	1.02	1.00	1.00	1.02	1.04	1.08	1.49			3.02	3.02	3.14	
wind	0.6 m/s	velocity	5.49	8.96	8.96	9.33	8.96	9.14	9.14	8.96	8.79	8.46	9.41	8.35		9.08	9.08	8.73	

FINAL - 2021 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	28-Aug-21	time	2.46	3.48	4.48	5.48	6.46	7.46	8.44	9.46	10.50	11.54		13.03	6 / 1			
reaction time	0.138	interval	7 steps	1.02	1.00	1.00	0.98	1.00	0.98	1.02	1.04	1.04	1.49			3.02	2.96	3.10
wind	0.7 m/s	velocity	5.58	8.96	9.14	9.14	9.33	9.14	9.33	8.96	8.79	8.79	9.41	8.44		9.08	9.26	8.85

FINAL - 2021 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Aug-21	time	2.52	3.52	4.54	5.52	6.54	7.54	8.56	9.56	10.66	11.76		13.58	6 / 8			
reaction time	0.133	interval	7 steps	1.00	1.02	0.98	1.02	1.00	1.02	1.00	1.10	1.10	1.82			3.00	3.04	3.20
wind	2.5 m/s	velocity	5.44	9.14	8.96	9.33	8.96	9.14	8.96	9.14	8.31	8.31	7.70	8.10		9.14	9.02	8.57

FINAL - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	06-Aug-21	time	2.50	3.54	4.56	5.54	6.52	7.50	8.50	9.54	10.56	11.58		13.04	7 / 1			
reaction time	0.130	interval	7 steps	1.04	1.02	0.98	0.98	0.98	1.00	1.04	1.02	1.02	1.46			3.04	2.96	3.08
wind	-0.5 m/s	velocity	5.49	8.79	8.96	9.33	9.33	9.33	9.14	8.79	8.96	8.96	9.60	8.44		9.02	9.26	8.90

Semi-Final 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.61	3.64	4.64	5.64	6.64	7.62	8.61	9.68	10.69	11.73		13.23	6 / 2			
reaction time	0.145	interval	7 steps	1.03	1.00	1.00	1.00	0.98	0.99	1.07	1.01	1.04	1.50			3.03	2.97	3.12
wind	-0.1 m/s	velocity	5.26	8.87	9.14	9.14	9.14	9.33	9.23	8.54	9.05	8.79	9.35	8.31		9.05	9.23	8.79

Heat 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.51	3.56	4.59	5.59	6.59	7.59	8.61	9.63	10.64	11.70		13.23	7 / 2			
reaction time	0.155	interval	7 steps	1.05	1.03	1.00	1.00	1.00	1.02	1.02	1.01	1.06	1.53			3.08	3.02	3.09
wind	-0.1 m/s	velocity	5.47	8.70	8.87	9.14	9.14	9.14	8.96	8.96	9.05	8.62	9.16	8.31		8.90	9.08	8.87

FINAL - 2018 AG Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	31-Aug-18	time	2.56	3.62	4.66	5.66	6.70	7.72	8.74	9.78	10.82	11.86		13.35	7 / 3			
reaction time	0.152	interval	7 steps	1.06	1.04	1.00	1.04	1.02	1.02	1.04	1.04	1.04	1.49			3.10	3.08	3.12
wind	-0.1 m/s	velocity	5.36	8.62	8.79	9.14	8.79	8.96	8.96	8.79	8.79	8.79	9.41	8.24		8.85	8.90	8.79

FINAL - 2018 Herculis Meeting International d'Athletisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	20-Jul-18	time	2.52	3.56	4.58	5.58	6.58	7.58	8.60	9.62	10.66	11.70		13.21	3 / 4			
reaction time	0.155	interval	7 steps	1.04	1.02	1.00	1.00	1.00	1.02	1.02	1.04	1.04	1.51			3.06	3.02	3.10
wind	-0.2 m/s	velocity	5.44	8.79	8.96	9.14	9.14	9.14	8.96	8.96	8.79	8.79	9.28	8.33		8.96	9.08	8.85

FINAL - 2018 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	30-Jun-18	time	2.54	3.58	4.62	5.62	6.62	7.62	8.62	9.66	10.66	11.74		13.22	6 / 2			
reaction time	0.160	interval	7 steps	1.04	1.04	1.00	1.00	1.00	1.00	1.04	1.00	1.08	1.48			3.08	3.00	3.12
wind	1.5 m/s	velocity	5.40	8.79	8.79	9.14	9.14	9.14	9.14	8.79	9.14	8.46	9.47	8.32		8.90	9.14	8.79

FINAL - 2018 Shanghai Diamond League (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	12-May-18	time	2.58	3.64	4.68	5.70	6.74	7.74	8.78	9.82	10.86	11.94		13.48	2 / 5			
reaction time	0.137	interval	7 steps	1.06	1.04	1.02	1.04	1.00	1.04	1.04	1.04	1.08	1.54			3.12	3.08	3.16
wind	0.2 m/s	velocity	5.32	8.62	8.79	8.96	8.79	9.14	8.79	8.79	8.79	8.46	9.10	8.16		8.79	8.90	8.68

FINAL - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	07-Aug-17	time	2.51	3.58	4.62	5.65	6.68	7.67	8.69	9.69	10.76	11.82		13.37	8 / 8			
reaction time	0.145	interval	7 steps	1.07	1.04	1.03	1.03	0.99	1.02	1.00	1.07	1.06	1.55			3.14	3.04	3.13
wind	0.0 m/s	velocity	5.47	8.54	8.79	8.87	8.87	9.23	8.96	9.14	8.54	8.62	9.05	8.23		8.73	9.02	8.76

Semi-Final 2 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.48	3.56	4.58	5.61	6.63	7.61	8.63	9.66	10.68	11.73		13.27	7 / 2			
reaction time	0.181	interval	7 steps	1.08	1.02	1.03	1.02	0.98	1.02	1.03	1.02	1.05	1.54			3.13	3.02	3.10
wind	0.6 m/s	velocity	5.53	8.46	8.96	8.87	8.96	9.33	8.96	8.87	8.96	8.70	9.10	8.29		8.76	9.08	8.85

FINAL - 2017 Jamaican National Championships (Kingston, JAM) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	24-Jun-17	time	2.50	3.55	4.57	5.57	6.57	7.57	8.57	9.57	10.60	11.63		13.19	8 / 3			
reaction time		interval	7 steps	1.05	1.02	1.00	1.00	1.00	1.00	1.00	1.03	1.03	1.56			3.07	3.00	3.06
wind	0.7 m/s	velocity	5.49	8.70	8.96	9.14	9.14	9.14	9.14	9.14	8.87	8.87	8.99	8.34		8.93	9.14	8.96

FINAL - 2017 Shanghai Diamond League (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	13-May-17	time	2.54	3.58	4.58	5.60	6.62	7.62	8.66	9.70	10.76	11.82		13.35	3 / 4			
reaction time	0.143	interval	7 steps	1.04	1.00	1.02	1.02	1.00	1.04	1.04	1.06	1.06	1.53			3.06	3.06	3.16
wind	0.5 m/s	velocity	5.40	8.79	9.14	8.96	8.96	9.14	8.79	8.79	8.62	8.62	9.16	8.24		8.96	8.96	8.68

FINAL - 2016 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	28-May-16	time	2.52	3.58	4.60	5.60	6.60	7.60	8.60	9.64	10.72	11.88		13.58	2 / 8			
reaction time		interval	7 steps	1.06	1.02	1.00	1.00	1.00	1.00	1.04	1.08	1.16	1.70			3.08	3.00	3.28
wind	0.7 m/s	velocity	5.44	8.62	8.96	9.14	9.14	9.14	9.14	8.79	8.46	7.88	8.25	8.10		8.90	9.14	8.36

FINAL - 2016 Shanghai Golden Grand Prix (Shanghai, CHN) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	14-May-16	time	2.50	3.54	4.58	5.58	6.58	7.56	8.56	9.56	10.58	11.62		13.12	4 / 2			

reaction time	0.136	interval	7 steps	1.04	1.04	1.00	1.00	0.98	1.00	1.00	1.02	1.04	1.50			3.08	2.98	3.06
wind	1.2 m/s	velocity	5.49	8.79	8.79	9.14	9.14	9.33	9.14	9.14	8.96	8.79	9.35	8.38		8.90	9.20	8.96

FINAL - 2016 Doha Diamond League (Doha, QAT) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	06-May-16	time	2.56	3.62	4.64	5.64	6.64	7.64	8.64	9.64	10.66	11.70		13.10	7 / 2			
reaction time	0.127	interval	7 steps	1.06	1.02	1.00	1.00	1.00	1.00	1.00	1.02	1.04	1.40			3.08	3.00	3.06
wind	1.4 m/s	velocity	5.36	8.62	8.96	9.14	9.14	9.14	9.14	9.14	8.96	8.79	10.01	8.40		8.90	9.14	8.96

FINAL - 2015 IAAF World Championships (Beijing, CHN) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	28-Aug-15	time	2.54	3.58	4.60	5.58	6.58	7.56	8.56	9.56	10.56	11.62		13.03	8 / 2			
reaction time	0.143	interval	7 steps	1.04	1.02	0.98	1.00	0.98	1.00	1.00	1.00	1.06	1.41			3.04	2.98	3.06
wind	0.2 m/s	velocity	5.40	8.79	8.96	9.33	9.14	9.33	9.14	9.14	9.14	8.62	9.94	8.44		9.02	9.20	8.96

FINAL - 2012 Memorial Van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	07-Sep-12	time	2.56	3.62	4.62	5.60	6.60	7.58	8.58	9.60	10.62	11.66		13.14	4 / 3			
reaction time	0.157	interval	7 steps	1.06	1.00	0.98	1.00	0.98	1.00	1.02	1.02	1.04	1.48			3.04	2.98	3.08
wind	0.3 m/s	velocity	5.36	8.62	9.14	9.33	9.14	9.33	9.14	8.96	8.96	8.79	9.47	8.37		9.02	9.20	8.90

FINAL - 2012 AVIVA Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	26-Aug-12	time	2.54	3.63	4.75	5.85	6.97	8.00	9.05	10.12	11.16	12.22		13.76	5 / 8			
reaction time	0.155	interval	7 steps	1.09	1.12	1.10	1.12	1.03	1.05	1.07	1.04	1.06	1.54			3.31	3.20	3.17
wind	-0.9 m/s	velocity	5.40	8.39	8.16	8.31	8.16	8.87	8.70	8.54	8.79	8.62	9.10	7.99		8.28	8.57	8.65

FINAL - 2012 Olympic Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	08-Aug-12	time	2.56	3.62	4.62	5.62	6.62	7.62	8.62	9.62	10.64	11.68		13.12	7 / 3			
reaction time	0.172	interval	7 steps	1.06	1.00	1.00	1.00	1.00	1.00	1.00	1.02	1.04	1.44	NR		3.06	3.00	3.06
wind	-0.3 m/s	velocity	5.36	8.62	9.14	9.14	9.14	9.14	9.14	9.14	8.96	8.79	9.74	8.38		8.96	9.14	8.96

Semi-Final 3 - 2012 Olympic Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	08-Aug-12	time	2.54	3.58	4.62	5.62	6.62	7.62	8.62	9.62	10.64	11.66		13.14	5 / 2			
reaction time	0.172	interval	7 steps	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.02	1.02	1.48	NR		3.08	3.00	3.04
wind	0.1 m/s	velocity	5.40	8.79	8.79	9.14	9.14	9.14	9.14	9.14	8.96	8.96	9.47	8.37		8.90	9.14	9.02

Park Tae-Kyong (KOR) (1980)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2009 Mikio Oda Memorial (Hiroshima, JPN) *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*

date	29-Apr-09	time	2.64	3.71	4.77	5.84	6.89	7.96	9.08	10.13	11.23	12.33		13.77	/ 4			
reaction time		interval		1.07	1.06	1.07	1.05	1.07	1.12	1.05	1.10	1.10	1.44			3.20	3.24	3.25
wind	1.9 m/s	velocity	5.20	8.54	8.62	8.54	8.70	8.54	8.16	8.70	8.31	8.31	9.74	7.99		8.57	8.46	8.44

Heat 1 - 2009 Mikio Oda Memorial (Hiroshima, JPN) *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*

date	29-Apr-09	time	2.45	3.54	4.61	5.68	6.74	7.82	8.93	10.03	11.13	12.23		13.87	/ 1			
reaction time		interval		1.09	1.07	1.07	1.06	1.08	1.11	1.10	1.10	1.10	1.64			3.23	3.25	3.30
wind	0.6 m/s	velocity	5.60	8.39	8.54	8.54	8.62	8.46	8.23	8.31	8.31	8.31	8.55	7.93		8.49	8.44	8.31

Pascoe, Alan (GBR) (1947)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 1972 Olympic Games (Munich, GER) *Letzelter (1977) - Hurdensprint: geschwindigkeitsverlauf und spezielle eigenschaften*

date	03-Sep-72	time	2.5			5.8								14.08	3 / 3			
reaction time		interval				3.26										3.26		
wind	-1.6 m/s	velocity	5.51			8.41								7.81		8.41		

Patterson, Kentre (USA) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2022 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	10-Jun-22	time	2.50	3.55	4.60	5.60	6.64	7.67	8.72	9.78	10.84	11.91		13.46	9 / 6			
reaction time		interval		1.05	1.05	1.00	1.04	1.03	1.05	1.06	1.06	1.07	1.55			3.10	3.12	3.19
wind	0.0 m/s	velocity	5.49	8.70	8.70	9.14	8.79	8.87	8.70	8.62	8.62	8.54	9.05	8.17		8.85	8.79	8.60

Pavelka, Lukáš (CZE) (1990)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2013 Czech Republic National Championships (Tábor, CZE) *Feher (2013) - Final report from the men's & women's Czech Republic national championships*

date	15-Jun-13	time	2.92	4.12	5.33	6.55	7.78	9.05	10.31	11.55	12.89	14.20		15.95	7 / 6			
reaction time	0.207	interval		1.20	1.21	1.22	1.23	1.27	1.26	1.24	1.34	1.31	1.75			3.63	3.76	3.89
wind	-0.3 m/s	velocity	4.70	7.62	7.55	7.49	7.43	7.20	7.25	7.37	6.82	6.98	8.01	6.90		7.55	7.29	7.05

Paviowicz, Piotr (POL)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final ? - 1986 French National Indoor Championships (Lievin, FRA) *Aubert (1986) - indoor - video - haies, etude des performances*

date	26-Jan-86	time	2.68	3.79	4.89	5.97	7.10							8.00	/ 1			
reaction time		interval		1.11	1.10	1.08	1.13						0.90			3.29		
		velocity	5.12	8.23	8.31	8.46	8.09						10.80	7.50		8.33		

Heat ? - 1986 French National Indoor Championships (Lievin, FRA) *Aubert (1986) - indoor - video - haies, etude des performances*

date	25-Jan-86	time	2.75	3.88	5.00	6.08	7.20							8.06	/ 1			
reaction time		interval		1.13	1.12	1.08	1.12						0.86			3.33		
		velocity	4.99	8.09	8.16	8.46	8.16						11.30	7.44		8.23		

Payne, David (USA) (1982)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2009 IAAF World Championships (Berlin, GER)															*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date	20-Aug-09	time	2.54	3.58	4.61	5.61	6.62	7.64	8.66	9.69	10.74	11.78		13.15	3 / 3			
reaction time	0.122	interval		1.04	1.03	1.00	1.01	1.02	1.02	1.03	1.05	1.04	1.37			3.07	3.05	3.12
wind	0.1 m/s	velocity	5.40	8.79	8.87	9.14	9.05	8.96	8.96	8.87	8.70	8.79	10.23	8.37		8.93	8.99	8.79
Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)															*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date	20-Aug-09	time	2.60	3.65	4.68	5.69	6.71	7.75	8.78	9.80	10.83	11.89		13.24	7 / 2			
reaction time	0.151	interval		1.05	1.03	1.01	1.02	1.04	1.03	1.02	1.03	1.06	1.35			3.09	3.09	3.11
wind	0.6 m/s	velocity	5.28	8.70	8.87	9.05	8.96	8.79	8.87	8.96	8.87	8.62	10.39	8.31		8.87	8.87	8.82
Heat 6 - 2009 IAAF World Championships (Berlin, GER)															*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date	19-Aug-09	time	2.61	3.69	4.75	5.77	6.80	7.85	8.89	9.93	10.99	12.05		13.54	6 / 3			
reaction time	0.150	interval		1.08	1.06	1.02	1.03	1.05	1.04	1.04	1.06	1.06	1.49			3.16	3.12	3.16
wind	0.1 m/s	velocity	5.26	8.46	8.62	8.96	8.87	8.70	8.79	8.79	8.62	8.62	9.41	8.12		8.68	8.79	8.68
FINAL - 2009 ISTAF (Berlin, GER)															*Graubner (2009) - http://www.fgs.uni-halle.de*			
date	14-Jun-09	time	2.59	3.63	4.66	5.68	6.69	7.71	8.74	9.78	10.83	11.87		13.22	3 / 3			
reaction time	0.181	interval		1.04	1.03	1.02	1.01	1.02	1.03	1.04	1.05	1.04	1.35			3.09	3.06	3.13
wind	0.7 m/s	velocity	5.30	8.79	8.87	8.96	9.05	8.96	8.87	8.79	8.70	8.79	10.39	8.32		8.87	8.96	8.76
FINAL - 2008 Olympic Games (Beijing, CHN)															*Tsiokanos (2018) - race pattern of men's 110m hurdles- time analysis of olympic hurdle performance*			
date	21-Aug-08	time	2.58	3.62	4.64	5.65	6.68	7.67	8.69	9.73	10.76	11.80		13.17	5 / 2			
reaction time	0.175	interval		1.04	1.02	1.01	1.03	0.99	1.02	1.04	1.03	1.04	1.37			3.07	3.04	3.11
wind	0.1 m/s	velocity	5.32	8.79	8.96	9.05	8.87	9.23	8.96	8.79	8.87	8.79	10.23	8.35		8.93	9.02	8.82
FINAL - 2008 USA Olympic Trials (Eugene, OR)															*USATF Hurdle Development (2008)*			
date	06-Jul-08	time	2.55	3.64	4.65	5.69	6.71	7.72	8.74	9.75	10.79	11.86		13.25	5 / 3			
reaction time	0.161	interval		1.09	1.01	1.04	1.02	1.01	1.02	1.01	1.04	1.07	1.39			3.14	3.05	3.12
wind	3.5 m/s	velocity	5.38	8.39	9.05	8.79	8.96	9.05	8.96	9.05	8.79	8.54	10.09	8.30		8.73	8.99	8.79
FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER)															*Graubner (2007) - http://www.fgs.uni-halle.de*			
date	23-Sep-07	time	2.57	3.61	4.64	5.65	6.67	7.68	8.69	9.69	10.71	11.74		13.08	5 / 2			
reaction time	0.146	interval		1.04	1.03	1.01	1.02	1.01	1.01	1.00	1.02	1.03	1.34			3.08	3.04	3.05
wind	0.0 m/s	velocity	5.34	8.79	8.87	9.05	8.96	9.05	9.05	9.14	8.96	8.87	10.46	8.41		8.90	9.02	8.99
FINAL - 2007 IAAF World Championships (Osaka, JPN)															*Ae (2008) - IAAF biomechanics team - a booklet of biomechanics data*			
date	31-Aug-07	time	2.52	3.55	4.57	5.58	6.60	7.60	8.62	9.62	10.63	11.67		13.02	7 / 3			
reaction time	0.141	interval		1.03	1.02	1.01	1.02	1.00	1.02	1.00	1.01	1.04	1.35	**PB**		3.06	3.04	3.05
wind	1.7 m/s	velocity	5.44	8.87	8.96	9.05	8.96	9.14	8.96	9.14	9.05	8.79	10.39	8.45		8.96	9.02	8.99
Semi-Final 1 - 2007 IAAF World Championships (Osaka, JPN)															*Shibayama (2008) - analysis of racing patterns in the men's 110m & women's 100m sprint hurdles*			
date	30-Aug-07	time	2.61	3.66	4.68	5.68	6.68	7.68	8.71	9.73	10.76	11.83		13.19	7 / 1			
reaction time	0.166	interval		1.05	1.02	1.00	1.00	1.00	1.03	1.02	1.03	1.07	1.36			3.07	3.03	3.12
wind	-0.4 m/s	velocity	5.26	8.70	8.96	9.14	9.14	9.14	8.87	8.96	8.87	8.54	10.31	8.34		8.93	9.05	8.79
Heat 5 - 2007 IAAF World Championships (Osaka, JPN)															*Shibayama (2008) - analysis of racing patterns in the men's 110m & women's 100m sprint hurdles*			
date	29-Aug-07	time	2.62	3.69	4.71	5.71	6.73	7.75	8.77	9.80	10.83	11.86		13.27	3 / 2			
reaction time	0.163	interval		1.07	1.02	1.00	1.02	1.02	1.02	1.03	1.03	1.03	1.41			3.09	3.06	3.09
wind	0.6 m/s	velocity	5.24	8.54	8.96	9.14	8.96	8.96	8.96	8.87	8.87	8.87	9.94	8.29		8.87	8.96	8.87
FINAL - 2007 USATF National Championships (Indianapolis, IN)															*USATF Men's Hurdle Development (2007)*			
date	24-Jun-07	time	2.59	3.65	4.65	5.69	6.71	7.72	8.74	9.76	10.81	11.86		13.22	4 / 4			
reaction time		interval		1.06	1.00	1.04	1.02	1.01	1.02	1.02	1.05	1.05	1.36			3.10	3.05	3.12
wind	0.5 m/s	velocity	5.30	8.62	9.14	8.79	8.96	9.05	8.96	8.96	8.70	8.70	10.31	8.32		8.85	8.99	8.79
Semi-Final 1 - 2007 USATF National Championships (Indianapolis, IN)															*USATF Men's Hurdle Development (2007)*			
date	24-Jun-07	time	2.57	3.64	4.65	5.69	6.69	7.72	8.76	9.78	10.82	11.88		13.28	4 / 1			
reaction time		interval		1.07	1.01	1.04	1.00	1.03	1.04	1.02	1.04	1.06	1.40			3.12	3.07	3.12
wind	-0.6 m/s	velocity	5.34	8.54	9.05	8.79	9.14	8.87	8.79	8.96	8.79	8.62	10.01	8.28		8.79	8.93	8.79
Heat 1 - 2007 USATF National Championships (Indianapolis, IN)															*USATF Men's Hurdle Development (2007)*			
date	23-Jun-07	time	2.59	3.65	4.70	5.72	6.73	7.76	8.78	9.83	10.88	11.95		13.43	8 / 1			
reaction time		interval		1.06	1.05	1.02	1.01	1.03	1.02	1.05	1.05	1.07	1.48			3.13	3.06	3.17
wind	0.1 m/s	velocity	5.30	8.62	8.70	8.96	9.05	8.87	8.96	8.70	8.70	8.54	9.47	8.19		8.76	8.96	8.65
FINAL - 2006 USATF National Championships (Indianapolis, IN)															*USATF Men's Hurdle Development (2006)*			
date	25-Jun-06	time	2.59	3.67	4.69	5.72	6.72	7.76	8.78	9.84	10.93	12.01		13.42	/ 5			
reaction time		interval		1.08	1.02	1.03	1.00	1.04	1.02	1.06	1.09	1.08	1.41			3.13	3.06	3.23
wind	-0.4 m/s	velocity	5.30	8.46	8.96	8.87	9.14	8.79	8.96	8.62	8.39	8.46	9.94	8.20		8.76	8.96	8.49
FINAL - 2005 USATF National Championships (Carson, CA)															*USATF Women's Sprint Development (2005)*			
date	24-Jun-05	time	2.62	3.67	4.71	5.73	6.76	7.81	8.83	9.84	10.90	11.91		13.33	7 / 5			

reaction time		interval		1.05	1.04	1.02	1.03	1.05	1.02	1.01	1.06	1.01	1.42	PB		3.11	3.10	3.08
wind	0.2 m/s	velocity	5.24	8.70	8.79	8.96	8.87	8.70	8.96	9.05	8.62	9.05	9.87	8.25		8.82	8.85	8.90

Pechonkin, Yevgeniy (RUS) (1973)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2001 European Cup (Bremen, GER)															*Graubner (2009) - http://www.fgs.uni-halle.de*			
date	24-Jun-01	time	2.61	3.66	4.68	5.69	6.71	7.76	8.79	9.83	10.90	11.98		13.38	8 / 1			
reaction time	0.128	interval		1.05	1.02	1.01	1.02	1.05	1.03	1.04	1.07	1.08	1.40			3.08	3.10	3.19
wind	1.3 m/s	velocity	5.26	8.70	8.96	9.05	8.96	8.70	8.87	8.79	8.54	8.46	10.01	8.22		8.90	8.85	8.60

Pedre, Theo (FRA) (2005)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 2 - 2025 European Athletics Indoor Championships (Apeldoorn, NED)															*European Athletics (2025) - european athletics indoor championships results book*			
date	07-Mar-25	time	2.43	3.50	4.52	5.53	6.55							7.60	4 / 5			
reaction time	0.133	interval	7 steps	1.07	1.02	1.01	1.02						1.05	PB		3.10		
		velocity	5.65	8.54	8.96	9.05	8.96						9.26	7.89		8.85		

Pedriks, Keiso (EST) (1994)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2021 Boris Hanžeković Memorial (Zagreb, CRO) (TV Analysis)															*Henson (2021) - Athlete First: 2021 year end hurdle report*			
date	14-Sep-21	time	2.63	3.68	4.73	5.78	6.81	7.83	8.86	9.93				13.63	8 / 6			
reaction time	0.182	interval	7 steps	1.05	1.05	1.05	1.03	1.02	1.03	1.07				PB		3.15	3.08	
wind	0.7 m/s	velocity	5.22	8.70	8.70	8.70	8.87	8.96	8.87	8.54				8.07		8.70	8.90	

Penáz, Petr (CZE) (1991)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2014 Czech Republic National Championships (Ostrava, CZE)															*Feher (2014) - Final report from the Czech Republic national championships*			
date	02-Aug-14	time	2.77	3.90	5.02	6.10	7.20	8.38	9.55	10.70	11.87	13.05		14.87	5 / 4			
reaction time	0.172	interval		1.13	1.12	1.08	1.10	1.18	1.17	1.15	1.17	1.18	1.82			3.33	3.45	3.50
wind	-1.2 m/s	velocity	4.95	8.09	8.16	8.46	8.31	7.75	7.81	7.95	7.81	7.75	7.70	7.40		8.23	7.95	7.83
Heat 2 - 2014 Czech Republic National Championships (Ostrava, CZE)															*Feher (2014) - Final report from the Czech Republic national championships*			
date	02-Aug-14	time	2.82	3.93	5.03	6.13	7.21	8.31	9.40	10.49	11.60	12.72		14.21	5 / 1			
reaction time	0.190	interval		1.11	1.10	1.10	1.08	1.10	1.09	1.09	1.11	1.12	1.49			3.31	3.27	3.32
wind	0.8 m/s	velocity	4.87	8.23	8.31	8.31	8.46	8.31	8.39	8.39	8.23	8.16	9.41	7.74		8.28	8.39	8.26
FINAL - 2013 Czech Republic National Championships (Tábor, CZE)															*Feher (2013) - Final report from the men's & women's Czech Republic national championships*			
date	15-Jun-13	time	2.78	3.85	4.93	5.96	7.00	8.04	9.10	10.18	11.25	12.29		13.77	5 / 2			
reaction time	0.202	interval		1.07	1.08	1.03	1.04	1.04	1.06	1.08	1.07	1.04	1.48	PB		3.18	3.14	3.19
wind	0.4 m/s	velocity	4.94	8.54	8.46	8.87	8.79	8.79	8.62	8.46	8.54	8.79	9.47	7.99		8.62	8.73	8.60
Heat 2 - 2013 Czech Republic National Championships (Tábor, CZE)															*Feher (2013) - Final report from the men's & women's Czech Republic national championships*			
date	15-Jun-13	time	2.79	3.90	5.00	6.07	7.13	8.19	9.26	10.35	11.45	12.58		14.08	4 / 1			
reaction time	0.185	interval		1.11	1.10	1.07	1.06	1.06	1.07	1.09	1.10	1.13	1.50			3.28	3.19	3.32
wind	-0.6 m/s	velocity	4.92	8.23	8.31	8.54	8.62	8.62	8.54	8.39	8.31	8.09	9.35	7.81		8.36	8.60	8.26
FINAL - 2012 Czech Republic National Indoor Championships (Praha, CZE)															*Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*			
date	25-Feb-12	time	2.72	3.83	4.90	5.93	7.02							7.99	3 / 3			
reaction time	0.156	interval		1.11	1.07	1.03	1.09						0.97			3.21		
		velocity	5.04	8.23	8.54	8.87	8.39						10.02	7.51		8.54		
Heat 2 - 2012 Czech Republic National Indoor Championships (Praha, CZE)															*Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*			
date	25-Feb-12	time	2.75	3.85	4.92	5.97	7.03							8.01	4 / 1			
reaction time	0.168	interval		1.10	1.07	1.05	1.06						0.98			3.22		
		velocity	4.99	8.31	8.54	8.70	8.62						9.92	7.49		8.52		

Pereira, Rafael (BRA) (1997)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)															*Paris 2024 Olympic Games - Results Book (2024)*			
date	07-Aug-24	time	2.42	3.53	4.60	5.67	6.73	7.79	8.86	9.94	11.04	12.17		13.87	9 / 8			
reaction time	0.148	interval		1.11	1.07	1.07	1.06	1.06	1.07	1.08	1.10	1.13	1.70			3.25	3.19	3.31
wind	-0.1 m/s	velocity	5.67	8.23	8.54	8.54	8.62	8.62	8.54	8.46	8.31	8.09	8.25	7.93		8.44	8.60	8.28
Repechage 2 - 2024 Olympic Games (Paris, FRA)															*Paris 2024 Olympic Games - Results Book (2024)*			
date	06-Aug-24	time	2.43	3.52	4.55	5.60	6.62	7.65	8.69	9.75	10.83	11.94		13.54	3 / 1			
reaction time	0.140	interval		1.09	1.03	1.05	1.02	1.03	1.04	1.06	1.08	1.11	1.60			3.17	3.09	3.25
wind	-0.5 m/s	velocity	5.65	8.39	8.87	8.70	8.96	8.87	8.79	8.62	8.46	8.23	8.76	8.12		8.65	8.87	8.44
Heat 3 - 2024 Olympic Games (Paris, FRA)															*Paris 2024 Olympic Games - Results Book (2024)*			
date	04-Aug-24	time	2.41	3.49	4.55	5.59	6.61	7.63	8.66	9.71	10.77	11.86		13.47	4 / 6			
reaction time	0.142	interval		1.08	1.06	1.04	1.02	1.02	1.03	1.05	1.06	1.09	1.61			3.18	3.07	3.20
wind	1.1 m/s	velocity	5.69	8.46	8.62	8.79	8.96	8.96	8.87	8.70	8.62	8.39	8.71	8.17		8.62	8.93	8.57
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis)															*Henson (2023) - Athlete First: 2023 year end hurdle report*			
date	21-Aug-23	time	2.56	3.60	4.70	5.70	6.74	7.76	8.80	9.86	10.93	12.00		13.52	3 / 8			
reaction time	0.160	interval	7 steps	1.04	1.10	1.00	1.04	1.02	1.04	1.06	1.07	1.07	1.52			3.14	3.10	3.20
wind	-0.1 m/s	velocity	5.36	8.79	8.31	9.14	8.79	8.96	8.79	8.62	8.54	8.54	9.22	8.14		8.73	8.85	8.57

Heat 2 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.58	3.63	4.66	5.66	6.68	7.74	8.78	9.82	10.92	12.02		13.52	4 / 3			
reaction time	0.146	interval		1.05	1.03	1.00	1.02	1.06	1.04	1.04	1.10	1.10	1.50			3.08	3.12	3.24
wind	0.5 m/s	velocity	5.32	8.70	8.87	9.14	8.96	8.62	8.79	8.79	8.31	8.31	9.35	8.14		8.90	8.79	8.46

Heat 2 - 2023 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2023) - diamond league race analysis*

date	16-Jul-23	time	2.43	3.52	4.57	5.61	6.66	7.70	8.74	9.78	10.83	11.89		13.50	7 / 5			
reaction time	0.136	interval		1.09	1.05	1.04	1.05	1.04	1.04	1.04	1.05	1.06	1.61			3.18	3.13	3.15
wind	-0.2 m/s	velocity	5.65	8.39	8.70	8.79	8.70	8.79	8.79	8.79	8.70	8.62	8.71	8.15		8.62	8.76	8.70

FINAL - 2023 Athletissima (Lausanne, SUI) *Omega Timing (2023) - diamond league race analysis*

date	30-Jun-23	time	2.43	3.50	4.55	5.58	6.61	7.64	8.69	9.75	10.83	11.92		13.56	2 / 6			
reaction time	0.153	interval		1.07	1.05	1.03	1.03	1.03	1.05	1.06	1.08	1.09	1.64			3.15	3.11	3.23
wind	-1.0 m/s	velocity	5.65	8.54	8.70	8.87	8.87	8.87	8.70	8.62	8.46	8.39	8.55	8.11		8.70	8.82	8.49

Heat 2 - 2023 Meeting de Paris (Paris, FRA) *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.42	3.48	4.52	5.55	6.56	7.61	8.65	9.72	10.81	11.90		13.57	8 / 8			
reaction time	0.149	interval		1.06	1.04	1.03	1.01	1.05	1.04	1.07	1.09	1.09	1.67			3.13	3.10	3.25
wind	-0.6 m/s	velocity	5.67	8.62	8.79	8.87	9.05	8.70	8.79	8.54	8.39	8.39	8.40	8.11		8.76	8.85	8.44

FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	02-Jun-23	time	2.54	3.58	4.64	5.64	6.66	7.70	8.74	9.82	10.88	11.97		13.47	2 / 7			
reaction time	0.145	interval		1.04	1.06	1.00	1.02	1.04	1.04	1.08	1.06	1.09	1.50			3.10	3.10	3.23
wind	-0.2 m/s	velocity	5.40	8.79	8.62	9.14	8.96	8.79	8.79	8.46	8.62	8.39	9.35	8.17		8.85	8.85	8.49

FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) *Omega Timing (2023) - diamond league race analysis*

date	28-May-23	time	2.43	3.52	4.57	5.62	6.66	7.70	8.77	9.82	10.90	12.01		13.68	8 / 6			
reaction time	0.165	interval		1.09	1.05	1.05	1.04	1.04	1.07	1.05	1.08	1.11	1.67			3.19	3.15	3.24
wind	-1.3 m/s	velocity	5.65	8.39	8.70	8.70	8.79	8.79	8.54	8.70	8.46	8.23	8.40	8.04		8.60	8.70	8.46

FINAL - 2022 Weltklasse (Zürich, SUI) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	08-Sep-22	time	2.50	3.55	4.57	5.60	6.61	7.64	8.65	9.81	11.01	12.12		13.73	8 / 9			
reaction time	0.130	interval		1.05	1.02	1.03	1.01	1.03	1.01	1.16	1.20	1.11	1.61			3.10	3.05	3.47
wind	-1.0 m/s	velocity	5.49	8.70	8.96	8.87	9.05	8.87	9.05	7.88	7.62	8.23	8.71	8.01		8.85	8.99	7.90

FINAL - 2022 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	26-Aug-22	time	2.57	3.60	4.67	5.67	6.71	7.74	8.81	9.88	10.95	12.03		13.49	1 / 5			
reaction time	0.140	interval		1.03	1.07	1.00	1.04	1.03	1.07	1.07	1.07	1.08	1.46			3.10	3.14	3.22
wind	0.0 m/s	velocity	5.34	8.87	8.54	9.14	8.79	8.87	8.54	8.54	8.54	8.46	9.60	8.15		8.85	8.73	8.52

Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.50	3.63	4.66	5.70	6.70	7.76	8.80	9.83	10.87	11.96		13.46	4 / 4			
reaction time	0.125	interval		1.13	1.03	1.04	1.00	1.06	1.04	1.03	1.04	1.09	1.50			3.20	3.10	3.16
wind	-0.6 m/s	velocity	5.49	8.09	8.87	8.79	9.14	8.62	8.79	8.87	8.79	8.39	9.35	8.17		8.57	8.85	8.68

Heat 4 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.50	3.56	4.63	5.63	6.63	7.63	8.66	9.66	10.70	11.76		13.23	6 / 2			
reaction time	0.140	interval		1.06	1.07	1.00	1.00	1.00	1.03	1.00	1.04	1.06	1.47			3.13	3.03	3.10
wind	0.2 m/s	velocity	5.49	8.62	8.54	9.14	9.14	9.14	8.87	9.14	8.79	8.62	9.54	8.31		8.76	9.05	8.85

FINAL - 2022 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	18-Jun-22	time	2.50	3.54	4.56	5.56	6.58	7.58	8.60	9.62	10.68	11.76		13.25	4 / 2			
reaction time	0.141	interval		1.04	1.02	1.00	1.02	1.00	1.02	1.02	1.06	1.08	1.49	**=PB**		3.06	3.04	3.16
wind	-0.2 m/s	velocity	5.49	8.79	8.96	9.14	8.96	9.14	8.96	8.96	8.62	8.46	9.41	8.30		8.96	9.02	8.68

FINAL - 2022 Bislett Games (Oslo, NOR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jun-22	time	2.48	3.54	4.58	5.62	6.62	7.66	8.68	9.74	10.78	11.86		13.37	3 / 3			
reaction time	0.137	interval		1.06	1.04	1.04	1.00	1.04	1.02	1.06	1.04	1.08	1.51			3.14	3.06	3.18
wind	-1.2 m/s	velocity	5.53	8.62	8.79	8.79	9.14	8.79	8.96	8.62	8.79	8.46	9.28	8.23		8.73	8.96	8.62

Semi-Final 1 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.50	3.53	4.56	5.60	6.63							7.58	3 / 4			
reaction time	0.141	interval		1.03	1.03	1.04	1.03						0.95	**=NR =PB**		3.10		
		velocity	5.49	8.87	8.87	8.79	8.87						10.23	7.92		8.85		

Heat 2 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.49	3.53	4.56	5.58	6.65							7.60	5 / 1			
reaction time	0.130	interval		1.04	1.03	1.02	1.07						0.95			3.09		
		velocity	5.51	8.79	8.87	8.96	8.54						10.23	7.89		8.87		

Semi-Final 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.61	3.64	4.69	5.72	6.78	7.82	8.89	9.94	11.04	12.14		13.62	5 / 6			
reaction time	0.154	interval		1.03	1.05	1.03	1.06	1.04	1.07	1.05	1.10	1.10	1.48			3.11	3.17	3.25

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

wind	-0.1 m/s	velocity	5.26	8.87	8.70	8.87	8.62	8.79	8.54	8.70	8.31	8.31	9.47	8.08		8.82	8.65	8.44

Heat 4 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.53	3.57	4.60	5.63	6.68	7.73	8.73	9.81	10.91	12.01		13.46	4 / 3			
reaction time	0.145	interval		1.04	1.03	1.03	1.05	1.05	1.00	1.08	1.10	1.10	1.45			3.10	3.10	3.28
wind	-0.2 m/s	velocity	5.42	8.79	8.87	8.87	8.70	8.70	9.14	8.46	8.31	8.31	9.67	8.17		8.85	8.85	8.36

Peremota, Igor (RUS) (1981)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2007 European Cup (Munich, GER) *Graubner (2007) - http://www.fgs.uni-halle.de*

date	24-Jun-07	time	2.61	3.63	4.67	5.69	6.73	7.77	8.83	9.93	11.03	12.15		13.61	/ 4			
reaction time	0.132	interval		1.02	1.04	1.02	1.04	1.04	1.06	1.10	1.10	1.12	1.46			3.08	3.14	3.32
wind	0.4 m/s	velocity	5.26	8.96	8.79	8.96	8.79	8.79	8.62	8.31	8.31	8.16	9.60	8.08		8.90	8.73	8.26

Pérez, Eduardo (ESP) (1970)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1998 Spanish National Championships (San Sebastián, ESP) *Ruiz (1998) - campeonato des españa absoluto: análisis de la carreras con villas*

date	02-Aug-98	time	2.69	3.76	4.89	6.03	7.08	8.20	9.32	10.45	11.58	12.78		14.33	1 / 4			
reaction time		interval		1.07	1.13	1.14	1.05	1.12	1.12	1.13	1.13	1.20	1.55			3.34	3.29	3.46
wind	0.1 m/s	velocity	5.10	8.54	8.09	8.02	8.70	8.16	8.16	8.09	8.09	7.62	9.05	7.68		8.21	8.33	7.92

Perini, Lorenzo (ITA) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 Golden Gala Pietro Mennea (Florence, ITA) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	10-Jun-21	time	2.54	3.60	4.68	5.72	6.76	7.80	8.84	9.90	10.98	12.06		13.63	8 / 6			
reaction time	0.140	interval		1.06	1.08	1.04	1.04	1.04	1.04	1.06	1.08	1.08	1.57			3.18	3.12	3.22
wind	-0.1 m/s	velocity	5.40	8.62	8.46	8.79	8.79	8.79	8.79	8.62	8.46	8.46	8.93	8.07		8.62	8.79	8.52

FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	17-Sep-20	time	2.54	3.62	4.68	5.72	6.78	7.82	8.88	9.94	11.02	12.08		13.61	7 / 6			
reaction time	0.132	interval		1.08	1.06	1.04	1.06	1.04	1.06	1.06	1.08	1.06	1.53			3.18	3.16	3.20
wind	0.1 m/s	velocity	5.40	8.46	8.62	8.79	8.62	8.79	8.62	8.62	8.46	8.62	9.16	8.08		8.62	8.68	8.57

FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	06-Jun-19	time	2.60	3.66	4.72	5.75	6.78	7.83	8.88	9.94	11.00	12.08		13.58	9 / 7			
reaction time	0.161	interval		1.06	1.06	1.03	1.03	1.05	1.05	1.06	1.06	1.08	1.50			3.15	3.13	3.20
wind	0.4 m/s	velocity	5.28	8.62	8.62	8.87	8.87	8.70	8.70	8.62	8.62	8.46	9.35	8.10		8.70	8.76	8.57

FINAL - 2017 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	08-Jun-17	time	2.56	3.62	4.68	5.74	6.80	7.84	8.90	9.96	11.06	12.14		13.65	1 / 8			
reaction time	0.141	interval		1.06	1.06	1.06	1.06	1.04	1.06	1.06	1.10	1.08	1.51			3.18	3.16	3.24
wind	-0.3 m/s	velocity	5.36	8.62	8.62	8.62	8.62	8.79	8.62	8.62	8.31	8.46	9.28	8.06		8.62	8.68	8.46

FINAL - 2016 Golden Gala Pietro Mennea (Roma, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	02-Jun-16	time	2.62	3.70	4.76	5.80	6.88	7.98	9.02	10.18	11.28	12.40		13.90	1 / 7			
reaction time	0.151	interval		1.08	1.06	1.04	1.08	1.10	1.04	1.16	1.10	1.12	1.50			3.18	3.22	3.38
wind	0.6 m/s	velocity	5.24	8.46	8.62	8.79	8.46	8.31	8.79	7.88	8.31	8.16	9.35	7.91		8.62	8.52	8.11

FINAL - 2015 Italian National Championships (Torino, ITA) *Incalza (FIDAL - Centro Studi & Ricerche) (2015) - https://www.youtube.com/watch?v=Ytpg1XHNpfg*

date	25-Jul-15	time	2.69	3.75	4.81	5.88	6.94	7.98	9.05	10.13	11.23	12.35		13.77	4 / 2			
reaction time		interval		1.06	1.06	1.07	1.06	1.04	1.07	1.08	1.10	1.12	1.42			3.19	3.17	3.30
wind	1.8 m/s	velocity	5.10	8.62	8.62	8.54	8.62	8.79	8.54	8.46	8.31	8.16	9.87	7.99		8.60	8.65	8.31

Heat 1 - 2014 European Championships (Zurich, SUI) *Incalza (2014) - https://www.youtube.com/watch?v=4CScuS4aCYI&list=UU7691fXeyNFIMROfkJ-WWUg*

date	13-Aug-14	time	2.64	3.72	4.78	5.81	6.84	7.90	8.97	10.06	11.16	12.28		13.77	4 / 6			
reaction time	0.141	interval		1.08	1.06	1.03	1.03	1.06	1.07	1.09	1.10	1.12	1.49			3.17	3.16	3.31
wind	-0.7 m/s	velocity	5.20	8.46	8.62	8.87	8.87	8.62	8.54	8.39	8.31	8.16	9.41	7.99		8.65	8.68	8.28

FINAL - 2013 Italian National Junior Championships (Rieti, ITA) (99cm) *FIDAL - Centro Studi & Ricerche (2013) - www.youtube.com/watch?v=IGr3fQGXe1c*

date	15-Jun-13	time	2.70	3.76	4.80	5.82	6.83	7.84	8.86	9.89	10.92	11.95		13.39	6 / 1			
reaction time		interval		1.06	1.04	1.02	1.01	1.01	1.02	1.03	1.03	1.03	1.44	NR		3.12	3.04	3.09
wind	1.6 m/s	velocity	5.08	8.62	8.79	8.96	9.05	9.05	8.96	8.87	8.87	8.87	9.74	8.22		8.79	9.02	8.87

FINAL - 2013 Italian National Indoor Junior Championships (Ancona, ITA) (99cm) *FIDAL - Centro Studi & Ricerche (2013) - www.youtube.com/watch?v=Egf_xISp-DI*

date	23-Feb-13	time	2.71	3.80	4.86	5.91	6.95							7.90	6 / 1			
reaction time		interval		1.09	1.06	1.05	1.04						0.95			3.20		
		velocity	5.06	8.39	8.62	8.70	8.79						10.23	7.59		8.57		

FINAL - 2012 Italian National Indoor Junior Championships (Ancona, ITA) (99cm) *FIDAL - Centro Studi & Ricerche (2012) - www.youtube.com/watch?v=SU_c9jUKwsw*

date	18-Feb-12	time	2.68	3.77	4.85	5.90	6.95							7.91	3 / 1			
reaction time		interval		1.09	1.08	1.05	1.05						0.96	PB		3.22		
		velocity	5.12	8.39	8.46	8.70	8.70						10.13	7.59		8.52		

Perutka, Martin (CZE) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.77	3.96	5.17	6.38	7.60	8.84	10.10	11.36	12.66	14.15		15.80	2 / 4			

reaction time	0.139	interval		1.19	1.21	1.21	1.22	1.24	1.26	1.26	1.30	1.49	1.65			3.61	3.72	4.05
wind	-2.5 m/s	velocity	4.95	7.68	7.55	7.55	7.49	7.37	7.25	7.25	7.03	6.13	8.50	6.96		7.60	7.37	6.77

Petzke, Jonathan (GER) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 German National Indoor Junior Championships (Sindelfingen, GER) (99cm)													*Poser (2017) - mit merhrkampftraining zum hürdentitel*			
date 25-Feb-17	time	2.66	3.72	4.80	5.86	6.93						7.81	/ 1			
reaction time	interval		1.06	1.08	1.06	1.07					0.88	PB		3.20		
	velocity	5.16	8.62	8.46	8.62	8.54					11.05	7.68		8.57		
Semi-Final 1 - 2017 German National Indoor Junior Championships (Sindelfingen, GER) (99cm)													*Poser (2017) - mit merhrkampftraining zum hürdentitel*			
date 25-Feb-17	time	2.70	3.77	4.88	5.95	7.04						7.97	/ 1			
reaction time	interval		1.07	1.11	1.07	1.09					0.93	PB		3.25		
	velocity	5.08	8.54	8.23	8.54	8.39					10.45	7.53		8.44		

Philibert, Dan (FRA) (1970)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 2 - 1999 IAAF World Championships (Sevilla, ESP)													*Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*			
date 24-Aug-99	time	2.58	3.59	4.62	5.64	6.65	7.66	8.70	9.77	10.84	11.92		13.49	8 / 5			
reaction time 0.113	interval		1.01	1.03	1.02	1.01	1.01	1.04	1.07	1.07	1.08	1.57			3.06	3.06	3.22
wind 0.0 m/s	velocity	5.32	9.05	8.87	8.96	9.05	9.05	8.79	8.54	8.54	8.46	8.93	8.15		8.96	8.96	8.52
FINAL - 1997 IAAF World Championships (Athens, GRE)													*Hommel (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*			
date 07-Aug-97	time	2.62	3.70	4.70	5.70	6.70	7.72	8.74	9.76	10.82	11.86		13.26	6 / 5			
reaction time 0.118	interval		1.08	1.00	1.00	1.00	1.02	1.02	1.02	1.06	1.04	1.40	PB		3.08	3.04	3.12
wind 0.0 m/s	velocity	5.24	8.46	9.14	9.14	9.14	8.96	8.96	8.96	8.62	8.79	10.01	8.30		8.90	9.02	8.79

Phillips, Christopher (USA) (1972)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2003 USATF National Championships (Palo Alto, CA)													*USATF Women's Sprint Development (2003)*			
date 21-Jun-03	time	2.42	3.50	4.55	5.56	6.62	7.64	8.68	9.71	10.78	11.88		13.55	7 / 4			
reaction time	interval		1.08	1.05	1.01	1.06	1.02	1.04	1.03	1.07	1.10	1.67			3.14	3.12	3.20
wind -2.4 m/s	velocity	5.67	8.46	8.70	9.05	8.62	8.96	8.79	8.87	8.54	8.31	8.40	8.12		8.73	8.79	8.57

Phillips, Richard (JAM) (1983)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2010 Folksam GP (Sollentuna, SWE)													*Blomkvist (2010) - www.sub13.se*			
date 01-Jul-10	time	2.48	3.54	4.57	5.60	6.63	7.67	8.70	9.75	10.81	11.88		13.52	5 / 1			
reaction time	interval	*7 steps*	1.06	1.03	1.03	1.03	1.04	1.03	1.05	1.06	1.07	1.64			3.12	3.10	3.18
wind 0.4 m/s	velocity	5.53	8.62	8.87	8.87	8.87	8.79	8.87	8.70	8.62	8.54	8.55	8.14		8.79	8.85	8.62
FINAL - 2008 Olympic Games (Beijing, CHN)													*Tsiokanos (2018) - race pattern of men's 110m hurdles- time analysis of olympic hurdle performance*			
date 21-Aug-08	time	2.62	3.70	4.73	5.77	6.80	7.82	8.90	9.96	11.02	12.15		13.60	3 / 7			
reaction time 0.154	interval		1.08	1.03	1.04	1.03	1.02	1.08	1.06	1.06	1.13	1.45			3.15	3.13	3.25
wind 0.1 m/s	velocity	5.24	8.46	8.87	8.79	8.87	8.96	8.46	8.62	8.62	8.09	9.67	8.09		8.70	8.76	8.44

Pierce, Jack (USA) (1962)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1996 USA Olympic Trials (Atlanta, GA)													*McNichols (2000) - Hurdle technique study through video analysis*			
date 23-Jun-96	time	2.38										dnf	5 / --			
reaction time	interval															
wind 0.9 m/s	velocity	5.76														
FINAL - 1992 Olympic Games (Barcelona, ESP)													*Knight (1992) - 1992 Olympic report: the hurdling events*			
date 03-Aug-92	time	2.60	3.66	4.69	5.70	6.75	7.78	8.81	9.84	10.89	11.92		13.26	6 / 3			
reaction time 0.173	interval		1.06	1.03	1.01	1.05	1.03	1.03	1.03	1.05	1.03	1.34			3.10	3.11	3.11
wind 0.8 m/s	velocity	5.28	8.62	8.87	9.05	8.70	8.87	8.87	8.87	8.70	8.87	10.46	8.30		8.85	8.82	8.82

Piétris, Dimítrios (GRE) (1979)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2001 European Cup (Bremen, GER)													*Graubner (2007) - http://www.fgs.uni-halle.de*			
date 24-Jun-01	time	2.78	3.87	4.93	6.02	7.09	8.17	9.23	10.31	11.45	12.56		14.04	1 / 8			
reaction time 0.155	interval		1.09	1.06	1.09	1.07	1.08	1.06	1.08	1.14	1.11	1.48			3.24	3.21	3.33
wind 1.3 m/s	velocity	4.94	8.39	8.62	8.39	8.54	8.46	8.62	8.46	8.02	8.23	9.47	7.83		8.46	8.54	8.23

Pilar, Lukáš (CZE) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 2 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14	time	2.88	4.05	5.23	6.44	7.64	8.86	10.05	11.29	12.53	13.78		15.52	7 / 4			
reaction time 0.212	interval		1.17	1.18	1.21	1.20	1.22	1.19	1.24	1.24	1.25	1.74			3.56	3.61	3.73
wind -2.9 m/s	velocity	4.76	7.81	7.75	7.55	7.62	7.49	7.68	7.37	7.37	7.31	8.06	7.09		7.70	7.60	7.35

Pirochta, Tomáš (CZE) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2015 Czech Republic National U20 Indoor Championships (Praha, CZE) (99cm)													*Feher (2015) - Final report U18 & U20 Czech Republic indoor national champs*			
date 14-Feb-15	time	2.75	3.91	5.06	6.24	7.42						8.42	2 / 4			
reaction time 0.284	interval		1.16	1.15	1.18	1.18					1.00			3.49		
	velocity	4.99	7.88	7.95	7.75	7.75					9.72	7.13		7.86		
Heat 2 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14	time	2.85	4.05	5.24	6.46	7.67	8.87	10.10	11.28	12.53	13.79		15.54	6 / 4			

reaction time	0.190	interval		1.20	1.19	1.22	1.21	1.20	1.23	1.18	1.25	1.26	1.75			3.61	3.64	3.69
wind	-4.1 m/s	velocity	4.81	7.62	7.68	7.49	7.55	7.62	7.43	7.75	7.31	7.25	8.01	7.08		7.60	7.53	7.43

Pistol, Marvin (FRA) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2020 French National Championships (Albi, FRA) (TV Analysis)													*Henson (2020) - Athlete First: 2020 year end hurdle report*			
date 13-Sep-20 time	2.67	3.75	4.86	5.94	6.96	8.10	9.15	10.23	11.34	12.49		14.20	1 / 5			
reaction time 0.202 interval		1.08	1.11	1.08	1.02	1.14	1.05	1.08	1.11	1.15	1.71			3.27	3.21	3.34
wind 0.0 m/s velocity	5.14	8.46	8.23	8.46	8.96	8.02	8.70	8.46	8.23	7.95	8.20	7.75		8.39	8.54	8.21

Pizzoli, Emiliano (ITA) (1974)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2001 European Cup (Bremen, GER)													*Graubner (2007) - http://www.fgs.uni-halle.de*			
date 24-Jun-01 time	2.63	3.73	4.79	5.83	6.88	7.93	8.98	10.04	11.14	12.25		13.71	6 / 4			
reaction time 0.138 interval		1.10	1.06	1.04	1.05	1.05	1.05	1.06	1.10	1.11	1.46			3.20	3.15	3.27
wind 1.3 m/s velocity	5.22	8.31	8.62	8.79	8.70	8.70	8.70	8.62	8.31	8.23	9.60	8.02		8.57	8.70	8.39

Pogorelov, Aleksandr (RUS) (1980)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 1 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 20-Aug-09 time	2.82	3.94	5.04	6.15	7.25	8.34	9.41	10.52	11.64	12.74		14.19	8 / 1			
reaction time 0.146 interval		1.12	1.10	1.11	1.10	1.09	1.07	1.11	1.12	1.10	1.45			3.33	3.26	3.33
wind 0.3 m/s velocity	4.87	8.16	8.31	8.23	8.31	8.39	8.54	8.23	8.16	8.31	9.67	7.75		8.23	8.41	8.23

Pohland, Holger (GDR) (1963)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1986 East German National Championships (Jena, GDR)													*Aubert (1987) - mesures et observations biomecaniques a propos des courses de haies hautes*			
date 27-Jun-86 time	2.61	3.66	4.68	5.71	6.76	7.81	8.88	9.94	11.03	12.12		13.56	/ 1			
reaction time interval		1.05	1.02	1.03	1.05	1.05	1.07	1.06	1.09	1.09	1.44			3.10	3.17	3.24
wind 1.7 m/s velocity	5.26	8.70	8.96	8.87	8.70	8.70	8.54	8.62	8.39	8.39	9.74	8.11		8.85	8.65	8.46

Pokorny, Martin (CZE) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2014 Czech Republic National Championships (Ostrava, CZE)													*Feher (2014) - Final report from the Czech Republic national championships*			
date 02-Aug-14 time	2.75	3.90	5.05	6.17	7.31	8.47	9.64	10.80	11.99	13.22		14.89	8 / 5			
reaction time 0.135 interval		1.15	1.15	1.12	1.14	1.16	1.17	1.16	1.19	1.23	1.67			3.42	3.47	3.58
wind -1.2 m/s velocity	4.99	7.95	7.95	8.16	8.02	7.88	7.81	7.88	7.68	7.43	8.40	7.39		8.02	7.90	7.66
Heat 1 - 2014 Czech Republic National Championships (Ostrava, CZE)													*Feher (2014) - Final report from the Czech Republic national championships*			
date 02-Aug-14 time	2.75	3.93	5.11	6.26	7.41	8.56	9.75	10.91	12.12	13.34		15.02	6 / 3			
reaction time 0.156 interval		1.18	1.18	1.15	1.15	1.15	1.19	1.16	1.21	1.22	1.68			3.51	3.49	3.59
wind -1.6 m/s velocity	4.99	7.75	7.75	7.95	7.95	7.95	7.68	7.88	7.55	7.49	8.35	7.32		7.81	7.86	7.64
Heat 2 - 2013 Czech Republic National Championships (Tábor, CZE)													*Feher (2013) - Final report from the men's & women's Czech Republic national championships*			
date 15-Jun-13 time	2.77	3.94	5.10	6.26	7.43	8.58	9.75	10.98	12.20	13.46		15.21	6 / 4			
reaction time 0.155 interval		1.17	1.16	1.16	1.17	1.15	1.17	1.23	1.22	1.26	1.75			3.49	3.49	3.71
wind -0.6 m/s velocity	4.95	7.81	7.88	7.88	7.81	7.95	7.81	7.43	7.49	7.25	8.01	7.23		7.86	7.86	7.39
FINAL - 2012 Czech Republic National Indoor Championships (Praha, CZE)													*Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*			
date 25-Feb-12 time	2.72	3.84	4.94	6.03	7.14							8.17	1 / 6			
reaction time 0.156 interval		1.12	1.10	1.09	1.11						1.03			3.31		
velocity	5.04	8.16	8.31	8.39	8.23						9.44	7.34		8.28		
Heat 3 - 2012 Czech Republic National Indoor Championships (Praha, CZE)													*Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*			
date 25-Feb-12 time	2.71	3.85	4.95	6.06	7.17							8.20	6 / 4			
reaction time 0.154 interval		1.14	1.10	1.11	1.11						1.03			3.35		
velocity	5.06	8.02	8.31	8.23	8.23						9.44	7.32		8.19		

Polách, Josef (CZE) (1990)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2014 Czech Republic National Championships (Ostrava, CZE)													*Feher (2014) - Final report from the Czech Republic national championships*			
date 02-Aug-14 time	2.70	3.82	4.93	6.05	7.15	8.26	9.37	10.52	11.63	12.83		14.39	3 / 2			
reaction time 0.154 interval		1.12	1.11	1.12	1.10	1.11	1.11	1.15	1.11	1.20	1.56			3.35	3.32	3.46
wind -1.2 m/s velocity	5.08	8.16	8.23	8.16	8.31	8.23	8.23	7.95	8.23	7.62	8.99	7.64		8.19	8.26	7.92
Heat 2 - 2014 Czech Republic National Championships (Ostrava, CZE)													*Feher (2014) - Final report from the Czech Republic national championships*			
date 02-Aug-14 time	2.73	3.85	4.94	6.05	7.15	8.26	9.35	10.46	11.61	12.76		14.26	4 / 2			
reaction time 0.143 interval		1.12	1.09	1.11	1.10	1.11	1.09	1.11	1.15	1.15	1.50			3.32	3.30	3.41
wind 0.8 m/s velocity	5.03	8.16	8.39	8.23	8.31	8.23	8.39	8.23	7.95	7.95	9.35	7.71		8.26	8.31	8.04
Heat 1 - 2013 Czech Republic National Championships (Tábor, CZE)													*Feher (2013) - Final report from the men's & women's Czech Republic national championships*			
date 15-Jun-13 time	2.74	3.88	5.00	6.17	7.31	8.48	9.59	10.77	11.95	13.12		14.76	3 / 3			
reaction time 0.151 interval		1.14	1.12	1.17	1.14	1.17	1.11	1.18	1.18	1.17	1.64			3.43	3.42	3.53
wind -0.6 m/s velocity	5.01	8.02	8.16	7.81	8.02	7.81	8.23	7.75	7.75	7.81	8.55	7.45		7.99	8.02	7.77

Porter, Jeff (USA) (1985)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Seiko Golden Grand Prix (Kawasaki, JPN)													*(2017) - tfdata-store.com/2017/05/22/post-599/*			
date 21-May-17 time	2.59	3.68	4.74	5.82	6.87	7.94	9.00	10.08	11.16	12.26		13.73	4 / 7			
reaction time 0.125 interval		1.09	1.06	1.08	1.05	1.07	1.06	1.08	1.08	1.10	1.47			3.23	3.18	3.26

wind	-1.8 m/s	velocity	5.30	8.39	8.62	8.46	8.70	8.54	8.62	8.46	8.46	8.31	9.54	8.01		8.49	8.62	8.41

FINAL - 2017 Shanghai Diamond League (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	13-May-17	time	2.58	3.66	4.70	5.72	6.76	7.82	8.88	9.96	11.04	12.16		13.70	1 / 9			
reaction time	0.141	interval		1.08	1.04	1.02	1.04	1.06	1.06	1.08	1.08	1.12	1.54			3.14	3.16	3.28
wind	0.5 m/s	velocity	5.32	8.46	8.79	8.96	8.79	8.62	8.62	8.46	8.46	8.16	9.10	8.03		8.73	8.68	8.36

FINAL - 2016 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	09-Jul-16	time	2.50	3.53	4.53	5.55	6.57	7.60	8.62	9.67	10.69	11.73		13.21	6 / 3			
reaction time	0.163	interval		1.03	1.00	1.02	1.02	1.03	1.02	1.05	1.02	1.04	1.48			3.05	3.07	3.11
wind	1.0 m/s	velocity	5.49	8.87	9.14	8.96	8.96	8.87	8.96	8.70	8.96	8.79	9.47	8.33		8.99	8.93	8.82

FINAL - 2016 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	28-May-16	time	2.52	3.58	4.62	5.64	6.68	7.74	8.78	9.82	10.88	11.96		13.48	1 / 3			
reaction time		interval		1.06	1.04	1.02	1.04	1.06	1.04	1.04	1.06	1.08	1.52			3.12	3.14	3.18
wind	0.7 m/s	velocity	5.44	8.62	8.79	8.96	8.79	8.62	8.79	8.79	8.62	8.46	9.22	8.16		8.79	8.73	8.62

FINAL - 2012 Herculis Meeting International D'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	20-Jul-12	time	2.46	3.50	4.53	5.53	6.55	7.55	8.55	9.58	10.62	11.71		13.19	3 / 5			
reaction time	0.153	interval		1.04	1.03	1.00	1.02	1.00	1.00	1.03	1.04	1.09	1.48			3.07	3.02	3.16
wind	0.0 m/s	velocity	5.58	8.79	8.87	9.14	8.96	9.14	9.14	8.87	8.79	8.39	9.47	8.34		8.93	9.08	8.68

FINAL - 2012 AVIVA London Grand Prix (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	13-Jul-12	time	2.48	3.56	4.56	5.56	6.60	7.64	8.68	9.74	10.80	11.86		13.32	5 / 4			
reaction time	0.154	interval		1.08	1.00	1.00	1.04	1.04	1.04	1.06	1.06	1.06	1.46			3.08	3.12	3.18
wind	0.6 m/s	velocity	5.53	8.46	9.14	9.14	8.79	8.79	8.79	8.62	8.62	8.62	9.60	8.26		8.90	8.79	8.62

FINAL - 2012 USA Olympic Trials (Eugene, OR) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	30-Jun-12	time	2.40	3.42	4.43	5.42	6.44	7.44	8.44	9.47	10.51	11.53		13.08	4 / 3			
reaction time	0.157	interval		1.02	1.01	0.99	1.02	1.00	1.00	1.03	1.04	1.02	1.55	PB		3.02	3.02	3.09
wind	1.2 m/s	velocity	5.72	8.96	9.05	9.23	8.96	9.14	9.14	8.87	8.79	8.96	9.05	8.41		9.08	9.08	8.87

FINAL - 2010 Windsprint (Sundsvall, SWE) *Blomkvist (2010) - www.sub13.se*

date	08-Aug-10	time	2.63	3.71	4.76	5.85	6.91	8.00	9.08	10.14	11.23	12.32		13.79	/ 3			
reaction time		interval		1.08	1.05	1.09	1.06	1.09	1.08	1.06	1.09	1.09	1.47			3.22	3.23	3.24
wind	1.1 m/s	velocity	5.22	8.46	8.70	8.39	8.62	8.39	8.46	8.62	8.39	8.39	9.54	7.98		8.52	8.49	8.46

Heat 2 - 2010 Samsung Galan (Göteborg, SWE) *Blomkvist (2010) - www.sub13.se*

date	02-Feb-10	time	2.54	3.64	4.68	5.76	6.88							7.87	/ 4			
reaction time		interval		1.10	1.04	1.08	1.12						0.99			3.22		
		velocity	5.40	8.31	8.79	8.46	8.16						9.82	7.62		8.52		

Semi-Final 1 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.67	3.74	4.79	5.86	6.92	7.99	9.06	10.14	11.24	12.36		13.83	7 / 8			
reaction time		interval		1.07	1.05	1.07	1.06	1.07	1.07	1.08	1.10	1.12	1.47			3.19	3.20	3.30
wind	-0.6 m/s	velocity	5.14	8.54	8.70	8.54	8.62	8.54	8.54	8.46	8.31	8.16	9.54	7.95		8.60	8.57	8.31

Heat 1 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.62	3.67	4.77	5.84	6.91	7.95	9.04	10.11	11.21	12.27		13.80	5 / 7			
reaction time		interval		1.05	1.10	1.07	1.07	1.04	1.09	1.07	1.10	1.06	1.53			3.22	3.20	3.23
wind	0.1 m/s	velocity	5.24	8.70	8.31	8.54	8.54	8.79	8.39	8.54	8.31	8.62	9.16	7.97		8.52	8.57	8.49

Pozzi, Andy (GBR) (1992)

			H1	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

FINAL - 2022 European Athletics Championships (Munich, GER) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Aug-22	time	2.52	3.58	4.64	5.68	6.72	7.76	8.82	9.92	11.02	12.14		13.66	1 / 6			
reaction time	0.166	interval	7 steps	1.06	1.06	1.04	1.04	1.04	1.06	1.10	1.10	1.12	1.52			3.16	3.14	3.32
wind	-0.2 m/s	velocity	5.44	8.62	8.62	8.79	8.79	8.79	8.62	8.31	8.31	8.16	9.22	8.05		8.68	8.73	8.26

Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.56	3.56	4.60	5.60	6.60	7.60	8.63	9.66	10.76	11.83		13.35	7 / 6			
reaction time	0.141	interval	7 steps	1.00	1.04	1.00	1.00	1.00	1.03	1.03	1.10	1.07	1.52			3.04	3.03	3.20
wind	2.5 m/s	velocity	5.36	9.14	8.79	9.14	9.14	9.14	8.87	8.87	8.31	8.54	9.22	8.24		9.02	9.05	8.57

Heat 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.46	3.53	4.53	5.56	6.58	7.60	8.63	9.70	10.80	11.86		13.45	2 / 3			
reaction time	0.120	interval	7 steps	1.07	1.00	1.03	1.02	1.02	1.03	1.07	1.10	1.06	1.59			3.10	3.07	3.23
wind	-0.5 m/s	velocity	5.58	8.54	9.14	8.87	8.96	8.96	8.87	8.54	8.31	8.62	8.82	8.18		8.85	8.93	8.49

FINAL - 2022 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	18-Jun-22	time	2.50	3.54	4.58	5.60	6.62	7.66	8.70	9.76	10.84	11.94		13.49	1 / 6			
reaction time	0.126	interval	7 steps	1.04	1.04	1.02	1.02	1.04	1.04	1.06	1.08	1.10	1.55			3.10	3.10	3.24
wind	-0.2 m/s	velocity	5.49	8.79	8.79	8.96	8.96	8.79	8.79	8.62	8.46	8.31	9.05	8.15		8.85	8.85	8.46

FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	21-May-22	time	2.47	3.50	4.53	5.53	6.55	7.57	8.61	9.69	10.77	11.87		13.39	3 / 5			
reaction time	0.102	interval	7 steps	1.03	1.03	1.00	1.02	1.02	1.04	1.08	1.08	1.10	1.52			3.06	3.08	3.26
wind	0.7 m/s	velocity	5.55	8.87	8.87	9.14	8.96	8.96	8.79	8.46	8.46	8.31	9.22	8.22		8.96	8.90	8.41

Semi-Final 2 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.48	3.52	4.56	5.56	6.58							7.60	3 / 4			
reaction time	0.122	interval	7 steps	1.04	1.04	1.00	1.02						1.02			3.08		
		velocity	5.53	8.79	8.79	9.14	8.96						9.53	7.89		8.90		

Heat 5 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.56	3.64	4.65	5.65	6.67							7.60	4 / 2			
reaction time	0.132	interval	7 steps	1.08	1.01	1.00	1.02						0.93			3.09		
		velocity	5.36	8.46	9.05	9.14	8.96						10.45	7.89		8.87		

FINAL - 2022 Müller Indoor Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	19-Feb-22	time	2.47	3.53	4.55	5.56	6.57							7.59	4 / 2			
reaction time	0.141	interval	7 steps	1.06	1.02	1.01	1.01						1.02			3.09		
		velocity	5.55	8.62	8.96	9.05	9.05						9.53	7.91		8.87		

FINAL - 2022 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	17-Feb-22	time	2.55	3.58	4.58	5.60	6.62							7.62	1 / 5			
reaction time	0.163	interval	7 steps	1.03	1.00	1.02	1.02						1.00			3.05		
		velocity	5.38	8.87	9.14	8.96	8.96						9.72	7.87		8.99		

FINAL - 2021 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	28-Aug-21	time	2.52	3.56	4.60	5.62	6.64	7.68	8.72	9.76	10.86	11.94		13.49	8 / 6			
reaction time	0.126	interval	7 steps	1.04	1.04	1.02	1.02	1.04	1.04	1.04	1.10	1.08	1.55			3.10	3.10	3.22
wind	0.7 m/s	velocity	5.44	8.79	8.79	8.96	8.96	8.79	8.79	8.79	8.31	8.46	9.05	8.15		8.85	8.85	8.52

FINAL - 2021 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Aug-21	time	2.48	3.52	4.56	5.56	6.56	7.58	8.62	9.68	10.80	11.92		13.45	8 / 7			
reaction time	0.149	interval	7 steps	1.04	1.04	1.00	1.00	1.02	1.04	1.06	1.12	1.12	1.53			3.08	3.06	3.30
wind	2.5 m/s	velocity	5.53	8.79	8.79	9.14	9.14	8.96	8.79	8.62	8.16	8.16	9.16	8.18		8.90	8.96	8.31

FINAL - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	06-Aug-21	time	2.46	3.50	4.52	5.52	6.52	7.54	8.58	9.62	10.68	11.76		13.30	3 / 7			
reaction time	0.140	interval	7 steps	1.04	1.02	1.00	1.00	1.02	1.04	1.04	1.06	1.08	1.54			3.06	3.06	3.18
wind	-0.5 m/s	velocity	5.58	8.79	8.96	9.14	9.14	8.96	8.79	8.79	8.62	8.46	9.10	8.27		8.96	8.96	8.62

Semi-Final 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.52	3.57	4.57	5.57	6.57	7.60	8.62	9.65	10.74	11.83		13.32	8 / 4			
reaction time	0.148	interval	7 steps	1.05	1.00	1.00	1.00	1.03	1.02	1.03	1.09	1.09	1.49			3.05	3.05	3.21
wind	0.3 m/s	velocity	5.44	8.70	9.14	9.14	9.14	8.87	8.96	8.87	8.39	8.39	9.41	8.26		8.99	8.99	8.54

Heat 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.58	3.66	4.70	5.71	6.72	7.70	8.77	9.83	10.88	11.98		13.50	2 / 4			
reaction time	0.135	interval	7 steps	1.08	1.04	1.01	1.01	0.98	1.07	1.06	1.05	1.10	1.52			3.13	3.06	3.21
wind	0.0 m/s	velocity	5.32	8.46	8.79	9.05	9.05	9.33	8.54	8.62	8.70	8.31	9.22	8.15		8.76	8.96	8.54

FINAL - 2021 Müller British Grand Prix (Gateshead, GBR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	13-Jul-21	time	2.56	3.62	4.64	5.64	6.66	7.72	8.76	9.80	10.88	11.98		13.45	3 / 3			
reaction time	0.114	interval	7 steps	1.06	1.02	1.00	1.02	1.06	1.04	1.04	1.08	1.10	1.47			3.08	3.12	3.22
wind	0.8 m/s	velocity	5.36	8.62	8.96	9.14	8.96	8.62	8.79	8.79	8.46	8.31	9.54	8.18		8.90	8.79	8.52

FINAL - 2021 Golden Gala Pietro Mennea (Florence, ITA) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	10-Jun-21	time	2.48	3.52	4.50	5.50	6.52	7.54	8.56	9.60	10.64	11.74		13.25	3 / 2			
reaction time	0.113	interval	7 steps	1.04	0.98	1.00	1.02	1.02	1.02	1.04	1.04	1.10	1.51			3.02	3.06	3.18
wind	-0.1 m/s	velocity	5.53	8.79	9.33	9.14	8.96	8.96	8.96	8.79	8.79	8.31	9.28	8.30		9.08	8.96	8.62

FINAL - 2021 European Indoor Championships (Toruń, POL) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	07-Mar-21	time	2.42	3.44	4.44	5.42	6.44							7.43	6 / 2			
reaction time	0.151	interval	7 steps	1.02	1.00	0.98	1.02						0.99	**=PB**		3.00		
		velocity	5.67	8.96	9.14	9.33	8.96						9.82	8.08		9.14		

FINAL - 2021 Villa de Madrid (Madrid, ESP) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Feb-21	time	2.40	3.44	4.45	5.45	6.47							7.51	3 / 2			
reaction time		interval	7 steps	1.04	1.01	1.00	1.02						1.04			3.05		
		velocity	5.72	8.79	9.05	9.14	8.96						9.35	7.99		8.99		

Heat 2 - 2021 Villa de Madrid (Madrid, ESP) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Feb-21	time	2.57	3.63	4.63	5.65	6.66							7.53	4 / 1			
reaction time	0.132	interval	7 steps	1.06	1.00	1.02	1.01						0.87			3.08		

		velocity	5.34	8.62	9.14	8.96	9.05						11.17	7.97			8.90		

FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	17-Sep-20	time	2.50	3.54	4.52	5.52	6.52	7.52	8.54	9.58	10.62	11.68		13.15	4 / 1				
reaction time	0.128	interval	7 steps	1.04	0.98	1.00	1.00	1.00	1.02	1.04	1.04	1.06	1.47				3.02	3.02	3.14
wind	0.1 m/s	velocity	5.49	8.79	9.33	9.14	9.14	9.14	8.96	8.79	8.79	8.62	9.54	8.37			9.08	9.08	8.73

FINAL - 2020 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	19-Aug-20	time	2.50	3.54	4.54	5.57	6.57	7.61	8.64	9.68	10.74	11.91		13.60	5 / 6				
reaction time	0.127	interval	7 steps	1.04	1.00	1.03	1.00	1.04	1.03	1.04	1.06	1.17	1.69				3.07	3.07	3.27
wind	0.3 m/s	velocity	5.49	8.79	9.14	8.87	9.14	8.79	8.87	8.79	8.62	7.81	8.30	8.09			8.93	8.93	8.39

FINAL - 2020 Herculis Meeting International d'Athletisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	14-Aug-20	time	2.52	3.54	4.54	5.54	6.54	7.54	8.57	9.57	10.61	11.68		13.14	5 / 2				
reaction time	0.125	interval	7 steps	1.02	1.00	1.00	1.00	1.00	1.03	1.00	1.04	1.07	1.46	=PB			3.02	3.03	3.11
wind	0.8 m/s	velocity	5.44	8.96	9.14	9.14	9.14	9.14	8.87	9.14	8.79	8.54	9.60	8.37			9.08	9.05	8.82

FINAL - 2020 Paavo Nurmi Games (Turku, FIN) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	11-Aug-20	time	2.57	3.57	4.57	5.57	6.57	7.57	8.59	9.61	10.65	11.71		13.17	6 / 1				
reaction time	0.149	interval	7 steps	1.00	1.00	1.00	1.00	1.00	1.02	1.02	1.04	1.06	1.46				3.00	3.02	3.12
wind	1.1 m/s	velocity	5.34	9.14	9.14	9.14	9.14	9.14	8.96	8.96	8.79	8.62	9.60	8.35			9.14	9.08	8.79

Semi-Final 1 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.58	3.61	4.64	5.66	6.68	7.74	8.86	9.94	11.04	12.14		13.60	4 / 5				
reaction time	0.123	interval	7 steps	1.03	1.03	1.02	1.02	1.06	1.12	1.08	1.10	1.10	1.46				3.08	3.20	3.28
wind	1.1 m/s	velocity	5.32	8.87	8.87	8.96	8.96	8.62	8.16	8.46	8.31	8.31	9.60	8.09			8.90	8.57	8.36

FINAL - 2019 The Match - Europe v USA (Minsk, BLR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	10-Sep-19	time	2.53	3.60	4.63	5.63	6.65	7.71	8.75	9.82	10.90	12.06		13.59	3 / 4				
reaction time	0.155	interval	7 steps	1.07	1.03	1.00	1.02	1.06	1.04	1.07	1.08	1.16	1.53				3.10	3.12	3.31
wind	0.1 m/s	velocity	5.42	8.54	8.87	9.14	8.96	8.62	8.79	8.54	8.46	7.88	9.16	8.09			8.85	8.79	8.28

FINAL - 2019 AG Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	06-Sep-19	time	2.52	3.58	4.60	5.60	6.62	7.66	8.70	9.72	10.82	11.90		13.50	2 / 6				
reaction time	0.141	interval	7 steps	1.06	1.02	1.00	1.02	1.04	1.04	1.02	1.10	1.08	1.60				3.08	3.10	3.20
wind	0.0 m/s	velocity	5.44	8.62	8.96	9.14	8.96	8.79	8.79	8.96	8.31	8.46	8.76	8.15			8.90	8.85	8.57

FINAL - 2019 Müller Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	21-Jul-19	time	2.38	3.43	4.45	5.46	6.46	7.50	8.55	9.63	10.77	11.89		13.52	3 / 6				
reaction time	0.131	interval	7 steps	1.05	1.02	1.01	1.00	1.04	1.05	1.08	1.14	1.12	1.63				3.08	3.09	3.34
wind	0.4 m/s	velocity	5.76	8.70	8.96	9.05	9.14	8.79	8.70	8.46	8.02	8.16	8.60	8.14			8.90	8.87	8.21

FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Jun-19	time	2.48	3.52	4.52	5.52	6.54	7.58	8.62	9.66	10.72	11.78		13.30	4 / 2				
reaction time	0.118	interval	7 steps	1.04	1.00	1.00	1.02	1.04	1.04	1.04	1.06	1.06	1.52				3.04	3.10	3.16
wind	0.3 m/s	velocity	5.53	8.79	9.14	9.14	8.96	8.79	8.79	8.79	8.62	8.62	9.22	8.27			9.02	8.85	8.68

FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	06-Jun-19	time	2.53	3.55	4.56	5.55	6.55	7.60	8.63	9.68	10.73	11.80		13.29	7 / 2				
reaction time	0.139	interval	7 steps	1.02	1.01	0.99	1.00	1.05	1.03	1.05	1.05	1.07	1.49				3.02	3.08	3.17
wind	0.4 m/s	velocity	5.42	8.96	9.05	9.23	9.14	8.70	8.87	8.70	8.70	8.54	9.41	8.28			9.08	8.90	8.65

FINAL - 2019 Nanjing World Challenge (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	21-May-19	time	2.57	3.60	4.60	5.61	6.64	7.67	8.73	9.78	10.88	12.02		13.66	8 / 9				
reaction time	0.146	interval	7 steps	1.03	1.00	1.01	1.03	1.03	1.06	1.05	1.10	1.14	1.64				3.04	3.12	3.29
wind	0.1 m/s	velocity	5.34	8.87	9.14	9.05	8.87	8.87	8.62	8.70	8.31	8.02	8.55	8.05			9.02	8.79	8.33

FINAL - 2019 Shanghai Diamond League (Shanghai, CHN) *CAA Hurdle Development (2019)*

date	18-May-19	time	2.52	3.58	4.58	5.62	6.62	7.66	8.70	9.74	10.82	11.92		13.39	7 / 6				
reaction time	0.133	interval	7 steps	1.06	1.00	1.04	1.00	1.04	1.04	1.04	1.08	1.10	1.47				3.10	3.08	3.22
wind	0.7 m/s	velocity	5.44	8.62	9.14	8.79	9.14	8.79	8.79	8.79	8.46	8.31	9.54	8.22			8.85	8.90	8.52

FINAL - 2019 PSD Bank Meeting (Düsseldorf, GER) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	20-Feb-19	time	2.43	3.46	4.52	5.52	6.56							7.67	3 / 5				
reaction time	0.106	interval	7 steps	1.03	1.06	1.00	1.04						1.11				3.09		
		velocity	5.65	8.87	8.62	9.14	8.79						8.76	7.82			8.87		

FINAL - 2018 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	18-Aug-18	time	2.42	3.46	4.48	5.48	6.50	7.54	8.58	9.62	10.70	11.78		13.35	5 / 5				
reaction time	0.128	interval	7 steps	1.04	1.02	1.00	1.02	1.04	1.04	1.04	1.08	1.08	1.57				3.06	3.10	3.20
wind	1.3 m/s	velocity	5.67	8.79	8.96	9.14	8.96	8.79	8.79	8.79	8.46	8.46	8.93	8.24			8.96	8.85	8.57

FINAL - 2018 Müller Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	22-Jul-18	time	2.50	3.54	4.56	5.56	6.58	7.60	8.66	9.70	10.76	11.84		13.36	3 / 4			
reaction time	0.129	interval	7 steps	1.04	1.02	1.00	1.02	1.02	1.06	1.04	1.06	1.08	1.52			3.06	3.10	3.18
wind	0.2 m/s	velocity	5.49	8.79	8.96	9.14	8.96	8.96	8.62	8.79	8.62	8.46	9.22	8.23		8.96	8.85	8.62

FINAL - 2018 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	26-May-18	time	2.54	3.60	4.60	5.60	6.60	7.64	8.68	9.74	10.84	11.94		13.51	3 / 7			
reaction time	0.164	interval	7 steps	1.06	1.00	1.00	1.00	1.04	1.04	1.06	1.10	1.10	1.57			3.06	3.08	3.26
wind	3.0 m/s	velocity	5.40	8.62	9.14	9.14	9.14	8.79	8.79	8.62	8.31	8.31	8.93	8.14		8.96	8.90	8.41

FINAL - 2018 IAAF World Indoor Championships (Birmingham, GBR) *Walker (2019). Biomechanical Report for the IAAF World Indoor Championships 2018: 60 Metres Hurdles Men*

date	04-Mar-18	time	2.51	3.54	4.59	5.58	6.57							7.46	4 / 1			
reaction time	0.143	interval	7 steps	1.03	1.05	0.99	0.99						0.89			3.07		
		velocity	5.47	8.87	8.70	9.23	9.23						10.92	8.04		8.93		

FINAL - 2017 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	20-Aug-17	time	2.50	3.54	4.56	5.58	6.62	7.70	8.74	9.80	10.88	11.98		13.53	3 / 6			
reaction time	0.119	interval	7 steps	1.04	1.02	1.02	1.04	1.08	1.04	1.06	1.08	1.10	1.55			3.08	3.16	3.24
wind	-0.6 m/s	velocity	5.49	8.79	8.96	8.96	8.79	8.46	8.79	8.62	8.46	8.31	9.05	8.13		8.90	8.68	8.46

Semi-Final 2 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.35	3.39	4.40	5.43	6.44	7.43	8.45	9.48	10.51	11.62		13.28	6 / 4			
reaction time	0.137	interval	7 steps	1.04	1.01	1.03	1.01	0.99	1.02	1.03	1.03	1.11	1.66			3.08	3.02	3.17
wind	0.6 m/s	velocity	5.84	8.79	9.05	8.87	9.05	9.23	8.96	8.87	8.87	8.23	8.45	8.28		8.90	9.08	8.65

FINAL - 2017 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	01-Jul-17	time	2.48	3.50	4.50	5.48	6.48	7.48	8.50	9.54	10.58	11.66		13.14	3 / 2			
reaction time	0.107	interval	7 steps	1.02	1.00	0.98	1.00	1.00	1.02	1.04	1.04	1.08	1.48	**PB**		3.00	3.02	3.16
wind	-0.1 m/s	velocity	5.53	8.96	9.14	9.33	9.14	9.14	8.96	8.79	8.79	8.46	9.47	8.37		9.14	9.08	8.68

FINAL - 2017 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	08-Jun-17	time	2.48	3.52	4.52	5.52	6.52	7.50	8.52	9.58	10.62	11.74		13.24	5 / 4			
reaction time	0.119	interval	7 steps	1.04	1.00	1.00	1.00	0.98	1.02	1.06	1.04	1.12	1.50			3.04	3.00	3.22
wind	-0.3 m/s	velocity	5.53	8.79	9.14	9.14	9.14	9.33	8.96	8.62	8.79	8.16	9.35	8.31		9.02	9.14	8.52

FINAL - 2017 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	27-May-17	time	2.46	3.48	4.48	5.50	6.50	7.50	8.50	9.52	10.54	11.62		13.19	2 / 5			
reaction time	0.145	interval	7 steps	1.02	1.00	1.02	1.00	1.00	1.00	1.02	1.02	1.08	1.57	**=PB**		3.04	3.00	3.12
wind	0.9 m/s	velocity	5.58	8.96	9.14	8.96	9.14	9.14	9.14	8.96	8.96	8.46	8.93	8.34		9.02	9.14	8.79

FINAL - 2017 Drake Relays (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	29-Apr-17	time	2.50	3.53	4.53	5.53	6.50	7.53	8.53	9.55	10.60	11.66		13.24	3 / 2			
reaction time		interval	7 steps	1.03	1.00	1.00	0.97	1.03	1.00	1.02	1.05	1.06	1.58			3.03	3.00	3.13
wind	1.8 m/s	velocity	5.49	8.87	9.14	9.14	9.42	8.87	9.14	8.96	8.70	8.62	8.87	8.31		9.05	9.14	8.76

FINAL - 2017 European Indoor Championships (Beograd, SRB) *(2017.03.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	03-Mar-17	time	2.62	3.63	4.63	5.61	6.62							7.51	5 / 1			
reaction time		interval	7 steps	1.01	1.00	0.98	1.01						0.89			2.99		
		velocity	5.24	9.05	9.14	9.33	9.05						10.92	7.99		9.17		

FINAL - 2016 Golden Gala Pietro Mennea (Roma, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	02-Jun-16	time	2.50	3.54	4.54	5.58	6.58	7.60	8.66	9.70	10.74	11.86		13.37	2 / 3			
reaction time	0.139	interval	7 steps	1.04	1.00	1.04	1.00	1.02	1.06	1.04	1.04	1.12	1.51			3.08	3.08	3.20
wind	0.6 m/s	velocity	5.49	8.79	9.14	8.79	9.14	8.96	8.62	8.79	8.79	8.16	9.28	8.23		8.90	8.90	8.57

FINAL - 2012 AVIVA London Grand Prix (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	13-Jul-12	time	2.52	3.56										dnf	2 / --			
reaction time	0.160	interval		1.04														
wind	0.6 m/s	velocity	5.44	8.79														

FINAL - 2012 IAAF World Indoor Championships (Istanbul, TUR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	11-Mar-12	time	2.54	3.56	4.58	5.60	6.60							7.58	5 / 4			
reaction time	0.155	interval		1.02	1.02	1.02	1.00						0.98			3.06		
		velocity	5.40	8.96	8.96	8.96	9.14						9.92	7.92		8.96		

Prentice, Terry (USA) (1989)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 2007 USATF National Junior Championships (Indianapolis, IN) (99cm)															*USATF Men's Hurdle Development (2007)*			
date	21-Jun-07	time	2.70	3.77	4.89	5.91	6.94	7.96	8.98	10.01	11.06	12.10		13.52	/ 4			
reaction time		interval		1.07	1.12	1.02	1.03	1.02	1.02	1.03	1.05	1.04	1.42			3.21	3.07	3.12
wind	2.7 m/s	velocity	5.08	8.54	8.16	8.96	8.87	8.96	8.96	8.87	8.70	8.79	9.87	8.14		8.54	8.93	8.79

Prescott, Matt (USA) (1984)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Semi-Final 1 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude)															*CAA Hurdle Development (2020)*			
date	15-Feb-20	time	2.72	3.83	4.92	6.05	7.17							8.19	8 / 8			

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

reaction time	0.159	interval		1.11	1.09	1.13	1.12						1.02			3.33		
		velocity	5.04	8.23	8.39	8.09	8.16						9.53	7.33		8.23		

Heat 1 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.68	3.79	4.89	5.96	7.06							8.01	4 / 6			
reaction time	0.161	interval		1.11	1.10	1.07	1.10						0.95			3.28		
		velocity	5.12	8.23	8.31	8.54	8.31						10.23	7.49		8.36		

Prokofyev, Andrey (URS) (1959)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1982 European Championships (Athens, GRE) *Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazyklus 1981/84*																		
date	11-Sep-82	time	2.56		4.64		6.72		8.81			12.01		13.46	/ 2			
reaction time		interval			2.08		2.08		2.09			3.20	1.45	PB				3.20
wind	-0.9 m/s	velocity	5.36		8.79		8.79		8.75			8.57	9.67	8.17				8.57

Pulíček, Tomáš (CZE) (1997)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2015 Czech Republic National U20 Indoor Championships (Praha, CZE) (99cm) *Feher (2015) - Final report U18 & U20 Czech Republic indoor national champs*																		
date	14-Feb-15	time	2.60	3.72	4.82	5.90	7.03							7.98	3 / 1			
reaction time	0.132	interval		1.12	1.10	1.08	1.13						0.95	PB		3.30		
		velocity	5.28	8.16	8.31	8.46	8.09						10.23	7.52		8.31		
FINAL - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*																		
date	28-Jun-14	time	2.66	3.74	4.80	5.87	6.92	7.99	9.06	10.13	11.22	12.35		13.89	4 / 1			
reaction time	0.177	interval		1.08	1.06	1.07	1.05	1.07	1.07	1.07	1.09	1.13	1.54			3.21	3.19	3.29
wind	-3.7 m/s	velocity	5.16	8.46	8.62	8.54	8.70	8.54	8.54	8.54	8.39	8.09	9.10	7.92		8.54	8.60	8.33
Heat 1 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*																		
date	28-Jun-14	time	2.74	3.82	4.93	6.00	7.05	8.10	9.17	10.24	11.33	12.44		14.05	3 / 1			
reaction time	0.247	interval		1.08	1.11	1.07	1.05	1.05	1.07	1.07	1.09	1.11	1.61			3.26	3.17	3.27
wind	-0.3 m/s	velocity	5.01	8.46	8.23	8.54	8.70	8.70	8.54	8.54	8.39	8.23	8.71	7.83		8.41	8.65	8.39

Qi Zhen (CHN) (1976)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2001 Chinese National Grand Prix (Shanghai, CHN) *Fang (2001) - analysis on technical characteristics in Liu Xiang's 110m hurdles*																		
date	06-May-01	time	2.66	3.77	4.86	5.90	6.93	8.00	9.07	10.13	11.29	12.45		13.95	/ 5			
reaction time		interval		1.11	1.09	1.04	1.03	1.07	1.07	1.06	1.16	1.16	1.50			3.24	3.17	3.38
wind	1.9 m/s	velocity	5.16	8.23	8.39	8.79	8.87	8.54	8.54	8.62	7.88	7.88	9.35	7.89		8.46	8.65	8.11

Qian Wenze (CHN) (2001)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 1 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*																		
date	23-Aug-19	time	2.87	4.02	5.30	6.54	7.76	9.01	10.24	11.51	12.80	14.11		15.76	6 / 4			
reaction time	0.194	interval		1.15	1.28	1.24	1.22	1.25	1.23	1.27	1.29	1.31	1.65			3.67	3.70	3.87
wind	?? m/s	velocity	4.78	7.95	7.14	7.37	7.49	7.31	7.43	7.20	7.09	6.98	8.50	6.98		7.47	7.41	7.09
Decathlon - Heat 1 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*																		
date	11-Jul-19	time	2.87	4.10	5.29	6.50	7.72	8.96	10.17	11.43	12.71	13.96		15.59	4 / 4			
reaction time	0.211	interval		1.23	1.19	1.21	1.22	1.24	1.21	1.26	1.28	1.25	1.63	PB		3.63	3.67	3.79
wind	-0.6 m/s	velocity	4.78	7.43	7.68	7.55	7.49	7.37	7.55	7.25	7.14	7.31	8.60	7.06		7.55	7.47	7.23

Qin Guoyuan (CHN) (1996)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 2 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*																		
date	27-Jun-21	time	2.95	4.19	5.47	6.71	8.01	9.27	10.54	11.81	13.11	14.40		16.03	6 / 6			
reaction time	0.235	interval		1.24	1.28	1.24	1.30	1.26	1.27	1.27	1.30	1.29	1.63			3.76	3.83	3.86
wind	-0.2 m/s	velocity	4.65	7.37	7.14	7.37	7.03	7.25	7.20	7.20	7.03	7.09	8.60	6.86		7.29	7.16	7.10
Decathlon - Heat 1 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*																		
date	23-Aug-19	time	2.84	4.00	5.17	6.38	7.56	8.77	9.99	11.23	12.46	13.78		15.40	5 / 3			
reaction time	0.183	interval		1.16	1.17	1.21	1.18	1.21	1.22	1.24	1.23	1.32	1.62			3.54	3.61	3.79
wind	?? m/s	velocity	4.83	7.88	7.81	7.55	7.75	7.55	7.49	7.37	7.43	6.92	8.65	7.14		7.75	7.60	7.23

Qin Weibo (CHN) (2002)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Race 5 - 2025 Chinese National Grand Prix (Nanjing, CHN) *Hubei Athletics Sport Science (2025)*																		
date	23-Feb-25	time	2.64	3.71	4.73	5.73	6.75							7.63	/ 5			
reaction time	0.174	interval	7 steps	1.07	1.02	1.00	1.02						0.88	=PB		3.09		
		velocity	5.20	8.54	8.96	9.14	8.96						11.05	7.86		8.87		
Semi-Final 1 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*																		
date	07-Aug-24	time	2.46	3.55	4.58	5.61	6.62	7.64	8.67	9.70	10.75	11.82		13.41	2 / 6			
reaction time	0.178	interval	7 steps	1.09	1.03	1.03	1.01	1.02	1.03	1.03	1.05	1.07	1.59			3.15	3.06	3.15
wind	0.1 m/s	velocity	5.58	8.39	8.87	8.87	9.05	8.96	8.87	8.87	8.70	8.54	8.82	8.20		8.70	8.96	8.70
Repechage 3 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*																		
date	06-Aug-24	time	2.46	3.54	4.56	5.56	6.57	7.60	8.64	9.69	10.74	11.81		13.44	3 / 1			
reaction time	0.184	interval	7 steps	1.08	1.02	1.00	1.01	1.03	1.04	1.05	1.05	1.07	1.63			3.10	3.08	3.17
wind	-1.1 m/s	velocity	5.58	8.46	8.96	9.14	9.05	8.87	8.79	8.70	8.70	8.54	8.60	8.18		8.85	8.90	8.65

Heat 5 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.50	3.60	4.64	5.65	6.67	7.69	8.72	9.79	10.89	12.00		13.64	3 / 6			
reaction time	0.199	interval	7 steps	1.10	1.04	1.01	1.02	1.02	1.03	1.07	1.10	1.11	1.64			3.15	3.07	3.28
wind	0.7 m/s	velocity	5.49	8.31	8.79	9.05	8.96	8.96	8.87	8.54	8.31	8.23	8.55	8.06		8.70	8.93	8.36

FINAL - 2024 Chinese National Grand Prix Final (Rizhao, CHN) — *Shandong Athletics Sport Science (2024)*

date	30-Jun-24	time	2.62	3.65	4.69	5.71	6.72	7.74	8.76	9.79	10.83	11.96		13.38	7 / 1			
reaction time	0.156	interval	7 steps	1.03	1.04	1.02	1.01	1.02	1.02	1.03	1.04	1.13	1.42			3.09	3.05	3.20
wind	0.9 m/s	velocity	5.24	8.87	8.79	8.96	9.05	8.96	8.96	8.87	8.79	8.09	9.87	8.22		8.87	8.99	8.57

FINAL - 2024 Fuse Sprint (Tottori, JPN) — *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	02-Jun-24	time	2.60	3.64	4.67	5.68	6.68	7.70	8.72	9.75	10.80	11.85		13.29	5 / 2			
reaction time	0.157	interval	7 steps	1.04	1.03	1.01	1.00	1.02	1.02	1.03	1.05	1.05	1.44	PB		3.08	3.04	3.13
wind	1.3 m/s	velocity	5.28	8.79	8.87	9.05	9.14	8.96	8.96	8.87	8.70	8.70	9.74	8.28		8.90	9.02	8.76

FINAL - 2021 Chinese National Games (Xi'an, CHN) — *Huo (2022) - research on the technical characteristics of elite chinese 110m hurdlers*

date	22-Sep-21	time	2.63	3.72	4.76	5.79	6.82	7.87	8.93	10.00	11.10	12.23		13.72	/ 5			
reaction time	0.177	interval	7 steps	1.09	1.04	1.03	1.03	1.05	1.06	1.07	1.10	1.13	1.49	PB		3.16	3.14	3.30
wind	0.0 m/s	velocity	5.22	8.39	8.79	8.87	8.87	8.70	8.62	8.54	8.31	8.09	9.41	8.02		8.68	8.73	8.31

Heat 2 - 2021 Chinese National Championships (Chongqing, CHN) — *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.64	3.75	4.83	5.92	6.99	8.06	9.16	10.25	11.37	12.52		14.05	3 / 2			
reaction time	0.198	interval	7 steps	1.11	1.08	1.09	1.07	1.07	1.10	1.09	1.12	1.15	1.53	PB		3.28	3.24	3.36
wind	-1.2 m/s	velocity	5.20	8.23	8.46	8.39	8.54	8.54	8.31	8.39	8.16	7.95	9.16	7.83		8.36	8.46	8.16

Heat 2 - 2020 Chinese Olympic Trials (Shaoxing, CHN) — *CAA Hurdle Development (2021)*

date	12-Jun-21	time	2.58	3.72	4.81	5.91	7.00	8.10	9.23	10.36	11.49	12.64		14.26	4 / 5			
reaction time	0.174	interval	7 steps	1.14	1.09	1.10	1.09	1.10	1.13	1.13	1.13	1.15	1.62			3.33	3.32	3.41
wind	-0.8 m/s	velocity	5.32	8.02	8.39	8.31	8.39	8.31	8.09	8.09	8.09	7.95	8.65	7.71		8.23	8.26	8.04

FINAL - 2020 Chinese National Championships (Shaoxing, CHN) — *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.69	3.80	4.89	5.96	7.02	8.14	9.25	10.38	11.52	12.68		14.17	8 / 7			
reaction time	0.169	interval		1.11	1.09	1.07	1.06	1.12	1.11	1.13	1.14	1.16	1.49			3.27	3.29	3.43
wind	0.4 m/s	velocity	5.10	8.23	8.39	8.54	8.62	8.16	8.23	8.09	8.02	7.88	9.41	7.76		8.39	8.33	7.99

Heat 2 - 2020 Chinese National Championships (Shaoxing, CHN) — *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.67	3.80	4.86	5.93	7.01	8.09	9.18	10.30	11.44	12.58		14.08	2 / 3			
reaction time	0.187	interval		1.13	1.06	1.07	1.08	1.08	1.09	1.12	1.14	1.14	1.50			3.26	3.25	3.40
wind	-0.5 m/s	velocity	5.14	8.09	8.62	8.54	8.46	8.46	8.39	8.16	8.02	8.02	9.35	7.81		8.41	8.44	8.06

FINAL - 2018 Chinese National Sports School Championships (Jinjiang, CHN) — *Zhang (2019) - comparative analysis of characteristics of Chinese elite men's 110m hurdles in different age groups*

date	??	time	2.69	3.77	4.82	5.86	6.89	7.92	8.96	10.02	11.09	12.18		13.71	5 / 1			
reaction time		interval		1.08	1.05	1.04	1.03	1.03	1.04	1.06	1.07	1.09	1.53			3.17	3.10	3.22
wind	??	velocity	5.10	8.46	8.70	8.79	8.87	8.87	8.79	8.62	8.54	8.39	9.16	8.02		8.65	8.85	8.52

Heat 1 - 2018 Chinese National Championships (Taiyuan, CHN) — *Henson (2018) - coaching observations*

date	15-Sep-18	time	2.75	3.84	4.92	5.97	7.07	8.14	9.31	10.47	11.64	12.80		14.34	3 / 6			
reaction time		interval		1.09	1.08	1.05	1.10	1.07	1.17	1.16	1.17	1.16	1.54			3.22	3.34	3.49
wind	-0.2 m/s	velocity	4.99	8.39	8.46	8.70	8.31	8.54	7.81	7.88	7.81	7.88	9.10	7.67		8.52	8.21	7.86

FINAL - 2018 Chinese National U18 Championships (Jinzhou, CHN) — *Zhang (2019) - comparative analysis of characteristics of Chinese elite men's 110m hurdles in different age groups*

date	17-May-18	time	2.67	3.73	4.78	5.81	6.84	7.88	8.92	9.99	11.05	12.14		13.63	3 / 1			
reaction time		interval		1.06	1.05	1.03	1.03	1.04	1.04	1.07	1.06	1.09	1.49			3.14	3.11	3.22
wind	??	velocity	5.14	8.62	8.70	8.87	8.87	8.79	8.79	8.54	8.62	8.39	9.41	8.07		8.73	8.82	8.52

Quiñónez, Jackson (ESP) (1980)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Race 1 - 2011 European Team Championships (Stockholm, SWE) — *Blomkvist (2011) - www.sub13.se*

date	19-Jun-11	time	2.56	3.64	4.68	5.72	6.76	7.80	8.88	9.96	11.08	12.20		13.71	3 / 1			
reaction time	0.171	interval		1.08	1.04	1.04	1.04	1.04	1.08	1.08	1.12	1.12	1.51			3.16	3.16	3.32
wind	-0.8 m/s	velocity	5.36	8.46	8.79	8.79	8.79	8.79	8.46	8.46	8.16	8.16	9.28	8.02		8.68	8.68	8.26

Heat 1 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.70	3.76	4.79	5.82	6.84	7.88	8.92	9.98	11.06	12.16		13.63	8 / 3			
reaction time	0.221	interval		1.06	1.03	1.03	1.02	1.04	1.04	1.06	1.08	1.10	1.47			3.12	3.10	3.24
wind	-0.4 m/s	velocity	5.08	8.62	8.87	8.87	8.96	8.79	8.79	8.62	8.46	8.31	9.54	8.07		8.79	8.85	8.46

Time Trial - 2009 University of Barcelona Hurdle Analysis (Barcelona, ESP) — *Padulles (2010) - valoracio funcinal I analisi tecnica biomecanica den dayron robles*

date	Jun-09	time	2.37	3.48	4.56	5.61	6.70	7.79	8.91	10.01	11.15	12.32		14.11	5 /			
reaction time	0.148	interval		1.11	1.08	1.05	1.09	1.09	1.12	1.10	1.14	1.17	1.79			3.24	3.30	3.41
wind	-0.4 m/s	velocity	5.79	8.23	8.46	8.70	8.39	8.39	8.16	8.31	8.02	7.81	7.83	7.80		8.46	8.31	8.04

FINAL - 2008 Olympic Games (Beijing, CHN) — *Tsiokanos (2018) - race pattern of men's 110m hurdles- time analysis of olympic hurdle performance*

date	21-Aug-08	time	2.64	3.72	4.76	5.79	6.82	7.87	8.92	9.99	11.10	12.20		13.69	9 / 8			
reaction time	0.187	interval		1.08	1.04	1.03	1.03	1.05	1.05	1.07	1.11	1.10	1.49			3.15	3.13	3.28
wind	0.1 m/s	velocity	5.20	8.46	8.79	8.87	8.87	8.70	8.70	8.54	8.23	8.31	9.41	8.04		8.70	8.76	8.36

FINAL - 2008 Spanish National Indoor Championships (Valencia, ESP) *Frutos (2008) - 7.52 record de españa de 60mv masculino de jackson quiñonez: estudio biomecánico*

date	24-Feb-08	time	2.56	3.62	4.62	5.62	6.64							7.52	/ 1			
reaction time		interval		1.06	1.00	1.00	1.02						0.88	NR		3.06		
		velocity	5.36	8.62	9.14	9.14	8.96						11.05	7.98		8.96		

Raja, Andres (EST) (1982)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 2 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 20-Aug-09	time	2.67	3.79	4.91	6.00	7.10	8.19	9.29	10.43	11.55	12.71		14.22	7 / 3			
reaction time 0.151	interval		1.12	1.12	1.09	1.10	1.09	1.10	1.14	1.12	1.16	1.51			3.33	3.29	3.42
wind 0.3 m/s	velocity	5.14	8.16	8.16	8.39	8.31	8.39	8.31	8.02	8.16	7.88	9.28	7.74		8.23	8.33	8.02

Re, Mauro (ITA) (1967)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1997 European Cup (Munich, GER)													*Jung (2003) - http://www.fgs.uni-halle.de*			
date 22-Jun-97	time	2.70	3.76	4.81	5.84	6.89	7.94	9.00	10.06	11.18	12.30		13.76	/ 6			
reaction time	interval		1.06	1.05	1.03	1.05	1.05	1.06	1.06	1.12	1.12	1.46			3.14	3.16	3.30
wind 0.2 m/s	velocity	5.08	8.62	8.70	8.87	8.70	8.70	8.62	8.62	8.16	8.16	9.60	7.99		8.73	8.68	8.31

Reed, Darius (USA) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2007 USATF National Junior Championships (Indianapolis, IN) (99cm)													*USATF Men's Hurdle Development (2007)*			
date 21-Jun-07	time	2.65	3.72	4.75	5.77	6.81	7.86	8.93	9.98	11.09	12.21		13.79	/ 6			
reaction time	interval		1.07	1.03	1.02	1.04	1.05	1.07	1.05	1.11	1.12	1.58			3.12	3.16	3.28
wind 2.7 m/s	velocity	5.18	8.54	8.87	8.96	8.79	8.70	8.54	8.70	8.23	8.16	8.87	7.98		8.79	8.68	8.36

Reed, Gratt (USA) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 2 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis)													*Henson (2024) - Athlete First: 2024 year end hurdle report*			
date 24-Jun-24	time	2.63	3.70	4.76	5.84	6.93	8.02	9.12	10.20	11.30	12.43		13.95	5 / 8			
reaction time	interval	7 steps	1.07	1.06	1.08	1.09	1.09	1.10	1.08	1.10	1.13	1.52			3.21	3.28	3.31
wind -0.3 m/s	velocity	5.22	8.54	8.62	8.46	8.39	8.39	8.31	8.46	8.31	8.09	9.22	7.89		8.54	8.36	8.28

Reese, Terry (USA) (1967)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1997 IAAF World Championships (Athens, GRE)													*Hommel (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*			
date 07-Aug-97	time	2.66	3.72	4.74	5.74	6.76	7.78	8.80	9.82	10.90	12.00		13.30	7 / 6			
reaction time 0.117	interval		1.06	1.02	1.00	1.02	1.02	1.02	1.02	1.08	1.10	1.30	=PB		3.08	3.06	3.20
wind 0.0 m/s	velocity	5.16	8.62	8.96	9.14	8.96	8.96	8.96	8.96	8.46	8.31	10.78	8.27		8.90	8.96	8.57

Rezníček, Tomáš (CZE) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 3 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14	time	2.98	4.38	5.75	7.19	8.60	10.11	11.63	13.15	14.62	16.10		18.00	7 / 7			
reaction time 0.163	interval		1.40	1.37	1.44	1.41	1.51	1.52	1.52	1.47	1.48	1.90			4.21	4.44	4.47
wind -2.5 m/s	velocity	4.60	6.53	6.67	6.35	6.48	6.05	6.01	6.01	6.22	6.18	7.38	6.11		6.51	6.18	6.13

Richard, Thierry (FRA) (1961)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1986 French National Indoor Championships (Lievin, FRA)													*Aubert (1986) - indoor - video - haies, etude des performances*			
date 26-Jan-86	time	2.59	3.66	4.75	5.84	7.00							8.09	/ 5			
reaction time	interval		1.07	1.09	1.09	1.16						1.09			3.25		
	velocity	5.30	8.54	8.39	8.39	7.88						8.92	7.42		8.44		

Semi-Final ? - 1986 French National Indoor Championships (Lievin, FRA) *Aubert (1986) - indoor - video - haies, etude des performances*

date	26-Jan-86	time	2.68	3.78	4.85	5.93	7.07							7.82	/ 5			
reaction time		interval		1.10	1.07	1.08	1.14						0.75			3.25		
		velocity	5.12	8.31	8.54	8.46	8.02						12.96	7.67		8.44		

Richardson, Jason (USA) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2016 USA Olympic Trials (Eugene, OR) (TV Analysis)													*Henson (2020) - Athlete First: 2016 year end hurdle report*			
date 09-Jul-16	time	2.56	3.60	4.60	5.60	6.60	7.64	8.64	9.67	10.71	11.76		13.28	7 / 5			
reaction time 0.212	interval	7 steps	1.04	1.00	1.00	1.00	1.04	1.00	1.03	1.04	1.05	1.52			3.04	3.04	3.12
wind 1.0 m/s	velocity	5.36	8.79	9.14	9.14	9.14	8.79	9.14	8.87	8.79	8.70	9.22	8.28		9.02	9.02	8.79

FINAL - 2016 Meeting International Mohammed VI D'Athletisme (Rabat, MAR) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	22-May-16	time	2.58	3.64	4.66	5.68	6.70	7.74	8.80	9.86	10.92	12.02		13.54	4 / 6			
reaction time	0.159	interval	7 steps	1.06	1.02	1.02	1.02	1.04	1.06	1.06	1.06	1.10	1.52			3.10	3.12	3.22
wind	1.4 m/s	velocity	5.32	8.62	8.96	8.96	8.96	8.79	8.62	8.62	8.62	8.31	9.22	8.12		8.85	8.79	8.52

FINAL - 2016 Shanghai Golden Grand Prix (Shanghai, CHN) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	14-May-16	time	2.54	3.60	4.62	5.64	6.66	7.70	8.74	9.78	10.84	11.92		13.44	9 / 6			
reaction time	0.151	interval	7 steps	1.06	1.02	1.02	1.02	1.04	1.04	1.04	1.06	1.08	1.52			3.10	3.10	3.18
wind	1.2 m/s	velocity	5.40	8.62	8.96	8.96	8.96	8.79	8.79	8.79	8.62	8.46	9.22	8.18		8.85	8.85	8.62

FINAL - 2013 IAAF World Championships (Moscow, RUS) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	12-Aug-13	time	2.56	3.56	4.56	5.58	6.58	7.58	8.60	9.62	10.64	11.68		13.27	7 / 4			
reaction time	0.158	interval	*7 steps*	1.00	1.00	1.02	1.00	1.00	1.02	1.02	1.02	1.04	1.59			3.02	3.02	3.08
wind	0.3 m/s	velocity	5.36	9.14	9.14	8.96	9.14	9.14	8.96	8.96	8.96	8.79	8.82	8.29		9.08	9.08	8.90

FINAL - 2012 Memorial Van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	07-Sep-12	time	2.50	3.54	4.52	5.50	6.50	7.50	8.50	9.50	10.54	11.58		13.05	5 / 2			
reaction time	0.147	interval	*7 steps*	1.04	0.98	0.98	1.00	1.00	1.00	1.00	1.04	1.04	1.47			3.00	3.00	3.08
wind	0.3 m/s	velocity	5.49	8.79	9.33	9.33	9.14	9.14	9.14	9.14	8.79	8.79	9.54	8.43		9.14	9.14	8.90

FINAL - 2012 AIVIA Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	26-Aug-12	time	2.48	3.52	4.52	5.52	6.52	7.50	8.48	9.48	10.50	11.52		12.98	2 / 2			
reaction time	0.165	interval	*7 steps*	1.04	1.00	1.00	1.00	0.98	0.98	1.00	1.02	1.02	1.46	**=PB**		3.04	2.96	3.04
wind	-0.9 m/s	velocity	5.53	8.79	9.14	9.14	9.14	9.33	9.33	9.14	8.96	8.96	9.60	8.47		9.02	9.26	9.02

FINAL - 2012 Olympic Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	08-Aug-12	time	2.54	3.54	4.54	5.54	6.56	7.58	8.58	9.58	10.58	11.62		13.04	4 / 2			
reaction time	0.194	interval	*7 steps*	1.00	1.00	1.00	1.02	1.02	1.00	1.00	1.00	1.04	1.42			3.00	3.04	3.04
wind	-0.3 m/s	velocity	5.40	9.14	9.14	9.14	8.96	8.96	9.14	9.14	9.14	8.79	9.87	8.44		9.14	9.02	9.02

Semi-Final 1 - 2012 Olympic Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	08-Aug-12	time	2.46	3.50	4.50	5.48	6.46	7.44	8.44	9.46	10.50	11.54		13.13	5 / 1			
reaction time	0.160	interval	*7 steps*	1.04	1.00	0.98	0.98	0.98	1.00	1.02	1.04	1.04	1.59			3.02	2.96	3.10
wind	-0.5 m/s	velocity	5.58	8.79	9.14	9.33	9.33	9.33	9.14	8.96	8.79	8.79	8.82	8.38		9.08	9.26	8.85

FINAL - 2012 Herculis Meeting International D'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	20-Jul-12	time	2.50	3.52	4.52	5.52	6.50	7.50	8.48	9.48	10.52	11.56		13.07	4 / 2			
reaction time	0.162	interval	*7 steps*	1.02	1.00	1.00	0.98	1.00	0.98	1.00	1.04	1.04	1.51			3.02	2.96	3.08
wind	0.0 m/s	velocity	5.49	8.96	9.14	9.14	9.33	9.14	9.33	9.14	8.79	8.79	9.28	8.42		9.08	9.26	8.90

FINAL - 2012 AVIVA Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	13-Jul-12	time	2.48	3.50	4.50	5.50	6.50	7.50	8.48	9.48	10.54	11.58		13.06	3 / 2			
reaction time	0.166	interval	*7 steps*	1.02	1.00	1.00	1.00	1.00	0.98	1.00	1.06	1.04	1.48			3.02	2.98	3.10
wind	0.6 m/s	velocity	5.53	8.96	9.14	9.14	9.14	9.14	9.33	9.14	8.62	8.79	9.47	8.42		9.08	9.20	8.85

Heat 2 - 2012 AVIVA Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2021) - Athlete First: 2012 Aries Merritt world record season*

date	13-Jul-12	time	2.48	3.54	4.56	5.58	6.60	7.62	8.64	9.66	10.68	11.76		13.23	3 / 2			
reaction time	0.161	interval	*7 steps*	1.06	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.08	1.47			3.10	3.06	3.12
wind	-0.9 m/s	velocity	5.53	8.62	8.96	8.96	8.96	8.96	8.96	8.96	8.96	8.46	9.54	8.31		8.85	8.96	8.79

FINAL - 2012 USA Olympic Trials (Eugene, OR) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	30-Jun-12	time	2.42	3.44	4.44	5.44	6.45	7.44	8.44	9.44	10.44	11.44		12.98	6 / 2			
reaction time	0.185	interval	*7 steps*	1.02	1.00	1.00	1.01	0.99	1.00	1.00	1.00	1.00	1.54	**=PB**		3.02	3.00	3.00
wind	1.2 m/s	velocity	5.67	8.96	9.14	9.14	9.05	9.23	9.14	9.14	9.14	9.14	9.10	8.47		9.08	9.14	9.14

FINAL - 2012 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	02-Jun-12	time	2.52	3.56	4.56	5.56	6.56	7.56	8.56	9.58	10.62	11.66		13.11	4 / 3			
reaction time	0.159	interval	*7 steps*	1.04	1.00	1.00	1.00	1.00	1.00	1.02	1.04	1.04	1.45			3.04	3.00	3.10
wind	2.4 m/s	velocity	5.44	8.79	9.14	9.14	9.14	9.14	9.14	8.96	8.79	8.79	9.67	8.39		9.02	9.14	8.85

FINAL - 2012 Golden Grand Prix (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	19-May-12	time	2.48	3.52	4.54	5.54	6.52	7.54	8.56	9.56	10.60	11.66		13.16	4 / 3			
reaction time	0.168	interval	*7 steps*	1.04	1.02	1.00	0.98	1.02	1.02	1.00	1.04	1.06	1.50			3.06	3.02	3.10
wind	0.4 m/s	velocity	5.53	8.79	8.96	9.14	9.33	8.96	8.96	9.14	8.79	8.62	9.35	8.36		8.96	9.08	8.85

FINAL - 2012 Colorful Daegu Meeting (Daegu, KOR) (TV Analysis) *Henson (2021) - Athlete First: 2012 Aries Merritt world record season*

date	16-May-12	time	2.65	3.70	4.70	5.72	6.74	7.77	8.77	9.79				13.34	4 / 3			
reaction time	0.234	interval	*7 steps*	1.05	1.00	1.02	1.02	1.03	1.00	1.02						3.07	3.05	
wind	-0.4 m/s	velocity	5.18	8.70	9.14	8.96	8.96	8.87	9.14	8.96				8.25		8.93	8.99	

FINAL - 2011 IAAF World Championships (Daegu, KOR) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	29-Aug-11	time	2.50	3.53	4.55	5.54	6.54	7.54	8.55	9.57	10.61	11.66		13.16	3 / ~~2~~ 1			
reaction time	0.178	interval	*7 steps*	1.03	1.02	0.99	1.00	1.00	1.01	1.02	1.04	1.05	1.50			3.04	3.01	3.11
wind	-1.1 m/s	velocity	5.49	8.87	8.96	9.23	9.14	9.14	9.05	8.96	8.79	8.70	9.35	8.36		9.02	9.11	8.82

Ridgeon, Jon (GBR) (1967)		**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 1988 Olympic Games (Seoul, KOR)														*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*			
date	26-Sep-88	time	2.58	3.66	4.70	5.73	6.80	7.86	8.91	9.99	11.06	12.13		13.52	7 / 5			
reaction time	0.150	interval		1.08	1.04	1.03	1.07	1.06	1.05	1.08	1.07	1.07	1.39			3.15	3.18	3.22
wind	1.5 m/s	velocity	5.32	8.46	8.79	8.87	8.54	8.62	8.70	8.46	8.54	8.54	10.09	8.14		8.70	8.62	8.52

Semi-Final 1 - 1988 Olympic Games (Seoul, KOR) *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.60	3.73	4.77	5.84	6.89	7.97	9.05	10.13	11.20	12.31		13.68	1 / 4			
reaction time	0.170	interval		1.13	1.04	1.07	1.05	1.08	1.08	1.08	1.07	1.11	1.37			3.24	3.21	3.26

wind	0.0 m/s	velocity	5.28	8.09	8.79	8.54	8.70	8.46	8.46	8.46	8.54	8.23	10.23	8.04		8.46	8.54	8.41

FINAL - 1987 IAAF World Championships (Rome, ITA) *Susanka (1988) - time analysis of the sprint hurdle events at the II World Championships in Athletics*

date	03-Sep-87	time	2.60	3.64	4.70	5.72	6.76	7.79	8.82	9.88	10.93	11.96		13.29	6 / 2			
reaction time		interval		1.04	1.06	1.02	1.04	1.03	1.03	1.06	1.05	1.03	1.33			3.12	3.10	3.14
wind	0.5 m/s	velocity	5.28	8.79	8.62	8.96	8.79	8.87	8.87	8.62	8.70	8.87	10.54	8.28		8.79	8.85	8.73

Semi-Final 1 - 1987 IAAF World Championships (Rome, ITA) *Susanka (1988) - time analysis of the sprint hurdle events at the II World Championships in Athletics*

date	01-Sep-87	time	2.60	3.65	4.72	5.73	6.75	7.78	8.85	9.89	10.93	11.98		13.34	3 / 1			
reaction time		interval		1.05	1.07	1.01	1.02	1.03	1.07	1.04	1.04	1.05	1.36			3.13	3.12	3.13
wind	-0.5 m/s	velocity	5.28	8.70	8.54	9.05	8.96	8.87	8.54	8.79	8.79	8.70	10.31	8.25		8.76	8.79	8.76

Heat 3 - 1987 IAAF World Championships (Rome, ITA) *Susanka (1988) - time analysis of the sprint hurdle events at the II World Championships in Athletics*

date	01-Sep-87	time	2.72	3.77	4.81	5.85	6.88	7.94	8.98	10.02	11.06	12.15		13.46	/ 1			
reaction time		interval		1.05	1.04	1.04	1.03	1.06	1.04	1.04	1.04	1.09	1.31			3.13	3.13	3.17
wind	0.2 m/s	velocity	5.04	8.70	8.79	8.79	8.87	8.62	8.79	8.79	8.79	8.39	10.70	8.17		8.76	8.76	8.65

FINAL - 1986 IAAF World Junor Championships (Athens, GRE) (1.07m) *Miskos (1986) - IAAF biomechanical research - Athens 1986 - hurdle races*

date	19-Jul-86	time	2.62	3.73	4.79	5.89	6.93	8.04	9.14	10.24	11.33	12.49		13.91	/ 2			
reaction time		interval		1.11	1.06	1.10	1.04	1.11	1.10	1.10	1.09	1.16	1.42			3.27	3.25	3.35
wind	-0.8 m/s	velocity	5.24	8.23	8.62	8.31	8.79	8.23	8.31	8.31	8.39	7.88	9.87	7.91		8.39	8.44	8.19

FINAL - 1985 European Junior Championships (Cottbus, GDR) (99cm) *Warburton (1985) - 1985 european junior championships - hurdles*

date	23-Aug-85	time	2.32	3.39	4.40	5.39	6.42	7.46	8.53	9.60	10.65	11.72		13.46	/ 1			
reaction time		interval		1.07	1.01	0.99	1.03	1.04	1.07	1.07	1.05	1.07	1.74	PB		3.07	3.14	3.19
wind	1.8 m/s	velocity	5.91	8.54	9.05	9.23	8.87	8.79	8.54	8.54	8.70	8.54	8.06	8.17		8.93	8.73	8.60

Semi-Final 1 - 1985 European Junior Championships (Cottbus, GDR) (99cm) *Warburton (1985) - 1985 european junior championships - hurdles*

date	23-Aug-85	time	2.41	3.54	4.55	5.65	6.65	7.76	8.83	9.89	10.89	12.02		13.75	/ 1			
reaction time		interval		1.13	1.01	1.10	1.00	1.11	1.07	1.06	1.00	1.13	1.73			3.24	3.18	3.19
wind	1.1 m/s	velocity	5.69	8.09	9.05	8.31	9.14	8.23	8.54	8.62	9.14	8.09	8.10	8.00		8.46	8.62	8.60

Heat 3 - 1985 European Junior Championships (Cottbus, GDR) (99cm) *Warburton (1985) - 1985 european junior championships - hurdles*

date	23-Aug-85	time	2.47	3.52	4.58	5.70	6.75	7.82	8.89	10.05	11.09	12.23		14.09	/ 1			
reaction time		interval		1.05	1.06	1.12	1.05	1.07	1.07	1.16	1.04	1.14	1.86			3.23	3.19	3.34
wind	1.9 m/s	velocity	5.55	8.70	8.62	8.16	8.70	8.54	8.54	7.88	8.79	8.02	7.54	7.81		8.49	8.60	8.21

Říha, Michal (CZE) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2014 Czech Republic National Championships (Ostrava, CZE) *Feher (2014) - Final report from the Czech Republic national championships*

date	02-Aug-14	time	2.66	3.85	5.02	6.15	7.28	8.45	9.61	10.75	11.91	13.09		14.66	6 / 3			
reaction time	0.159	interval		1.19	1.17	1.13	1.13	1.17	1.16	1.14	1.16	1.18	1.57			3.49	3.46	3.48
wind	-1.2 m/s	velocity	5.16	7.68	7.81	8.09	8.09	7.81	7.88	8.02	7.88	7.75	8.93	7.50		7.86	7.92	7.88

Heat 1 - 2014 Czech Republic National Championships (Ostrava, CZE) *Feher (2014) - Final report from the Czech Republic national championships*

date	02-Aug-14	time	2.70	3.86	5.02	6.15	7.31	8.47	9.65	10.82	12.00	13.20		14.74	3 / 2			
reaction time	0.171	interval		1.16	1.16	1.13	1.16	1.16	1.18	1.17	1.18	1.20	1.54			3.45	3.50	3.55
wind	-1.6 m/s	velocity	5.08	7.88	7.88	8.09	7.88	7.88	7.75	7.81	7.75	7.62	9.10	7.46		7.95	7.83	7.72

Riley, Andrew (JAM) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 3 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.57	3.60	4.66	5.68	6.76	7.82	8.88	9.94	11.02	12.13		13.57	8 / 5			
reaction time	0.136	interval		1.03	1.06	1.02	1.08	1.06	1.06	1.06	1.08	1.11	1.44			3.11	3.20	3.25
wind	0.6 m/s	velocity	5.34	8.87	8.62	8.96	8.46	8.62	8.62	8.62	8.46	8.23	9.74	8.11		8.82	8.57	8.44

FINAL - 2017 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	04-Jul-17	time	2.54	3.62	4.64	5.66	6.70	7.74	8.78	9.84	10.88	11.96		13.39	1 / 6			
reaction time	0.150	interval	7 steps	1.08	1.02	1.02	1.04	1.04	1.04	1.06	1.04	1.08	1.43			3.12	3.12	3.18
wind	0.3 m/s	velocity	5.40	8.46	8.96	8.96	8.79	8.79	8.79	8.62	8.79	8.46	9.80	8.22		8.79	8.79	8.62

FINAL - 2017 Drake Relays (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	29-Apr-17	time	2.60	3.70	4.76	5.76	6.80	7.83	8.88	9.93	11.00	12.06		13.53	7 / 5			
reaction time		interval	7 steps	1.10	1.06	1.00	1.04	1.03	1.05	1.05	1.07	1.06	1.47			3.16	3.12	3.18
wind	1.8 m/s	velocity	5.28	8.31	8.62	9.14	8.79	8.87	8.70	8.70	8.54	8.62	9.54	8.13		8.68	8.79	8.62

FINAL - 2013 IAAF World Championships (Moscow, RUS) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	12-Aug-13	time	2.48	3.52	4.54	5.54	6.56	7.56	8.58	9.56	10.74	11.92		13.51	3 / 8			
reaction time	0.135	interval	7 steps	1.04	1.02	1.00	1.02	1.00	1.02	0.98	1.18	1.18	1.59			3.06	3.04	3.34
wind	0.3 m/s	velocity	5.53	8.79	8.96	9.14	8.96	9.14	8.96	9.33	7.75	7.75	8.82	8.14		8.96	9.02	8.21

FINAL - 2012 Herculis Meeting International D'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	20-Jul-12	time	2.46	3.50	4.53	5.55	6.57	7.64	8.67	9.71	10.72	11.81		13.28	8 / 7			
reaction time	0.138	interval		1.04	1.03	1.02	1.02	1.07	1.03	1.04	1.01	1.09	1.47			3.09	3.12	3.14
wind	0.0 m/s	velocity	5.58	8.79	8.87	8.96	8.96	8.54	8.87	8.79	9.05	8.39	9.54	8.28		8.87	8.79	8.73

Roberts, Daniel (USA) (1998)			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Short Hurdles - 2025 Grand Slam Track Miami (Miramar, FL) (TV Analysis)																		*Henson (2025) - Athlete First: 2025 year end hurdle report*
date	02-May-25	time	2.57	3.63	4.67	5.67	6.67	7.70	8.71	9.74	10.84	11.91		13.36	5 / 6			
reaction time	0.270	interval	7 steps	1.06	1.04	1.00	1.00	1.03	1.01	1.03	1.10	1.07	1.45			3.10	3.04	3.20
wind	1.4 m/s	velocity	5.34	8.62	8.79	9.14	9.14	8.87	9.05	8.87	8.31	8.54	9.67	8.23		8.85	9.02	8.57
FINAL - 2024 Memorial van damme (Brussels, BEL)																		*Omega Timing (2024) - diamond league race analysis*
date	13-Sep-24	time	2.34	3.39	4.42	5.42	6.46	7.50	8.55	9.63	10.71	11.81		13.44	5 / 8			
reaction time	0.145	interval	7 steps	1.05	1.03	1.00	1.04	1.04	1.05	1.08	1.08	1.10	1.63			3.08	3.13	3.26
wind	0.4 m/s	velocity	5.86	8.70	8.87	9.14	8.79	8.79	8.70	8.46	8.46	8.31	8.60	8.18		8.90	8.76	8.41
FINAL - 2024 Weltklasse (Zürich, SUI)																		*Omega Timing (2024) - diamond league race analysis*
date	05-Sep-24	time	2.36	3.41	4.43	5.44	6.45	7.48	8.50	9.53	10.56	11.61		13.18	5 / 5			
reaction time	0.154	interval	7 steps	1.05	1.02	1.01	1.01	1.03	1.02	1.03	1.03	1.05	1.57			3.08	3.06	3.11
wind	-0.3 m/s	velocity	5.81	8.70	8.96	9.05	9.05	8.87	8.96	8.87	8.87	8.70	8.93	8.35		8.90	8.96	8.82
FINAL - 2024 Kamila Skolimowska Memorial (Silesia, POL)																		*Omega Timing (2024) - diamond league race analysis*
date	25-Aug-24	time	2.32	3.40	4.40	5.40	6.42	7.43	8.47	9.51	10.57	11.65		13.24	8 / 3			
reaction time	0.154	interval	7 steps	1.08	1.00	1.00	1.02	1.01	1.04	1.04	1.06	1.08	1.59			3.08	3.07	3.18
wind	1.1 m/s	velocity	5.91	8.46	9.14	9.14	8.96	9.05	8.79	8.79	8.62	8.46	8.82	8.31		8.90	8.93	8.62
FINAL - 2024 Athletissima (Lausanne, SUI)																		*Omega Timing (2024) - diamond league race analysis*
date	22-Aug-24	time	2.32	3.36	4.37	5.38	6.38	7.40	8.42	9.46	10.51	11.61		13.26	5 / 4			
reaction time	0.164	interval	7 steps	1.04	1.01	1.01	1.00	1.02	1.02	1.04	1.05	1.10	1.65			3.06	3.04	3.19
wind	-0.1 m/s	velocity	5.91	8.79	9.05	9.05	9.14	8.96	8.96	8.79	8.70	8.31	8.50	8.30		8.96	9.02	8.60
FINAL - 2024 Olympic Games (Paris, FRA)																		*Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*
date	08-Aug-24	time	2.45	3.53	4.53	5.53	6.58	7.59	8.61	9.63	10.65	11.70		13.09	4 / 2			
reaction time	0.139	interval	7 steps	1.08	1.00	1.00	1.05	1.01	1.02	1.02	1.02	1.05	1.39			3.08	3.08	3.09
wind	-0.1 m/s	velocity	5.60	8.46	9.14	9.14	8.70	9.05	8.96	8.96	8.96	8.70	10.09	8.40		8.90	8.90	8.87
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)																		*Paris 2024 Olympic Games - Results Book (2024)*
date	07-Aug-24	time	2.29	3.34	4.36	5.37	6.37	7.38	8.40	9.43	10.46	11.52		13.10	8 / 2			
reaction time	0.143	interval	7 steps	1.05	1.02	1.01	1.00	1.01	1.02	1.03	1.03	1.06	1.58			3.08	3.03	3.12
wind	0.6 m/s	velocity	5.99	8.70	8.96	9.05	9.14	9.05	8.96	8.87	8.87	8.62	8.87	8.40		8.90	9.05	8.79
Heat 3 - 2024 Olympic Games (Paris, FRA)																		*Paris 2024 Olympic Games - Results Book (2024)*
date	04-Aug-24	time	2.38	3.45	4.49	5.50	6.53	7.57	8.62	9.68	10.73	11.81		13.43	3 / 3			
reaction time	0.164	interval	7 steps	1.07	1.04	1.01	1.03	1.04	1.05	1.06	1.05	1.08	1.62			3.12	3.12	3.19
wind	1.1 m/s	velocity	5.76	8.54	8.79	9.05	8.87	8.79	8.70	8.62	8.70	8.46	8.65	8.19		8.79	8.79	8.60
FINAL - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis)																		*Henson (2024) - Athlete First: 2024 year end hurdle report*
date	28-Jun-24	time	2.46	3.48	4.48	5.47	6.48	7.50	8.51	9.53	10.55	11.58		12.96	4 / 3			
reaction time		interval	7 steps	1.02	1.00	0.99	1.01	1.02	1.01	1.02	1.02	1.03	1.38	**PB**		3.01	3.04	3.07
wind	2.0 m/s	velocity	5.58	8.96	9.14	9.23	9.05	8.96	9.05	8.96	8.96	8.87	10.16	8.49		9.11	9.02	8.93
Heat 4 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis)																		*Henson (2024) - Athlete First: 2024 year end hurdle report*
date	24-Jun-24	time	2.47	3.53	4.57	5.56	6.56	7.56	8.58	9.62	10.66	11.72		13.14	5 / 2			
reaction time		interval	7 steps	1.06	1.04	0.99	1.00	1.00	1.02	1.04	1.04	1.06	1.42			3.09	3.02	3.14
wind	1.2 m/s	velocity	5.55	8.62	8.79	9.23	9.14	9.14	8.96	8.79	8.79	8.62	9.87	8.37		8.87	9.08	8.73
FINAL - 2024 Prefontaine Classic (Eugene, OR)																		*Omega Timing (2024) - diamond league race analysis*
date	25-May-24	time	2.36	3.43	4.45	5.46	6.46	7.48	8.51	9.54	10.57	11.62		13.13	4 / 2			
reaction time	0.148	interval	7 steps	1.07	1.02	1.01	1.00	1.02	1.03	1.03	1.03	1.05	1.51			3.10	3.05	3.11
wind	-0.1 m/s	velocity	5.81	8.54	8.96	9.05	9.14	8.96	8.87	8.87	8.87	8.70	9.28	8.38		8.85	8.99	8.82
FINAL - 2024 Yangtze River Delta Athletics Diamond Gala (Suzhou, CHN) (TV Analysis)																		*Omega Timing (2024) - diamond league race analysis*
date	27-Apr-24	time	2.49	3.53	4.55	5.55	6.55	7.55	8.56	9.62	10.67	11.71		13.12	4 / 1			
reaction time	0.147	interval	7 steps	1.04	1.02	1.00	1.00	1.00	1.01	1.06	1.05	1.04	1.41			3.06	3.01	3.15
wind	0.8 m/s	velocity	5.51	8.79	8.96	9.14	9.14	9.14	9.05	8.62	8.70	8.79	9.94	8.38		8.96	9.11	8.70
FINAL - 2024 Xiamen Diamond League (Xiamen, CHN)																		*Omega Timing (2024) - diamond league race analysis*
date	20-Apr-24	time	2.38	3.42	4.44	5.45	6.47	7.48	8.49	9.51	10.53	11.59		13.11	6 / 1			
reaction time	0.156	interval	7 steps	1.04	1.02	1.01	1.02	1.01	1.01	1.02	1.02	1.06	1.52			3.07	3.04	3.10
wind	-0.3 m/s	velocity	5.76	8.79	8.96	9.05	8.96	9.05	9.05	8.96	8.96	8.62	9.22	8.39		8.93	9.02	8.85
FINAL - 2024 USATF National Indoor Championships (Albuquerque, NM) (Altitude) (TV Analysis)																		*Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*
date	16-Feb-24	time	2.52	3.56	4.57	5.57	6.60							7.48	2 / 3			
reaction time	0.154	interval	7 steps	1.04	1.01	1.00	1.03						0.88			3.05		
		velocity	5.44	8.79	9.05	9.14	8.87						11.05	8.02		8.99		
Heat 1 - 2024 USATF National Indoor Championships (Albuquerque, NM) (Altitude) (TV Analysis)																		*Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

date	16-Feb-24	time	2.50	3.54	4.55	5.54	6.62							7.58	4 / 3			
reaction time	0.150	interval	7 steps	1.04	1.01	0.99	1.08					0.96				3.04		
		velocity	5.49	8.79	9.05	9.23	8.46					10.13	7.92			9.02		

FINAL - 2024 New Balance Indoor Grand Prix (Boston, MA) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	04-Feb-24	time	2.50	3.54	4.57	5.58	6.60							7.49	3 / 3			
reaction time	0.167	interval	7 steps	1.04	1.03	1.01	1.02					0.89				3.08		
		velocity	5.49	8.79	8.87	9.05	8.96					10.92	8.01			8.90		

FINAL - 2023 Prefontaine Classic (Eugene, OR) *Omega Timing (2023) - diamond league race analysis*

date	17-Sep-23	time	2.34	3.37	4.37	5.38	6.39	7.40	8.42	9.46	10.50	11.55		13.07	3 / 3			
reaction time	0.149	interval		1.03	1.00	1.01	1.01	1.01	1.02	1.04	1.04	1.05	1.52			3.04	3.04	3.13
wind	0.9 m/s	velocity	5.86	8.87	9.14	9.05	9.05	9.05	8.96	8.79	8.79	8.70	9.22	8.42		9.02	9.02	8.76

FINAL - 2023 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2023) - diamond league race analysis*

date	02-Sep-23	time	2.33	3.37	4.37	5.35	6.35	7.35	8.36	9.39	10.43	11.48		13.03	4 / 2			
reaction time	0.140	interval		1.04	1.00	0.98	1.00	1.00	1.01	1.03	1.04	1.05	1.55			3.02	3.01	3.12
wind	0.0 m/s	velocity	5.89	8.79	9.14	9.33	9.14	9.14	9.05	8.87	8.79	8.70	9.05	8.44		9.08	9.11	8.79

FINAL - 2023 World Athletics Championships (Budapest, HUN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	21-Aug-23	time	2.48	3.52	4.52	5.53	6.52	7.56	8.57	9.61	10.65	11.70		13.09	3 / 3			
reaction time	0.143	interval		1.04	1.00	1.01	0.99	1.04	1.01	1.04	1.04	1.05	1.39			3.05	3.04	3.13
wind	0.0 m/s	velocity	5.53	8.79	9.14	9.05	9.23	8.79	9.05	8.79	8.79	8.70	10.09	8.40		8.99	9.02	8.76

Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.46	3.48	4.52	5.54	6.56	7.60	8.62	9.63	10.66	11.70		13.19	5 / 2			
reaction time	0.144	interval		1.02	1.04	1.02	1.02	1.04	1.02	1.01	1.03	1.04	1.49			3.08	3.08	3.08
wind	-0.2 m/s	velocity	5.58	8.96	8.79	8.96	8.96	8.79	8.96	9.05	8.87	8.79	9.41	8.34		8.90	8.90	8.90

Heat 5 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.53	3.55	4.57	5.60	6.62	7.70	8.74	9.79	10.88	11.94		13.36	5 / 3			
reaction time	0.155	interval		1.02	1.02	1.03	1.02	1.08	1.04	1.05	1.09	1.06	1.42			3.07	3.14	3.20
wind	-0.9 m/s	velocity	5.42	8.96	8.96	8.87	8.96	8.46	8.79	8.70	8.39	8.62	9.87	8.23		8.93	8.73	8.57

FINAL - 2023 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2023) - diamond league race analysis*

date	16-Jul-23	time	2.33	3.39	4.43	5.45	6.48	7.50	8.57	9.73	10.92	12.10		13.90	6 / 7			
reaction time	0.159	interval		1.06	1.04	1.02	1.03	1.02	1.07	1.16	1.19	1.18	1.80			3.12	3.12	3.53
wind	0.3 m/s	velocity	5.89	8.62	8.79	8.96	8.87	8.96	8.54	7.88	7.68	7.75	7.79	7.91		8.79	8.79	7.77

Heat 2 - 2023 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2023) - diamond league race analysis*

date	16-Jul-23	time	2.33	3.39	4.42	5.44	6.46	7.49	8.51	9.55	10.59	11.64		13.24	5 / 1			
reaction time	0.146	interval		1.06	1.03	1.02	1.02	1.03	1.02	1.04	1.04	1.05	1.60			3.11	3.07	3.13
wind	-0.2 m/s	velocity	5.89	8.62	8.87	8.96	8.96	8.87	8.96	8.79	8.79	8.70	8.76	8.31		8.82	8.93	8.76

FINAL - 2023 USATF National Championshps (Eugene, OR) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	09-Jul-23	time	2.46	3.47	4.47	5.47	6.47	7.47	8.48	9.51	10.55	11.63		13.05	6 / 1			
reaction time		interval		1.01	1.00	1.00	1.00	1.00	1.01	1.03	1.04	1.08	1.42			3.01	3.01	3.15
wind	-0.2 m/s	velocity	5.58	9.05	9.14	9.14	9.14	9.14	9.05	8.87	8.79	8.46	9.87	8.43		9.11	9.11	8.70

FINAL - 2023 USATF New York City Grand Prix (Randalls Island, NY) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	24-Jun-23	time	2.47	3.50	4.50	5.50	6.54	7.54	8.56	9.58	10.60	11.61		13.01	3 / 1			
reaction time	0.159	interval		1.03	1.00	1.00	1.04	1.00	1.02	1.02	1.02	1.01	1.40			3.03	3.06	3.05
wind	1.6 m/s	velocity	5.55	8.87	9.14	9.14	8.79	9.14	8.96	8.96	8.96	9.05	10.01	8.46		9.05	8.96	8.99

FINAL - 2023 Meeting de Paris (Paris, FRA) *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.30	3.34	4.34	5.34	6.35	7.39	8.42	9.46	10.49	11.54		13.14	4 / 3			
reaction time	0.154	interval		1.04	1.00	1.00	1.01	1.04	1.03	1.04	1.03	1.05	1.60			3.04	3.08	3.12
wind	-0.5 m/s	velocity	5.97	8.79	9.14	9.14	9.05	8.79	8.87	8.79	8.87	8.70	8.76	8.37		9.02	8.90	8.79

Heat 1 - 2023 Meeting de Paris (Paris, FRA) *Omega Timing (2023) - diamond league race analysis*

date	09-Jun-23	time	2.32	3.39	4.42	5.45	6.48	7.51	8.54	9.58	10.63	11.71		13.32	3 / 1			
reaction time	0.153	interval		1.07	1.03	1.03	1.03	1.03	1.03	1.04	1.05	1.08	1.61			3.13	3.09	3.17
wind	-2.0 m/s	velocity	5.91	8.54	8.87	8.87	8.87	8.87	8.87	8.79	8.70	8.46	8.71	8.26		8.76	8.87	8.65

FINAL - 2022 ISTAF (Berlin, GER) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	04-Sep-22	time	2.50	3.52	4.54	5.56	6.56	7.60	8.62	9.66	10.70	11.78		13.25	6 / 3			
reaction time	0.145	interval		1.02	1.02	1.02	1.00	1.04	1.02	1.04	1.04	1.08	1.47			3.06	3.06	3.16
wind	0.6 m/s	velocity	5.49	8.96	8.96	8.96	9.14	8.79	8.96	8.79	8.79	8.46	9.54	8.30		8.96	8.96	8.68

FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	10-Aug-22	time	2.43	3.46	4.50	5.50	6.53	7.53	8.56	9.56	10.63	11.73		13.20	3 / 4			
reaction time	0.157	interval		1.03	1.04	1.00	1.03	1.00	1.03	1.00	1.07	1.10	1.47			3.07	3.06	3.17
wind	0.6 m/s	velocity	5.65	8.87	8.79	9.14	8.87	9.14	8.87	9.14	8.54	8.31	9.54	8.33		8.93	8.96	8.65

Heat 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.50	3.50	4.50	5.50	6.53	7.56	8.60					dnf	4 / --			
reaction time	0.179	interval		1.00	1.00	1.00	1.03	1.03	1.04					DQ		3.00	3.10	
wind	-0.3 m/s	velocity	5.49	9.14	9.14	9.14	8.87	8.87	8.79							9.14	8.85	

FINAL - 2022 USATF National Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	26-Jun-22	time	2.43	3.47	4.47	5.47	6.47	7.47	8.50	9.52	10.54	11.61		13.03	7 / 1			
reaction time		interval		1.04	1.00	1.00	1.00	1.00	1.03	1.02	1.02	1.07	1.42			3.04	3.03	3.11
wind	1.2 m/s	velocity	5.65	8.79	9.14	9.14	9.14	9.14	8.87	8.96	8.96	8.54	9.87	8.44		9.02	9.05	8.82

Semi-Final 1 - 2022 USATF National Championships (Eugene, OR) *USATF (2022) - Results powered by Karmarush.com*

date	26-Jun-22	time	2.40	3.45	4.55	5.43	6.46	7.52	8.54	9.57	10.60	11.65	*13.17*	13.17	6 / 2			
reaction time		interval		1.05	1.10	0.88	1.03	1.06	1.02	1.03	1.03	1.05	1.52			3.03	3.11	3.11
wind	0.4 m/s	velocity	5.72	8.70	8.31	10.39	8.87	8.62	8.96	8.87	8.87	8.70	9.22	8.35		9.05	8.82	8.82

FINAL - 2022 New York Grand Prix (New York, NY) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	12-Jun-22	time	2.40	3.43	4.45	5.47	6.50	7.52	8.52	9.56	10.60	11.67		13.17	4 / 3			
reaction time	0.156	interval		1.03	1.02	1.02	1.03	1.02	1.00	1.04	1.04	1.07	1.50	PB		3.07	3.05	3.15
wind	1.6 m/s	velocity	5.72	8.87	8.96	8.96	8.87	8.96	9.14	8.79	8.79	8.54	9.35	8.35		8.93	8.99	8.70

FINAL - 2022 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	17-Feb-22	time	2.43	3.46	4.53	5.55	6.60							7.67	7 / 7			
reaction time	0.172	interval	7 steps	1.03	1.07	1.02	1.05						1.07			3.12		
		velocity	5.65	8.87	8.54	8.96	8.70						9.08	7.82		8.79		

Heat 2 - 2022 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	17-Feb-22	time	2.37	3.40	4.44	5.48	6.54							7.58	3 / 3			
reaction time	0.149	interval	7 steps	1.03	1.04	1.04	1.06						1.04			3.11		
		velocity	5.79	8.87	8.79	8.79	8.62						9.35	7.92		8.82		

FINAL - 2022 New Balance Indoor Grand Prix (Staten Island, NY) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	06-Feb-22	time	2.47	3.54	4.60	5.61	6.65							7.60	6 / 4			
reaction time	0.175	interval	7 steps	1.07	1.06	1.01	1.04						0.95			3.14		
		velocity	5.55	8.54	8.62	9.05	8.79						10.23	7.89		8.73		

FINAL - 2021 Weltklasse (Zürich, SUI) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	09-Sep-21	time	2.46	3.52	4.54	5.56	6.58	7.60	8.64	9.68	10.74	11.80		13.31	3 / 4			
reaction time	0.173	interval		1.06	1.02	1.02	1.02	1.02	1.04	1.04	1.06	1.06	1.51			3.10	3.08	3.16
wind	0.6 m/s	velocity	5.58	8.62	8.96	8.96	8.96	8.96	8.79	8.79	8.62	8.62	9.28	8.26		8.85	8.90	8.68

FINAL - 2021 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	28-Aug-21	time	2.46	3.50	4.52	5.54	6.52	7.56	8.58	9.58	10.62	11.68		13.16	2 / 3			
reaction time	0.169	interval		1.04	1.02	1.02	0.98	1.04	1.02	1.00	1.04	1.06	1.48			3.08	3.04	3.10
wind	0.7 m/s	velocity	5.58	8.79	8.96	8.96	9.33	8.79	8.96	9.14	8.79	8.62	9.47	8.36		8.90	9.02	8.85

FINAL - 2021 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Aug-21	time	2.48	3.52	4.56	5.56	6.58	7.60	8.62	9.66	10.72	11.78		13.23	7 / 4			
reaction time	0.178	interval		1.04	1.04	1.00	1.02	1.02	1.02	1.04	1.06	1.06	1.45			3.08	3.06	3.16
wind	2.5 m/s	velocity	5.53	8.79	8.79	9.14	8.96	8.96	8.96	8.79	8.62	8.62	9.67	8.31		8.90	8.96	8.68

Semi-Final 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.48	3.55	4.58	5.61	6.62	7.69	8.75	9.82	10.84	11.84		13.33	5 / 5			
reaction time	0.195	interval		1.07	1.03	1.03	1.01	1.07	1.06	1.07	1.02	1.00	1.49			3.13	3.14	3.09
wind	0.3 m/s	velocity	5.53	8.54	8.87	8.87	9.05	8.54	8.62	8.54	8.96	9.14	9.41	8.25		8.76	8.73	8.87

Heat 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.61	3.66	4.66	5.69	6.70	7.72	8.78	9.86	10.89	11.97		13.41	5 / 2			
reaction time	0.188	interval		1.05	1.00	1.03	1.01	1.02	1.06	1.08	1.03	1.08	1.44			3.08	3.09	
wind	-0.1 m/s	velocity	5.26	8.70	9.14	8.87	9.05	8.96	8.62	8.46	8.87	8.46	9.74	8.20		8.90	8.87	

FINAL - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.43	3.47	4.47	5.47	6.47	7.49	8.51	9.53	10.56	11.61		13.11	6 / 3			
reaction time	0.201	interval		1.04	1.00	1.00	1.00	1.02	1.02	1.02	1.03	1.05	1.50			3.04	3.04	3.10
wind	0.4 m/s	velocity	5.65	8.79	9.14	9.14	9.14	8.96	8.96	8.96	8.87	8.70	9.35	8.39		9.02	9.02	8.85

Semi-Final 2 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Jun-21	time	2.46	3.53	4.53	5.53	6.55	7.56	8.55	9.61	10.63	11.72		13.25	4 / 2			
reaction time	0.179	interval		1.07	1.00	1.00	1.02	1.01	0.99	1.06	1.02	1.09	1.53			3.07	3.02	3.17
wind	1.2 m/s	velocity	5.58	8.54	9.14	9.14	8.96	9.05	9.23	8.62	8.96	8.39	9.16	8.30		8.93	9.08	8.65

Heat 2 - 2020 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	25-Jun-21	time	2.46	3.50	4.53	5.53	6.53	7.53	8.56	9.60	10.63	11.70		13.22	1 / 1			

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

reaction time	0.182	interval		1.04	1.03	1.00	1.00	1.00	1.03	1.04	1.03	1.07	1.52			3.07	3.03	3.14
wind	1.5 m/s	velocity	5.58	8.79	8.87	9.14	9.14	9.14	8.87	8.79	8.87	8.54	9.22	8.32		8.93	9.05	8.73

FINAL - 2020 Millrose Games (New York, NY) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	08-Feb-20	time	2.47	3.54	4.57	5.61	6.67							7.64	5 / 1			
reaction time	0.194	interval	7 steps	1.07	1.03	1.04	1.06						0.97			3.14		
		velocity	5.55	8.54	8.87	8.79	8.62						10.02	7.85		8.73		

Heat 3 - 2019 IAAF World Championships (Doha, QAT) (TV Analysis) *Henson (2021) - Athlete First: 2019 year end hurdle report*

date	30-Sep-19	time	2.42	3.46	4.48	5.48	6.48	7.52	8.54	9.58	10.62	11.76		13.38	4 / ~~1~~			
reaction time	0.186	interval		1.04	1.02	1.00	1.00	1.04	1.02	1.04	1.04	1.14	1.62	DQ		3.06	3.06	3.22
wind	-0.4 m/s	velocity	5.67	8.79	8.96	9.14	9.14	8.79	8.96	8.79	8.79	8.02	8.65	8.22		8.96	8.96	8.52

FINAL - 2019 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	24-Aug-19	time	2.46	3.48	4.50	5.52	6.52	7.52	8.54	9.56	10.58	11.66		13.08	3 / 1			
reaction time	0.161	interval		1.02	1.02	1.02	1.00	1.00	1.02	1.02	1.02	1.08	1.42			3.06	3.02	3.12
wind	0.8 m/s	velocity	5.58	8.96	8.96	8.96	9.14	9.14	8.96	8.96	8.96	8.46	9.87	8.41		8.96	9.08	8.79

FINAL - 2019 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	18-Aug-19	time	2.54	3.56	4.61	5.64	6.62	7.64	8.66	9.69	10.77	11.87		13.48	6 / 4			
reaction time	0.200	interval		1.02	1.05	1.03	0.98	1.02	1.02	1.03	1.08	1.10	1.61			3.10	3.02	3.21
wind	-0.2 m/s	velocity	5.40	8.96	8.70	8.87	9.33	8.96	8.96	8.87	8.46	8.31	8.71	8.16		8.85	9.08	8.54

FINAL - 2019 USATF National Championships (Des Moines, IA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	28-Jul-19	time	2.46	3.50	4.54	5.57	6.57	7.60	8.61	9.64	10.67	11.73		13.23	4 / 1			
reaction time		interval		1.04	1.04	1.03	1.00	1.03	1.01	1.03	1.03	1.06	1.50			3.11	3.04	3.12
wind	-0.8 m/s	velocity	5.58	8.79	8.79	8.87	9.14	8.87	9.05	8.87	8.87	8.62	9.35	8.31		8.82	9.02	8.79

FINAL - 2019 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	05-Jul-19	time	2.50	3.54	4.56	5.58	6.58	7.58	8.60	9.62	10.64	11.66		13.11	5 / 2			
reaction time	0.204	interval		1.04	1.02	1.02	1.00	1.00	1.02	1.02	1.02	1.02	1.45			3.08	3.02	3.06
wind	1.0 m/s	velocity	5.49	8.79	8.96	8.96	9.14	9.14	8.96	8.96	8.96	8.96	9.67	8.39		8.90	9.08	8.96

FINAL - 2019 NCAA National Championships (Austin, TX) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	07-Jun-19	time	2.50	3.53	4.53	5.53	6.51	7.51	8.51	9.54	10.55	11.60		13.00	4 / 2			
reaction time	0.191	interval		1.03	1.00	1.00	0.98	1.00	1.00	1.03	1.01	1.05	1.40	PB		3.03	2.98	3.09
wind	0.8 m/s	velocity	5.49	8.87	9.14	9.14	9.33	9.14	9.14	8.87	9.05	8.70	10.01	8.46		9.05	9.20	8.87

Semi-Final 1 - 2019 NCAA National Championships (Austin, TX) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	05-Jun-19	time	2.33	3.35	4.35	5.35	6.35	7.38	8.41	9.43	10.46	11.50		13.06	6 / 1			
reaction time	0.203	interval		1.02	1.00	1.00	1.00	1.03	1.03	1.02	1.03	1.04	1.56	PB		3.02	3.06	3.09
wind	0.9 m/s	velocity	5.89	8.96	9.14	9.14	9.14	8.87	8.87	8.96	8.87	8.79	8.99	8.42		9.08	8.96	8.87

Quarter-Final 3 - 2019 NCAA Championships - East Preliminary Round (Jacksonville, FL) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	25-May-19	time	2.36	3.40	4.40	5.44	6.48	7.48	8.50	9.54	10.56	11.62		13.13	5 / 1			
reaction time		interval		1.04	1.00	1.04	1.04	1.00	1.02	1.04	1.02	1.06	1.51			3.08	3.06	3.12
wind	1.5 m/s	velocity	5.81	8.79	9.14	8.79	8.79	9.14	8.96	8.79	8.96	8.62	9.28	8.38		8.90	8.96	8.79

FINAL - 2019 South Eastern Conference Championships (Fayetteville, AR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	11-May-19	time	2.53	3.56	4.58	5.60	6.60	7.58	8.60	9.62	10.66	11.72		13.07	4 / 1			
reaction time		interval		1.03	1.02	1.02	1.00	0.98	1.02	1.02	1.04	1.06	1.35	PB		3.07	3.00	3.12
wind	1.0 m/s	velocity	5.42	8.87	8.96	8.96	9.14	9.33	8.96	8.96	8.79	8.62	10.39	8.42		8.93	9.14	8.79

FINAL - 2019 NCAA National Indoor Championships (Birmingham, AL) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	9-Mar-19	time	2.53	3.54	4.54	5.54	6.57							7.41	3 / 2			
reaction time	0.181	interval		1.01	1.00	1.00	1.03						0.84	PB		3.01		
		velocity	5.42	9.05	9.14	9.14	8.87						11.57	8.10		9.11		

FINAL - 2019 South Eastern Conference Indoor Championships (Fayetteville, AR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	23-Feb-19	time	2.55	3.60	4.61	5.60	6.62							7.48	5 / 2			
reaction time		interval		1.05	1.01	0.99	1.02						0.86			3.05		
		velocity	5.38	8.70	9.05	9.23	8.96						11.30	8.02		8.99		

Roberts, Giano (JAM) (2000)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

FINAL - 2023 NCAA Championships (Austin, TX) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	09-Jun-23	time	2.50	3.57	4.60	5.63	6.64	7.68	8.72	9.77	10.80	11.83		13.31	7 / 5			
reaction time		interval		1.07	1.03	1.03	1.01	1.04	1.04	1.05	1.03	1.03	1.48	PB		3.13	3.09	3.11
wind	1.8 m/s	velocity	5.49	8.54	8.87	8.87	9.05	8.79	8.79	8.70	8.87	8.87	9.47	8.26		8.76	8.87	8.82

FINAL - 2022 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	10-Jun-22	time	2.50	3.59	4.64	5.67	6.69	7.74	8.77	9.82	10.86	11.91		13.45	1 / 4			
reaction time		interval		1.09	1.05	1.03	1.02	1.05	1.03	1.05	1.04	1.05	1.54			3.17	3.10	3.14
wind	0.0 m/s	velocity	5.49	8.39	8.70	8.87	8.96	8.70	8.87	8.70	8.79	8.70	9.10	8.18		8.65	8.85	8.73

FINAL - 2021 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	11-Jun-21	time	2.57	3.63	4.70	5.73	6.75	7.79	8.83	9.95	11.07	12.13		13.65	3 / 7			
reaction time	0.152	interval		1.06	1.07	1.03	1.02	1.04	1.04	1.12	1.12	1.06	1.52			3.16	3.10	3.30
wind	-0.6 m/s	velocity	5.34	8.62	8.54	8.87	8.96	8.79	8.79	8.16	8.16	8.62	9.22	8.06		8.68	8.85	8.31

Robles, Dayron (CUB) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2012 Olympic Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	08-Aug-12	time	2.46	3.48	4.50	5.50	6.50	7.72						42.86	5 / --			
reaction time	0.159	interval	7 steps	1.02	1.02	1.00	1.00	1.22						DQ		3.04		
wind	-0.3 m/s	velocity	5.58	8.96	8.96	9.14	9.14	7.49						2.57		9.02		

Semi-Final 3 - 2012 Olympic Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	08-Aug-12	time	2.48	3.48	4.48	5.46	6.46	7.46	8.50	9.54	10.58	11.62		13.10	7 / 1			
reaction time	0.162	interval	7 steps	1.00	1.00	0.98	1.00	1.00	1.04	1.04	1.04	1.04	1.48			2.98	3.04	3.12
wind	0.1 m/s	velocity	5.53	9.14	9.14	9.33	9.14	9.14	8.79	8.79	8.79	8.79	9.47	8.40		9.20	9.02	8.79

FINAL - 2011 IAAF World Championships (Daegu, KOR) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	29-Aug-11	time	2.40	3.45	4.47	5.47	6.47	7.47	8.47	9.51	10.54	11.64		13.14	5 / ~~1~~			
reaction time	0.150	interval	7 steps	1.05	1.02	1.00	1.00	1.00	1.00	1.04	1.03	1.10	1.50	DQ		3.07	3.00	3.17
wind	-1.1 m/s	velocity	5.72	8.70	8.96	9.14	9.14	9.14	9.14	8.79	8.87	8.31	9.35	8.37		8.93	9.14	8.65

FINAL - 2010 Colorful Daegu Meeting (Daegu, KOR) *Hong (2018) - performance of men's 110m hurdles using rhythmic units*

date	19-May-10	time	2.69	3.76	4.76	5.74	6.76	7.76	8.76	9.78	10.83	11.88		13.26	/ 2			
reaction time	0.216	interval	7 steps	1.07	1.00	0.98	1.02	1.00	1.00	1.02	1.05	1.05	1.38			3.05	3.02	3.12
wind	-0.2 m/s	velocity	5.10	8.54	9.14	9.33	8.96	9.14	9.14	8.96	8.70	8.70	10.16	8.30		8.99	9.08	8.79

FINAL - 2010 IAAF World Indoor Championships (Doha, QAT) *Kuitunen (2010) - biomencanical analysis of the 14th IAAF World Indoor championships*

date	14-Mar-10	time	2.54	3.54	4.52	5.49	6.47							7.34	6 / 1			
reaction time	0.196	interval	7 steps	1.00	0.98	0.97	0.98						0.87	CR		2.95		
		velocity	5.40	9.14	9.33	9.42	9.33						11.17	8.17		9.29		

FINAL - 2010 GE Galan (Stockholm, SWE) *Blomkvist (2010) - www.sub13.se*

date	10-Feb-10	time	2.35	3.39	4.39	5.37	6.38							7.49	/ 1			
reaction time		interval	7 steps	1.04	1.00	0.98	1.01						1.11			3.02		
		velocity	5.84	8.79	9.14	9.33	9.05						8.76	8.01		9.08		

Heat 2 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.71	3.81	4.91	5.99	7.03	8.08	9.11	10.14	11.17	12.21		13.67	2 / 3			
reaction time	0.178	interval	7 steps	1.10	1.10	1.08	1.04	1.05	1.03	1.03	1.03	1.04	1.46			3.28	3.12	3.10
wind	-0.2 m/s	velocity	5.06	8.31	8.31	8.46	8.79	8.70	8.87	8.87	8.87	8.79	9.60	8.05		8.36	8.79	8.85

Time Trial - 2009 University of Barcelona Hurdle Analysis (Barcelona, ESP) *Padulles (2010) - valoracio funcinal I analisi tecnica biomecanica den dayron robles*

date	38503	time	2.34	3.39	4.42	5.44	6.49	7.54	8.60	9.64	10.70	11.80		13.51	5 /			
reaction time	0.184	interval	7 steps	1.05	1.03	1.02	1.05	1.05	1.06	1.04	1.06	1.10	1.71			3.10	3.16	3.20
wind	-0.4 m/s	velocity	5.86	8.70	8.87	8.96	8.70	8.70	8.62	8.79	8.62	8.31	8.20	8.14		8.85	8.68	8.57

FINAL - 2008 Olympic Games (Beijing, CHN) *Tsiokanos (2018) - race pattern of men's 110m hurdles- time analysis of olympic hurdle performance*

date	21-Aug-08	time	2.50	3.53	4.50	5.49	6.48	7.48	8.48	9.50	10.53	11.56		12.93	6 / 1			
reaction time	0.183	interval	7 steps	1.03	0.97	0.99	0.99	1.00	1.00	1.02	1.03	1.03	1.37			2.99	2.99	3.08
wind	0.1 m/s	velocity	5.49	8.87	9.42	9.23	9.23	9.14	9.14	8.96	8.87	8.87	10.23	8.51		9.17	9.17	8.90

FINAL - 2008 Golden Spike (Ostrava, CZE) (TV Analysis) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	12-Jun-08	time	2.47	3.48	4.46	5.46	6.44	7.43	8.42	9.44	10.46	11.49		12.87	6 / 1			
reaction time		interval	7 steps	1.01	0.98	1.00	0.98	0.99	0.99	1.02	1.02	1.03	1.38	WR		2.99	2.96	3.07
wind	0.9 m/s	velocity	5.55	9.05	9.33	9.14	9.33	9.23	9.23	8.96	8.96	8.87	10.16	8.55		9.17	9.26	8.93

FINAL - 2007 Golden Grand Prix (Shanghai, CHN) *Ma (2008) - analysis of Liu Xiang's time characteristic in men's 110m hurdles during golden grand prix in Shanghai*

date	28-Sep-07	time	2.27	3.24	4.26	5.33	6.31	7.30	8.24	9.17	10.28	11.35		13.01	/ 1			
reaction time	0.186	interval	7 steps	0.97	1.02	1.07	0.98	0.99	0.94	0.93	1.11	1.07	1.66			3.06	2.91	3.11
wind	-0.4 m/s	velocity	6.04	9.42	8.96	8.54	9.33	9.23	9.72	9.83	8.23	8.54	8.45	8.46		8.96	9.42	8.82

FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER) *Graubner (2007) - http://www.fgs.uni-halle.de*

date	23-Sep-07	time	2.51	3.55	4.54	5.53	6.53	7.51	8.51	9.51	10.53	11.57		12.92	4 / 1			
reaction time	0.158	interval	7 steps	1.04	0.99	0.99	1.00	0.98	1.00	1.00	1.02	1.04	1.35	CR / AR		3.02	2.98	3.06
wind	0.0 m/s	velocity	5.47	8.79	9.23	9.23	9.14	9.33	9.14	9.14	8.96	8.79	10.39	8.51		9.08	9.20	8.96

Rodrigues, Eduardo (BRA) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 3 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	2.45	3.52	4.54	5.56	6.57	7.59	8.62	9.66	10.72	11.81		13.44	6 / 6			
reaction time	0.159	interval		1.07	1.02	1.02	1.01	1.02	1.03	1.04	1.06	1.09	1.63			3.11	3.06	3.19
wind	0.6 m/s	velocity	5.60	8.54	8.96	8.96	9.05	8.96	8.87	8.79	8.62	8.39	8.60	8.18		8.82	8.96	8.60

Heat 1 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.48	3.57	4.59	5.60	6.60	7.60	8.61	9.63	10.69	11.77		13.37	4 / 3		
reaction time	0.165	interval		1.09	1.02	1.01	1.00	1.00	1.01	1.02	1.06	1.08	1.60			3.12	3.01	3.16
wind	0.1 m/s	velocity	5.53	8.39	8.96	9.05	9.14	9.14	9.05	8.96	8.62	8.46	8.76	8.23		8.79	9.11	8.68

Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.66	3.75	4.80	5.80	6.82	7.83	8.83	9.86	10.93	12.03		13.52	8 / 6		
reaction time	0.142	interval	7 steps	1.09	1.05	1.00	1.02	1.01	1.00	1.03	1.07	1.10	1.49			3.14	3.03	3.20
wind	-0.2 m/s	velocity	5.16	8.39	8.70	9.14	8.96	9.05	9.14	8.87	8.54	8.31	9.41	8.14		8.73	9.05	8.57

Heat 4 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.63	3.68	4.70	5.70	6.70	7.72	8.74	9.77	10.83	11.88		13.37	1 / 3		
reaction time	0.150	interval	7 steps	1.05	1.02	1.00	1.00	1.02	1.02	1.03	1.06	1.05	1.49			3.07	3.04	3.14
wind	-0.6 m/s	velocity	5.22	8.70	8.96	9.14	9.14	8.96	8.96	8.87	8.62	8.70	9.41	8.23		8.93	9.02	8.73

FINAL - 2023 FBK Games (Hengelo, NED) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	04-Jun-23	time	2.65	3.74	4.77	5.78	6.79	7.81	8.83	9.93	10.98	12.10		13.51	7 / 6		
reaction time	0.149	interval	7 steps	1.09	1.03	1.01	1.01	1.02	1.02	1.10	1.05	1.12	1.41			3.13	3.05	3.27
wind	0.4 m/s	velocity	5.18	8.39	8.87	9.05	9.05	8.96	8.96	8.31	8.70	8.16	9.94	8.14		8.76	8.99	8.39

Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.63	3.70	4.73	5.76	6.86	7.90	8.93	10.00	11.03	12.13		13.62	7 / 8		
reaction time	0.130	interval	7 steps	1.07	1.03	1.03	1.10	1.04	1.03	1.07	1.03	1.10	1.49			3.13	3.17	3.20
wind	0.3 m/s	velocity	5.22	8.54	8.87	8.87	8.31	8.79	8.87	8.54	8.87	8.31	9.41	8.08		8.76	8.65	8.57

Heat 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.56	3.63	4.70	5.73	6.73	7.73	8.76	9.80	10.90	11.96		13.46	8 / 4		
reaction time	0.134	interval	7 steps	1.07	1.07	1.03	1.00	1.00	1.03	1.04	1.10	1.06	1.50			3.17	3.03	3.20
wind	0.4 m/s	velocity	5.36	8.54	8.54	8.87	9.14	9.14	8.87	8.79	8.31	8.62	9.35	8.17		8.65	9.05	8.57

Heat 5 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.78	3.86	4.90	5.90	6.94	7.96	9.01	10.06	11.20	12.30		13.78	9 / 8		
reaction time	0.163	interval		1.08	1.04	1.00	1.04	1.02	1.05	1.05	1.14	1.10	1.48			3.12	3.11	3.29
wind	-0.1 m/s	velocity	4.94	8.46	8.79	9.14	8.79	8.96	8.70	8.70	8.02	8.31	9.47	7.98		8.79	8.82	8.33

Roe, Martin (NOR) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	05-Aug-21	time	2.80	3.97	5.18	6.40	7.60	8.85	10.05	11.28	12.56	13.80		15.47	8 / 5		
reaction time	0.144	interval	7 steps	1.17	1.21	1.22	1.20	1.25	1.20	1.23	1.28	1.24	1.67			3.60	3.65	3.75
wind	0.1 m/s	velocity	4.90	7.81	7.55	7.49	7.62	7.31	7.62	7.43	7.14	7.37	8.40	7.11		7.62	7.51	7.31

Rollins, Louis (USA) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	27-Jun-24	time	2.50	3.55	4.60	5.64	6.67	7.71	8.75	9.81	10.85	11.94		13.33	3 / 4		
reaction time		interval		1.05	1.05	1.04	1.03	1.04	1.04	1.06	1.04	1.09	1.39			3.14	3.11	3.19
wind	0.3 m/s	velocity	5.49	8.70	8.70	8.79	8.87	8.79	8.79	8.62	8.79	8.39	10.09	8.25		8.73	8.82	8.60

Heat 4 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.53	3.60	4.65	5.68	6.70	7.72	8.76	9.83	10.90	11.96		13.38	3 / 5		
reaction time		interval		1.07	1.05	1.03	1.02	1.02	1.04	1.07	1.07	1.06	1.42	PB		3.15	3.08	3.20
wind	1.2 m/s	velocity	5.42	8.54	8.70	8.87	8.96	8.96	8.79	8.54	8.54	8.62	9.87	8.22		8.70	8.90	8.57

FINAL - 2024 Atlanta City Cames (Atlanta, GA) (Street Race) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	18-May-24	time	2.56	3.61	4.65	5.68	6.72	7.80	8.85	9.92	10.98	12.06		13.55	2 / 4		
reaction time		interval		1.05	1.04	1.03	1.04	1.08	1.05	1.07	1.06	1.08	1.49			3.12	3.17	3.21
wind	-0.7 m/s	velocity	5.36	8.70	8.79	8.87	8.79	8.46	8.70	8.54	8.62	8.46	9.41	8.12		8.79	8.65	8.54

FINAL - 2024 USATF National Indoor Championships (Albuquerque, NM) (Altitude) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	16-Feb-24	time	2.52	3.58	4.63	5.65	6.67							7.56	6 / 4		
reaction time	0.154	interval		1.06	1.05	1.02	1.02						0.89	=PB		3.13		
		velocity	5.44	8.62	8.70	8.96	8.96						10.92	7.94		8.76		

FINAL - 2024 New Balance Indoor Grand Prix (Boston, MA) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	04-Feb-24	time	2.52	3.60	4.64	5.72	6.75							7.70	7 / 8		
reaction time	0.182	interval		1.08	1.04	1.08	1.03						0.95			3.20		
		velocity	5.44	8.46	8.79	8.46	8.87						10.23	7.79		8.57		

FINAL - 2023 USATF Bermuda Grand Prix (Devonshire, BER) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-May-23	time	2.60	3.70	4.75	5.83	6.87	7.92	8.97	10.04	11.13	12.25		13.67	1 / 7		
reaction time	0.179	interval		1.10	1.05	1.08	1.04	1.05	1.05	1.07	1.09	1.12	1.42			3.23	3.14	3.28
wind	4.0 m/s	velocity	5.28	8.31	8.70	8.46	8.79	8.70	8.70	8.54	8.39	8.16	9.87	8.05		8.49	8.73	8.36

Semi-Final 1 - 2022 USATF National Championships (Eugene, OR) *USATF (2022) - Results powered by Karmarush.com*

date	26-Jun-22	time	2.47	3.51	4.60	5.61	6.69	7.72	8.77	9.82	10.95	12.03		13.58	9 / 8			
reaction time		interval		1.04	1.09	1.01	1.08	1.03	1.05	1.05	1.13	1.08	1.55			3.14	3.16	3.26
wind	0.4 m/s	velocity	5.55	8.79	8.39	9.05	8.46	8.87	8.70	8.70	8.09	8.46	9.05	8.10		8.73	8.68	8.41

Rooney, Taylor (USA) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 2 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude)													*CAA Hurdle Development (2020)*			
date 14-Feb-20	time	2.70	3.82	4.89	5.99	7.09						8.06	5 / 5			
reaction time 0.219	interval	7 Steps	1.12	1.07	1.10	1.10					0.97			3.29		
	velocity	5.08	8.16	8.54	8.31	8.31					10.02	7.44		8.33		

Roosen, Sven (NED) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 3 - 2024 Olympic Games (Paris, FRA)													*Paris 2024 Olympic Games - Results Book (2024)*			
date 03-Aug-24	time	2.50	3.60	4.70	5.77	6.84	7.91	8.99	10.10	11.21	12.32		13.99	6 / 4			
reaction time 0.148	interval		1.10	1.10	1.07	1.07	1.07	1.08	1.11	1.11	1.11	1.67			3.27	3.22	3.33
wind 0.7 m/s	velocity	5.49	8.31	8.31	8.54	8.54	8.54	8.46	8.23	8.23	8.23	8.40	7.86		8.39	8.52	8.23

Rooth, Markus (NOR) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 1 - 2024 Olympic Games (Paris, FRA)													*Paris 2024 Olympic Games - Results Book (2024)*			
date 03-Aug-24	time	2.46	3.60	4.71	5.80	6.91	8.01	9.15	10.25	11.38	12.55		14.25	6 / 1			
reaction time 0.143	interval		1.14	1.11	1.09	1.11	1.10	1.14	1.10	1.13	1.17	1.70			3.34	3.35	3.40
wind 0.2 m/s	velocity	5.58	8.02	8.23	8.39	8.23	8.31	8.02	8.31	8.09	7.81	8.25	7.72		8.21	8.19	8.06
Decathlon - Heat 2 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis)													*Henson (2024) - Athlete First: 2023 year end hurdle report*			
date 26-Aug-23	time	2.63	3.75	4.85	5.94	7.02	8.16	9.33	10.52	11.67	12.85		14.47	8 / 5			
reaction time 0.156	interval		1.12	1.10	1.09	1.08	1.14	1.17	1.19	1.15	1.18	1.62			3.31	3.39	3.52
wind 0.1 m/s	velocity	5.22	8.16	8.31	8.39	8.46	8.02	7.81	7.68	7.95	7.75	8.65	7.60		8.28	8.09	7.79

Rosenquist, Fabian (SWE) (1991)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heptathlon - Heat 1 - 2013 European Indoor Championships (Göteborg, SWE)													*Blomkvist (2013) - www.elitlandslag.se/SprintHäck/KortHäck.aspx*			
date 03-Mar-13	time	2.72	3.85	4.97	6.07	7.21						8.30	7 / 3			
reaction time 0.138	interval		1.13	1.12	1.10	1.14					1.09			3.35		
	velocity	5.04	8.09	8.16	8.31	8.02					8.92	7.23		8.19		

Ross, Duane (USA) (1972)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1999 IAAF World Championships (Sevilla, ESP)													*Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*			
date 25-Aug-99	time	2.47	3.49	4.51	5.53	6.52	7.54	8.56	9.58	10.61	11.68		13.12	4 / 3			
reaction time 0.141	interval		1.02	1.02	1.02	0.99	1.02	1.02	1.02	1.03	1.07	1.44	PB		3.06	3.03	3.12
wind 1.0 m/s	velocity	5.55	8.96	8.96	8.96	9.23	8.96	8.96	8.96	8.87	8.54	9.74	8.38		8.96	9.05	8.79
Semi-Final 1 - 1999 IAAF World Championships (Sevilla, ESP)													*Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*			
date 24-Aug-99	time	2.53	3.56	4.56	5.58	6.57	7.56	8.59	9.60	10.63	11.68		13.14	3 / 1			
reaction time 0.151	interval		1.03	1.00	1.02	0.99	0.99	1.03	1.01	1.03	1.05	1.46			3.05	3.01	3.09
wind 0.0 m/s	velocity	5.42	8.87	9.14	8.96	9.23	9.23	8.87	9.05	8.87	8.70	9.60	8.37		8.99	9.11	8.87
Quarter-Final 1 - 1999 IAAF World Championships (Sevilla, ESP)													*Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*			
date 23-Aug-99	time	2.52	3.55	4.56	5.57	6.56	7.58	8.58	9.59	10.63	11.68		13.13	5 / 1			
reaction time 0.139	interval		1.03	1.01	1.01	0.99	1.02	1.00	1.01	1.04	1.05	1.45	PB		3.05	3.01	3.10
wind -0.4 m/s	velocity	5.44	8.87	9.05	9.05	9.23	8.96	9.14	9.05	8.79	8.70	9.67	8.38		8.99	9.11	8.85
Heat 1 - 1999 IAAF World Championships (Sevilla, ESP)													*Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*			
date 23-Aug-99	time	2.53	3.55	4.57	5.58	6.59	7.64	8.69	9.77	10.82	11.89		13.39	1 / 1			
reaction time 0.162	interval		1.02	1.02	1.01	1.01	1.05	1.05	1.08	1.05	1.07	1.50			3.05	3.11	3.20
wind 0.6 m/s	velocity	5.42	8.96	8.96	9.05	9.05	8.70	8.70	8.46	8.70	8.54	9.35	8.22		8.99	8.82	8.57

Russell, Dejour (JAM) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Jamaican National Championships (Kingston, JAM) (TV Analysis)													*Henson (2020) - Athlete First: 2017 year end hurdle report*			
date 24-Jun-17	time	2.43	3.47	4.50	5.53	6.58	7.63	8.67	9.70	10.75	11.80		13.32	6 / 4			
reaction time	interval		1.04	1.03	1.03	1.05	1.05	1.04	1.03	1.05	1.05	1.52	AJR PB		3.10	3.14	3.13
wind 0.7 m/s	velocity	5.65	8.79	8.87	8.87	8.70	8.70	8.79	8.87	8.70	8.70	9.22	8.26		8.85	8.73	8.76

Ružička, Martin (CZE) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14	time	2.95	4.18	5.41	6.62	7.85	9.15	10.39	11.70	12.97	14.26		15.99	2 / 6			
reaction time 0.244	interval		1.23	1.23	1.21	1.23	1.30	1.24	1.31	1.27	1.29	1.73			3.67	3.77	3.87
wind -1.6 m/s	velocity	4.65	7.43	7.43	7.55	7.43	7.03	7.37	6.98	7.20	7.09	8.10	6.88		7.47	7.27	7.09

Rykl, Radoš (CZE) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14	time	2.77	3.93	5.06	6.19	7.32	8.50	9.65	10.80	11.97	13.13		14.75	7 / 5			
reaction time 0.177	interval		1.16	1.13	1.13	1.13	1.18	1.15	1.15	1.17	1.16	1.62			3.42	3.46	3.48
wind -2.2 m/s	velocity	4.95	7.88	8.09	8.09	8.09	7.75	7.95	7.95	7.81	7.88	8.65	7.46		8.02	7.92	7.88

Heat 3 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.85	4.00	5.17	6.34	7.48	8.68	9.83	11.00	12.22	13.39		15.04	6 / 2			
reaction time	0.253	interval		1.15	1.17	1.17	1.14	1.20	1.15	1.17	1.22	1.17	1.65			3.49	3.49	3.56
wind	-2.5 m/s	velocity	4.81	7.95	7.81	7.81	8.02	7.62	7.95	7.81	7.49	7.81	8.50	7.31		7.86	7.86	7.70

Sáenz, Martín (CHI) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Repechage 3 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

date	06-Aug-24	time	2.50	3.62	4.69	5.73	6.80	7.90	9.01	10.08	11.19	12.29		13.95	8 / 6			
reaction time	0.149	interval	7 steps	1.12	1.07	1.04	1.07	1.10	1.11	1.07	1.11	1.10	1.66			3.23	3.28	3.28
wind	-1.1 m/s	velocity	5.49	8.16	8.54	8.79	8.54	8.31	8.23	8.54	8.23	8.31	8.45	7.89		8.49	8.36	8.36

Heat 1 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.48	3.60	4.66	5.68	6.72	7.76	8.83	9.93	11.06	12.17		13.83	2 / 8			
reaction time	0.144	interval		1.12	1.06	1.02	1.04	1.04	1.07	1.10	1.13	1.11	1.66			3.20	3.15	3.34
wind	0.1 m/s	velocity	5.53	8.16	8.62	8.96	8.79	8.79	8.54	8.31	8.09	8.23	8.45	7.95		8.57	8.70	8.21

Sajdok, Stanislav (CZE) (1983)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2014 Czech Republic National Championships (Ostrava, CZE) — *Feher (2014) - Final report from the Czech Republic national championships*

date	02-Aug-14	time	2.68	3.85	4.99	6.15	7.34	8.50	9.70	10.93	12.15	13.43		15.24	2 / 7			
reaction time	0.124	interval		1.17	1.14	1.16	1.19	1.16	1.20	1.23	1.22	1.28	1.81			3.47	3.55	3.73
wind	-1.2 m/s	velocity	5.12	7.81	8.02	7.88	7.68	7.88	7.62	7.43	7.49	7.14	7.75	7.22		7.90	7.72	7.35

Heat 2 - 2014 Czech Republic National Championships (Ostrava, CZE) — *Feher (2014) - Final report from the Czech Republic national championships*

date	02-Aug-14	time	2.70	3.87	4.98	6.14	7.28	8.45	9.63	10.81	12.03	13.29		14.96	3 / 4			
reaction time	0.159	interval		1.17	1.11	1.16	1.14	1.17	1.18	1.18	1.22	1.26	1.67			3.44	3.49	3.66
wind	0.8 m/s	velocity	5.08	7.81	8.23	7.88	8.02	7.81	7.75	7.75	7.49	7.25	8.40	7.35		7.97	7.86	7.49

Sakamoto, Kazuki (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Shimane High School Championships (Izumo, JPN) — *Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*

date	26-May-24	time	2.90	4.13	5.40	6.63	7.87	9.12	10.35	11.62	12.87	14.15		15.79	8 / 2			
reaction time		interval		1.23	1.27	1.23	1.24	1.25	1.23	1.27	1.25	1.28	1.64			3.73	3.72	3.80
wind	0.3 m/s	velocity	4.73	7.43	7.20	7.43	7.37	7.31	7.43	7.20	7.31	7.14	8.55	6.97		7.35	7.37	7.22

Sakimoto, Kazuma (JPN) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2017 Mito Invitational (Mito, JPN) — *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.71	3.84	4.99	6.14	7.27	8.41	9.56	10.72	11.88	13.07		14.62	2 / 4			
reaction time		interval		1.13	1.15	1.15	1.13	1.14	1.15	1.16	1.16	1.19	1.55			3.43	3.42	3.51
wind	0.3 m/s	velocity	5.06	8.09	7.95	7.95	8.09	8.02	7.95	7.88	7.88	7.68	9.05	7.52		7.99	8.02	7.81

Sala, Carles (ESP) (1960)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 1988 Olympic Games (Seoul, KOR) — *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.60	3.73	4.81	5.85	6.90	7.97	9.05	10.15	11.25	12.37		13.85	7 / 6			
reaction time	0.127	interval		1.13	1.08	1.04	1.05	1.07	1.08	1.10	1.10	1.12	1.48			3.25	3.20	3.32
wind	0.0 m/s	velocity	5.28	8.09	8.46	8.79	8.70	8.54	8.46	8.31	8.31	8.16	9.47	7.94		8.44	8.57	8.26

Sands, Shamar (BAH) (1985)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.51	3.58	4.62	5.64	6.68	7.73	8.78	9.86	10.94	12.04		13.47	1 / 4			
reaction time	0.144	interval		1.07	1.04	1.02	1.04	1.05	1.05	1.08	1.08	1.10	1.43			3.13	3.14	3.26
wind	0.1 m/s	velocity	5.47	8.54	8.79	8.96	8.79	8.70	8.70	8.46	8.46	8.31	9.80	8.17		8.76	8.73	8.41

Heat 5 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.63	3.69	4.75	5.79	6.81	7.86	8.90	9.95	11.03	12.13		13.57	4 / 5			
reaction time	0.243	interval		1.06	1.06	1.04	1.02	1.05	1.04	1.05	1.08	1.10	1.44			3.16	3.11	3.23
wind	0.0 m/s	velocity	5.22	8.62	8.62	8.79	8.96	8.70	8.79	8.70	8.46	8.31	9.74	8.11		8.68	8.82	8.49

FINAL - 2009 ISTAF (Berlin, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Jun-09	time	2.59	3.65	4.69	5.71	6.73	7.77	8.81	9.87	10.93	12.09		13.56	8 / 4			
reaction time	0.234	interval		1.06	1.04	1.02	1.02	1.04	1.04	1.06	1.06	1.16	1.47			3.12	3.10	3.28
wind	0.7 m/s	velocity	5.30	8.62	8.79	8.96	8.96	8.79	8.79	8.62	8.62	7.88	9.54	8.11		8.79	8.85	8.36

FINAL - 2009 Osaka Grand Prix (Osaka, JPN) — *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*

date	09-May-09	time	2.55	3.59	4.60	5.63	6.62	7.65	8.71	9.76	10.84	11.94		13.40	/ 1			
reaction time		interval		1.04	1.01	1.03	0.99	1.03	1.06	1.05	1.08	1.10	1.46	NR		3.08	3.08	3.23
wind	0.2 m/s	velocity	5.38	8.79	9.05	8.87	9.23	8.87	8.62	8.70	8.46	8.31	9.60	8.21		8.90	8.90	8.49

Santana, José Fernando (BRA (1999

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) — *Henson (2024) - Athlete First: 2023 year end hurdle report*

date	26-Aug-23	time	2.73	3.84	4.93	6.00	7.06	8.15	9.22	10.31	11.38	12.52		13.94	4 / 1			
reaction time	0.158	interval	7 steps	1.11	1.09	1.07	1.06	1.09	1.07	1.09	1.07	1.14	1.42	PB		3.27	3.22	3.30
wind	0.1 m/s	velocity	5.03	8.23	8.39	8.54	8.62	8.39	8.54	8.39	8.54	8.02	9.87	7.89		8.39	8.52	8.31

Santos, Miguel (ESP) (1973)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1998 Spanish National Championships (San Sebastián, ESP) — *Ruiz (1998) - campeonato des españa absoluto: análisis de la carreras con villas*

date	02-Aug-98	time	2.66	3.75	4.85	5.98	7.04	8.16	9.28	10.38	11.50	12.63		14.17	6 / 2		
reaction time		interval		1.09	1.10	1.13	1.06	1.12	1.12	1.10	1.12	1.13	1.54			3.32	3.30	3.35
wind	0.1 m/s	velocity	5.16	8.39	8.31	8.09	8.62	8.16	8.16	8.31	8.16	8.09	9.10	7.76		8.26	8.31	8.19

Santos Rodriques, Eduardo (BRA) (| **H1** | **H2** | **H3** | **H4** | **H5** | **H6** | **H7** | **H8** | **H9** | **H10** | **Run-In** | **Official Time** | **Lane / Place** | **H1-H4** | **H4-H7** | **H7-H10**

FINAL - 2019 Pan American Games (Lima, PER) (TV Analysis) — *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	10-Aug-19	time	2.70	3.74	4.77	5.77	6.80	7.80	8.84	9.88	10.92	12.03		13.48	8 / 3		
reaction time	0.193	interval		1.04	1.03	1.00	1.03	1.00	1.04	1.04	1.04	1.11	1.45			3.07	3.07	3.19
wind	1.8 m/s	velocity	5.08	8.79	8.87	9.14	8.87	9.14	8.79	8.79	8.79	8.23	9.67	8.16		8.93	8.93	8.60

FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) (TV Analysis) — *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Jun-19	time	2.58	3.66	4.70	5.74	6.78	7.80	8.86	9.90	10.98	12.06		13.58	9 / 8		
reaction time	0.156	interval		1.08	1.04	1.04	1.04	1.02	1.06	1.04	1.08	1.08	1.52			3.16	3.12	3.20
wind	0.3 m/s	velocity	5.32	8.46	8.79	8.79	8.79	8.96	8.62	8.79	8.46	8.46	9.22	8.10		8.68	8.79	8.57

Sasa, Atsuhiro (JPN) (2001) | **H1** | **H2** | **H3** | **H4** | **H5** | **H6** | **H7** | **H8** | **H9** | **H10** | **Run-In** | **Official Time** | **Lane / Place** | **H1-H4** | **H4-H7** | **H7-H10**

FINAL - 2018 Japanese National High School Championships (Nagoya, JPN) (99cm) — *Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection*

date	06-Aug-18	time	2.76	3.87	4.98	6.08	7.20	8.31	9.44	10.56	11.69	12.83		14.29	2 / 4		
reaction time		interval		1.11	1.11	1.10	1.12	1.11	1.13	1.12	1.13	1.14	1.46			3.32	3.36	3.39
wind	1.6 m/s	velocity	4.97	8.23	8.23	8.31	8.16	8.23	8.09	8.16	8.09	8.02	9.60	7.70		8.26	8.16	8.09

Sasaki, Keito (JPN) (2003) | **H1** | **H2** | **H3** | **H4** | **H5** | **H6** | **H7** | **H8** | **H9** | **H10** | **Run-In** | **Official Time** | **Lane / Place** | **H1-H4** | **H4-H7** | **H7-H10**

FINAL - 2022 Japanese U20 National Championsips (Osaka, JPN) (99cm) — *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	12-Jun-22	time	2.75	3.86	4.96	6.05	7.13	8.20	9.30	10.39	11.51	12.64		14.18	3 / 8		
reaction time	0.175	interval		1.11	1.10	1.09	1.08	1.07	1.10	1.09	1.12	1.13	1.54			3.30	3.25	3.34
wind	1.1 m/s	velocity	4.99	8.23	8.31	8.39	8.46	8.54	8.31	8.39	8.16	8.09	9.10	7.76		8.31	8.44	8.21

Sato, Hiroyuki (JPN) (1990) | **H1** | **H2** | **H3** | **H4** | **H5** | **H6** | **H7** | **H8** | **H9** | **H10** | **Run-In** | **Official Time** | **Lane / Place** | **H1-H4** | **H4-H7** | **H7-H10**

FINAL - 2019 Japanese National Championships (Fukuoka, JPN) — *Yamanaka (2019) - research on athlete performance and technique- 2019 data book*

date	30-Jun-19	time	2.58	3.68	4.75	5.84	6.92	8.00	9.10	10.21	11.44	12.63		14.16	5 / 8		
reaction time	0.157	interval		1.10	1.07	1.09	1.08	1.08	1.10	1.11	1.23	1.19	1.53			3.26	3.26	3.53
wind	-0.6 m/s	velocity	5.32	8.31	8.54	8.39	8.46	8.46	8.31	8.23	7.43	7.68	9.16	7.77		8.41	8.41	7.77

FINAL - 2019 Fuse Sprint (Tottori, JPN) — *Kijima (2019) - research on athlete performance and technique- 2019 data book*

date	02-Jun-19	time	2.53	3.61	4.67	5.73	6.77	7.85	8.93	10.05	11.16	12.30		13.77	6 / 4		
reaction time	0.126	interval		1.08	1.06	1.06	1.04	1.08	1.08	1.12	1.11	1.14	1.47			3.20	3.20	3.37
wind	1.9 m/s	velocity	5.42	8.46	8.62	8.62	8.79	8.46	8.46	8.16	8.23	8.02	9.54	7.99		8.57	8.57	8.14

FINAL - 2019 Kinami Memorial (Osaka, JPN) — *Matsubayashi (2019) - research on athlete performance and technique- 2019 data book*

date	06-May-19	time	2.58	3.64	4.71	5.78	6.86	7.92	9.01	10.11	11.22	12.35		13.81	2 / 6		
reaction time		interval		1.06	1.07	1.07	1.08	1.06	1.09	1.10	1.11	1.13	1.46			3.20	3.23	3.34
wind	0.3 m/s	velocity	5.32	8.62	8.54	8.54	8.46	8.62	8.39	8.31	8.23	8.09	9.60	7.97		8.57	8.49	8.21

B FINAL - 2019 Mikio Oda Memorial (Hiroshima, JPN) — *Kobayashi (2019) - research on athlete performance and technique- 2019 data book*

date	28-Apr-19	time	2.59	3.69	4.76	5.84	6.93	8.03	9.13	10.28	11.47	12.65		14.21	2 / 4		
reaction time		interval		1.10	1.07	1.08	1.09	1.10	1.10	1.15	1.19	1.18	1.56			3.25	3.29	3.52
wind	1.4 m/s	velocity	5.30	8.31	8.54	8.46	8.39	8.31	8.31	7.95	7.68	7.75	8.99	7.74		8.44	8.33	7.79

FINAL - 2018 Kinami Michitaka Memorial (Osaka, JPN) — *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	06-May-18	time	2.58	3.67	4.76	5.82	6.87	7.93	9.00	10.08	11.18	12.28		13.72	4 / 2		
reaction time		interval		1.09	1.09	1.06	1.05	1.06	1.07	1.08	1.10	1.10	1.44			3.24	3.18	3.28
wind	1.6 m/s	velocity	5.32	8.39	8.39	8.62	8.70	8.62	8.54	8.46	8.31	8.31	9.74	8.02		8.46	8.62	8.36

FINAL - 2018 Mikio Oda Memorial (Hiroshima, JPN) — *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	29-Apr-18	time	2.64	3.72	4.79	5.84	6.90	7.97	9.05	10.15	11.27	12.39		13.82	8 / 6		
reaction time		interval		1.08	1.07	1.05	1.06	1.07	1.08	1.10	1.12	1.12	1.43			3.20	3.21	3.34
wind	2.6 m/s	velocity	5.20	8.46	8.54	8.70	8.62	8.54	8.46	8.31	8.16	8.16	9.80	7.96		8.57	8.54	8.21

FINAL - 2017 Japanese National Championships (Osaka, JPN) — *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	25-Jun-17	time	2.58	3.68	4.72	5.77	6.82	7.88	8.94	10.02	11.11	12.23		13.69	7 / 4		
reaction time	0.159	interval		1.10	1.04	1.05	1.05	1.06	1.06	1.08	1.09	1.12	1.46			3.19	3.17	3.29
wind	-0.2 m/s	velocity	5.32	8.31	8.79	8.70	8.70	8.62	8.62	8.46	8.39	8.16	9.60	8.04		8.60	8.65	8.33

Semi-Final 1 - 2017 Japanese National Championships (Osaka, JPN) — *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.59	3.63	4.67	5.73	6.77	7.83	8.89	9.98	11.08	12.18		13.59	5 / 2		
reaction time	0.169	interval		1.04	1.04	1.06	1.04	1.06	1.06	1.09	1.10	1.10	1.41	PB		3.14	3.16	3.29
wind	0.6 m/s	velocity	5.30	8.79	8.79	8.62	8.79	8.62	8.62	8.39	8.31	8.31	9.94	8.09		8.73	8.68	8.33

Heat 4 - 2017 Japanese National Championships (Osaka, JPN) — *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.58	3.66	4.71	5.76	6.80	7.86	8.92	10.02	11.11	12.22		13.65	2 / 2		
reaction time	0.165	interval		1.08	1.05	1.05	1.04	1.06	1.06	1.10	1.09	1.11	1.43			3.18	3.16	3.30
wind	0.0 m/s	velocity	5.32	8.46	8.70	8.70	8.79	8.62	8.62	8.31	8.39	8.23	9.80	8.06		8.62	8.68	8.31

FINAL - 2017 Fuse Sprint (Tottori, JPN) *(2017) - tfdata-store.com/2017/06/04/post-848/*

date	04-Jun-17	time	2.59	3.66	4.75	5.83	6.89	7.97	9.04	10.14	11.24	12.35		13.79	7 / 5			
reaction time		interval		1.07	1.09	1.08	1.06	1.08	1.07	1.10	1.10	1.11	1.44			3.24	3.21	3.31
wind	3.2 m/s	velocity	5.30	8.54	8.39	8.46	8.62	8.46	8.54	8.31	8.31	8.23	9.74	7.98		8.46	8.54	8.28

Heat 5 - 2017 Fuse Sprint (Tottori, JPN) *(2017) - tfdata-store.com/2017/06/04/post-848/*

date	04-Jun-17	time	2.61	3.68	4.74	5.78	6.84	7.90	8.97	10.07	11.18	12.30		13.75	7 / 5			
reaction time		interval		1.07	1.06	1.04	1.06	1.06	1.07	1.10	1.11	1.12	1.45			3.17	3.19	3.33
wind	1.5 m/s	velocity	5.26	8.54	8.62	8.79	8.62	8.62	8.54	8.31	8.23	8.16	9.67	8.00		8.65	8.60	8.23

FINAL - 2017 East Japan Business Athletics Championships (Yuma, JPN) *(2017) - tfdata-store.com/2017/05/20/post-579/*

date	20-May-17	time	2.57	3.63	4.69	5.74	6.79	7.87	8.95	10.04	11.16	12.28		13.75	7 / 2			
reaction time		interval		1.06	1.06	1.05	1.05	1.08	1.08	1.09	1.12	1.12	1.47			3.17	3.21	3.33
wind	1.1 m/s	velocity	5.34	8.62	8.62	8.70	8.70	8.46	8.46	8.39	8.16	8.16	9.54	8.00		8.65	8.54	8.23

Open FINAL - 2017 Michitaka Memorial (Osaka, JPN) *(2017) - tfdata-store.com/2017/05/08/post-413/*

date	07-May-17	time	2.64	3.72	4.78	5.86	6.93	8.00	9.08	10.18	11.28	12.39		13.85	7 / 4			
reaction time		interval		1.08	1.06	1.08	1.07	1.07	1.08	1.10	1.10	1.11	1.46			3.22	3.22	3.31
wind	-1.5 m/s	velocity	5.20	8.46	8.62	8.46	8.54	8.54	8.46	8.31	8.31	8.23	9.60	7.94		8.52	8.52	8.28

FINAL - 2017 Michitaka Memorial (Osaka, JPN) *(2017) - tfdata-store.com/2017/05/08/post-413/*

date	07-May-17	time	2.68	3.75	4.81	5.88	6.95	8.01	9.10	10.19	11.29	12.41		13.87	3 / 5			
reaction time		interval		1.07	1.06	1.07	1.07	1.06	1.09	1.09	1.10	1.12	1.46			3.20	3.22	3.31
wind	-0.8 m/s	velocity	5.12	8.54	8.62	8.54	8.54	8.62	8.39	8.39	8.31	8.16	9.60	7.93		8.57	8.52	8.28

FINAL - 2017 Mito Invitational (Mito, JPN) *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.62	3.69	4.77	5.84	6.94	8.00	9.09	10.17	11.27	12.41		13.88	5 / 1			
reaction time		interval		1.07	1.08	1.07	1.10	1.06	1.09	1.08	1.10	1.14	1.47			3.22	3.25	3.32
wind	-2.3 m/s	velocity	5.24	8.54	8.46	8.54	8.31	8.62	8.39	8.46	8.31	8.02	9.54	7.93		8.52	8.44	8.26

Heat 3 - 2017 Mito Invitational (Mito, JPN) *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.60	3.68	4.76	5.80	6.88	7.95	9.04	10.13	11.24	12.38		13.86	5 / 1			
reaction time		interval		1.08	1.08	1.04	1.08	1.07	1.09	1.09	1.11	1.14	1.48			3.20	3.24	3.34
wind	-2.5 m/s	velocity	5.28	8.46	8.46	8.79	8.46	8.54	8.39	8.39	8.23	8.02	9.47	7.94		8.57	8.46	8.21

B FINAL - 2017 Mikio Oda Memorial (Hiroshima, JPN) *(2017) - tfdata-store.com/2017/05/01/458/*

date	29-Apr-17	time	2.60	3.67	4.74	5.83	6.93	8.03	9.12	10.25	11.37	12.54		14.08	3 / 3			
reaction time		interval		1.07	1.07	1.09	1.10	1.10	1.09	1.13	1.12	1.17	1.54			3.23	3.29	3.42
wind	-1.5 m/s	velocity	5.28	8.54	8.54	8.39	8.31	8.31	8.39	8.09	8.16	7.81	9.10	7.81		8.49	8.33	8.02

FINAL - 2016 Mito Invitational (Mito, JPN) *(2016.05.27) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	05-May-16	time	2.58	3.67	4.73	5.79	6.87	7.94	9.02	10.12	11.23	12.35		13.78	5 / 1			
reaction time		interval		1.09	1.06	1.06	1.08	1.07	1.08	1.10	1.11	1.12	1.43			3.21	3.23	3.33
wind	0.7 m/s	velocity	5.32	8.39	8.62	8.62	8.46	8.54	8.46	8.31	8.23	8.16	9.80	7.98		8.54	8.49	8.23

FINAL - 2015 Shizuoka International Athletics Meeting (Fukuroi, JPN) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	03-May-15	time	2.62	3.77	4.85	5.94	7.00	8.09	9.16	10.28	11.38	12.52		13.97	/ 3			
reaction time		interval		1.15	1.08	1.09	1.06	1.09	1.07	1.12	1.10	1.14	1.45			3.32	3.22	3.36
wind	-0.8 m/s	velocity	5.24	7.95	8.46	8.39	8.62	8.39	8.54	8.16	8.31	8.02	9.67	7.87		8.26	8.52	8.16

FINAL - 2013 Japanese National Championships (Chofu, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	09-Jun-13	time	2.60	3.67	4.72	5.77	6.83	7.88	8.93	10.01	11.09	12.20		13.61	8 / 2			
reaction time		interval		1.07	1.05	1.05	1.06	1.05	1.05	1.08	1.08	1.11	1.41	**PB**		3.17	3.16	3.27
wind	1.3 m/s	velocity	5.28	8.54	8.70	8.70	8.62	8.70	8.70	8.46	8.46	8.23	9.94	8.08		8.65	8.68	8.39

Semi-Final 2 - 2013 Japanese National Championships (Chofu, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	09-Jun-13	time	2.60	3.68	4.73	5.79	6.86	7.91	8.98	10.06	11.20	12.29		13.71	4 / 3			
reaction time		interval		1.08	1.05	1.06	1.07	1.05	1.07	1.08	1.14	1.09	1.42			3.19	3.19	3.31
wind	1.2 m/s	velocity	5.28	8.46	8.70	8.62	8.54	8.70	8.54	8.46	8.02	8.39	9.87	8.02		8.60	8.60	8.28

Heat 1 - 2013 Japanese National Championships (Chofu, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	08-Jun-13	time	2.65	3.72	4.79	5.86	6.93	8.00	9.08	10.19	11.29	12.41		13.87	4 / 1			
reaction time		interval		1.07	1.07	1.07	1.07	1.07	1.08	1.11	1.10	1.12	1.46			3.21	3.22	3.33
wind	-0.1 m/s	velocity	5.18	8.54	8.54	8.54	8.54	8.54	8.46	8.23	8.31	8.16	9.60	7.93		8.54	8.52	8.23

FINAL - 2013 Seiko Golden Grand Prix (Tokyo, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	05-May-13	time	2.65	3.76	4.85	5.95	7.04	8.13	9.21	10.32	11.43	12.56		14.02	2 / 7			
reaction time		interval		1.11	1.09	1.10	1.09	1.09	1.08	1.11	1.11	1.13	1.46			3.30	3.26	3.35
wind	-1.4 m/s	velocity	5.18	8.23	8.39	8.31	8.39	8.39	8.46	8.23	8.23	8.09	9.60	7.85		8.31	8.41	8.19

FINAL - 2013 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-13	time	2.61	3.69	4.75	5.84	6.91	8.00	9.08	10.19	11.33	12.50		13.99	/ 6			
reaction time		interval		1.08	1.06	1.09	1.07	1.09	1.08	1.11	1.14	1.17	1.49			3.23	3.24	3.42

wind	0.7 m/s	velocity	5.26	8.46	8.62	8.39	8.54	8.39	8.46	8.23	8.02	7.81	9.41	7.86		8.49	8.46	8.02

Heat 2 - 2013 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-13	time	2.64	3.71	4.78	5.84	6.91	7.98	9.07	10.18	11.29	12.43		13.90	/ 2			
reaction time		interval		1.07	1.07	1.06	1.07	1.07	1.09	1.11	1.11	1.14	1.47			3.20	3.23	3.36
wind	0.4 m/s	velocity	5.20	8.54	8.54	8.62	8.54	8.54	8.39	8.23	8.23	8.02	9.54	7.91		8.57	8.49	8.16

FINAL - 2012 Japanese National Championships (Osaka, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	10-Jun-12	time	2.62	3.74	4.84	5.92	6.99	8.07	9.18	10.28	11.39	12.53		13.99	4 / 6			
reaction time		interval		1.12	1.10	1.08	1.07	1.08	1.11	1.10	1.11	1.14	1.46			3.30	3.26	3.35
wind	-0.6 m/s	velocity	5.24	8.16	8.31	8.46	8.54	8.46	8.23	8.31	8.23	8.02	9.60	7.86		8.31	8.41	8.19

Semi-Final 2 - 2012 Japanese National Championships (Osaka, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	10-Jun-12	time	2.60	3.68	4.74	5.80	6.85	7.91	9.00	10.08	11.20	12.32		13.78	6 / 2			
reaction time		interval		1.08	1.06	1.06	1.05	1.06	1.09	1.08	1.12	1.12	1.46			3.20	3.20	3.32
wind	0.5 m/s	velocity	5.28	8.46	8.62	8.62	8.70	8.62	8.39	8.46	8.16	8.16	9.60	7.98		8.57	8.57	8.26

Heat 4 - 2012 Japanese National Championships (Osaka, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	09-Jun-12	time	2.61	3.68	4.73	5.80	6.84	7.92	8.99	10.08	11.19	12.31		13.78	7 / 1			
reaction time		interval		1.07	1.05	1.07	1.04	1.08	1.07	1.09	1.11	1.12	1.47			3.19	3.19	3.32
wind	-0.2 m/s	velocity	5.26	8.54	8.70	8.54	8.79	8.46	8.54	8.39	8.23	8.16	9.54	7.98		8.60	8.60	8.26

FINAL - 2012 Seiko Golden Grand Prix (Kawasaki, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	06-May-12	time	2.62	3.71	4.76	5.84	6.90	7.97	9.06	10.14	11.25	12.38		13.83	6 / 6			
reaction time		interval		1.09	1.05	1.08	1.06	1.07	1.09	1.08	1.11	1.13	1.45			3.22	3.22	3.32
wind	0.2 m/s	velocity	5.24	8.39	8.70	8.46	8.62	8.54	8.39	8.46	8.23	8.09	9.67	7.95		8.52	8.52	8.26

FINAL - 2012 Mito Invitational Athletics Meeting (Mito, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	04-May-12	time	2.60	3.67	4.74	5.81	6.87	7.95	9.02	10.09	11.19	12.31		13.77	/ 1			
reaction time		interval		1.07	1.07	1.07	1.06	1.08	1.07	1.07	1.10	1.12	1.46			3.21	3.21	3.29
wind	-0.3 m/s	velocity	5.28	8.54	8.54	8.54	8.62	8.46	8.54	8.54	8.31	8.16	9.60	7.99		8.54	8.54	8.33

A FINAL - 2012 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-12	time	2.61	3.66	4.71	5.74	6.79	7.84	8.91	9.99	11.07	12.17		13.59	3 / 2			
reaction time		interval		1.05	1.05	1.03	1.05	1.05	1.07	1.08	1.08	1.10	1.42			3.13	3.17	3.26
wind	2.1 m/s	velocity	5.26	8.70	8.70	8.87	8.70	8.70	8.54	8.46	8.46	8.31	9.87	8.09		8.76	8.65	8.41

Semi-Final 1 - 2011 Japanese National Championships (Kumagaya, JPN) *Hisashi (2012) - perfromance analysis of Japanese record holder Keisuke Ushiro*

date	11-Jun-11	time	2.65	3.75	4.84	5.94	7.03	8.12	9.23	10.35	11.49	12.65		14.17	/ 7			
reaction time		interval		1.10	1.09	1.10	1.09	1.09	1.11	1.12	1.14	1.16	1.52			3.29	3.29	3.42
wind	-2.0 m/s	velocity	5.18	8.31	8.39	8.31	8.39	8.39	8.23	8.16	8.02	7.88	9.22	7.76		8.33	8.33	8.02

Heat 1 - 2011 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-11	time	2.59	3.66	4.74	5.82	6.92	8.03	9.13	10.25	11.35	12.51		14.00	/ 5			
reaction time		interval		1.07	1.08	1.08	1.10	1.11	1.10	1.12	1.10	1.16	1.49			3.23	3.31	3.38
wind	0.7 m/s	velocity	5.30	8.54	8.46	8.46	8.31	8.23	8.31	8.16	8.31	7.88	9.41	7.86		8.49	8.28	8.11

Sato, Ushio (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Shimane High School Championships (Izumo, JPN) *Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*

date	26-May-24	time	2.88	4.12	5.37	6.65	7.95	9.22	10.53	11.87	13.20	14.58		16.29	7 / 5			
reaction time		interval		1.24	1.25	1.28	1.30	1.27	1.31	1.34	1.33	1.38	1.71			3.77	3.88	4.05
wind	0.3 m/s	velocity	4.76	7.37	7.31	7.14	7.03	7.20	6.98	6.82	6.87	6.62	8.20	6.75		7.27	7.07	6.77

FINAL - 2023 Shimane High School Championships (Izumo, JPN) *Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*

date	28-May-23	time	2.82	4.12	5.40	6.70	7.98	9.30	10.60	11.93	13.28	14.65		16.36	5 / 3			
reaction time		interval		1.30	1.28	1.30	1.28	1.32	1.30	1.33	1.35	1.37	1.71			3.88	3.90	4.05
wind	-0.1 m/s	velocity	4.87	7.03	7.14	7.03	7.14	6.92	7.03	6.87	6.77	6.67	8.20	6.72		7.07	7.03	6.77

Scantling, Garrett (USA) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	05-Aug-21	time	2.64	3.75	4.82	5.94	7.00	8.07	9.15	10.32	11.42	12.49		14.03	6 / 2			
reaction time	0.162	interval	7 steps	1.11	1.07	1.12	1.06	1.07	1.08	1.17	1.10	1.07	1.54			3.30	3.21	3.34
wind	-1.0 m/s	velocity	5.20	8.23	8.54	8.16	8.62	8.54	8.46	7.81	8.31	8.54	9.10	7.84		8.31	8.54	8.21

Schmöger, Martin (CZE) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.83	4.00	5.15	6.29	7.46	8.59	9.78	10.97	12.16	13.35		15.00	2 / 6			
reaction time	0.174	interval		1.17	1.15	1.14	1.17	1.13	1.19	1.19	1.19	1.19	1.65			3.46	3.49	3.57
wind	-2.2 m/s	velocity	4.85	7.81	7.95	8.02	7.81	8.09	7.68	7.68	7.68	7.68	8.50	7.33		7.92	7.86	7.68

Heat 1 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.81	3.94	5.13	6.27	7.43	8.58	9.68	10.94	12.16	13.38		15.02	5 / 2			
reaction time	0.215	interval		1.13	1.19	1.14	1.16	1.15	1.10	1.26	1.22	1.22	1.64			3.46	3.41	3.70

wind	-1.6 m/s	velocity	4.88	8.09	7.68	8.02	7.88	7.95	8.31	7.25	7.49	7.49	8.55	7.32		7.92	8.04	7.41

Schulman, Connor (USA) (2001)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Heat 1 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis)															*Henson (2024) - Athlete First: 2024 year end hurdle report*			
date	24-Jun-24	time	2.53	3.63	4.68	5.68	6.70	7.72	8.74	9.80	10.83	11.90		13.38	2 / 5			
reaction time		interval	*7 steps*	1.10	1.05	1.00	1.02	1.02	1.02	1.06	1.03	1.07	1.48			3.15	3.06	3.16
wind	0.8 m/s	velocity	5.42	8.31	8.70	9.14	8.96	8.96	8.96	8.62	8.87	8.54	9.47	8.22		8.70	8.96	8.68

Schwarthoff, Florian (GER) (1968)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 2002 IAAF World Cup (Madrid, ESP)															*Sanchez (2002) - copa del mundo de Madrid '02: análisis de la carreras con villas*			
date	21-Sep-02	time	2.59	3.65	4.70	5.72	6.77	7.83	8.93	10.02	11.10	12.20		13.79	4 / 6			
reaction time	0.176	interval	*7 steps*	1.06	1.05	1.02	1.05	1.06	1.10	1.09	1.08	1.10	1.59			3.13	3.21	3.27
wind	-2.2 m/s	velocity	5.30	8.62	8.70	8.96	8.70	8.62	8.31	8.39	8.46	8.31	8.82	7.98		8.76	8.54	8.39
FINAL - 2002 European Championships (Munich, GER)															*Graubner (2009) - http://www.fgs.uni-halle.de*			
date	10-Aug-02	time	2.61	3.67	4.69	5.71	6.71	7.75	8.77	9.81	10.85	11.93		13.37	/ 4			
reaction time	0.164	interval		1.06	1.02	1.02	1.00	1.04	1.02	1.04	1.04	1.08	1.44			3.10	3.06	3.16
wind	0.4 m/s	velocity	5.26	8.62	8.96	8.96	9.14	8.79	8.96	8.79	8.79	8.46	9.74	8.23		8.85	8.96	8.68
Semi-Final 1 - 2002 European Championships (Munich, GER)															*Graubner (2009) - http://www.fgs.uni-halle.de*			
date	10-Aug-02	time	2.63	3.71	4.73	5.75	6.79	7.83	8.86	9.89	10.97	12.03		13.52	/ 3			
reaction time	0.149	interval		1.08	1.02	1.02	1.04	1.04	1.03	1.03	1.08	1.06	1.49			3.12	3.11	3.17
wind	-0.5 m/s	velocity	5.22	8.46	8.96	8.96	8.79	8.79	8.87	8.87	8.46	8.62	9.41	8.14		8.79	8.82	8.65
Heat 1 - 2002 European Championships (Munich, GER)															*Graubner (2009) - http://www.fgs.uni-halle.de*			
date	09-Aug-02	time	2.62	3.69	4.74	5.75	6.75	7.80	8.85	9.89	10.97	12.05		13.53	/ 2			
reaction time	0.135	interval		1.07	1.05	1.01	1.00	1.05	1.05	1.04	1.08	1.08	1.48			3.13	3.10	3.20
wind	-0.9 m/s	velocity	5.24	8.54	8.70	9.05	9.14	8.70	8.70	8.79	8.46	8.46	9.47	8.13		8.76	8.85	8.57
FINAL - 2001 ISTAF (Berlin, GER)															*Graubner (2009) - http://www.fgs.uni-halle.de*			
date	31-Aug-09	time	2.68	3.76	4.80	5.82	6.84	7.90	8.94	10.00	10.10	12.20		13.85	7 / 8			
reaction time	0.161	interval	*7 steps*	1.08	1.04	1.02	1.02	1.06	1.04	1.06	0.10	2.10	1.65			3.14	3.12	3.26
wind	1.0 m/s	velocity	5.12	8.46	8.79	8.96	8.96	8.62	8.79	8.62	91.40	4.35	8.50	7.94		8.73	8.79	8.41
FINAL - 2001 European Cup (Bremen, GER)															*Graubner (2007) - http://www.fgs.uni-halle.de*			
date	24-Jun-01	time	2.60	3.65	4.74	5.81	6.85	7.87	8.91	9.96	11.06	12.14		13.57	3 / 2			
reaction time	0.129	interval	*7 steps*	1.05	1.09	1.07	1.04	1.02	1.04	1.05	1.10	1.08	1.43			3.21	3.10	3.23
wind	1.3 m/s	velocity	5.28	8.70	8.39	8.54	8.79	8.96	8.79	8.70	8.31	8.46	9.80	8.11		8.54	8.85	8.49
FINAL - 2000 ISTAF (Berlin, GER)															*Graubner (2009) - http://www.fgs.uni-halle.de*			
date	01-Sep-00	time	2.56	3.62	4.68	5.70	6.70	7.75	8.78	9.82	10.86	11.96		13.40	/ 3			
reaction time	0.148	interval		1.06	1.06	1.02	1.00	1.05	1.03	1.04	1.04	1.10	1.44			3.14	3.08	3.18
wind	-0.4 m/s	velocity	5.36	8.62	8.62	8.96	9.14	8.70	8.87	8.79	8.79	8.31	9.74	8.21		8.73	8.90	8.62
FINAL - 1999 IAAF World Championships (Sevilla, ESP)															*Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*			
date	25-Aug-99	time	2.56	3.59	4.64	5.64	6.67	7.67	8.69	9.73	10.80	11.89		13.39	6 / 7			
reaction time	0.132	interval	7 steps	1.03	1.05	1.00	1.03	1.00	1.02	1.04	1.07	1.09	1.50			3.08	3.05	3.20
wind	1.0 m/s	velocity	5.36	8.87	8.70	9.14	8.87	9.14	8.96	8.79	8.54	8.39	9.35	8.22		8.90	8.99	8.57
Semi-Final 1 - 1999 IAAF World Championships (Sevilla, ESP)															*Sanchez (1999) - Sevilla '99: análisis de la carreras con villas*			
date	24-Aug-99	time	2.52	3.56	4.59	5.59	6.60	7.61	8.61	9.64	10.67	11.75		13.30	8 / 2			
reaction time	0.135	interval		1.04	1.03	1.00	1.01	1.01	1.00	1.03	1.03	1.08	1.55			3.07	3.02	3.14
wind	0.0 m/s	velocity	5.44	8.79	8.87	9.14	9.05	9.05	9.14	8.87	8.87	8.46	9.05	8.27		8.93	9.08	8.73
FINAL - 1998 European Championships (Budapest, HUN)															*Sanchez (1998) - Budapest '98: análisis de la carreras con villas*			
date	22-Aug-98	time	2.59	3.64	4.68	5.68	6.70	7.70	8.71	9.75	10.78	11.83		13.23	4 / 4			
reaction time		interval		1.05	1.04	1.00	1.02	1.00	1.01	1.04	1.03	1.05	1.40			3.09	3.03	3.12
wind	1.5 m/s	velocity	5.30	8.70	8.79	9.14	8.96	9.14	9.05	8.79	8.87	8.70	10.01	8.31		8.87	9.05	8.79
FINAL - 1997 IAAF World Championships (Athens, GRE)															*Hommel (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*			
date	07-Aug-97	time	2.58	3.64	4.64	5.66	6.68	7.70	8.72	9.74	10.78	11.84		13.20	3 / 4			
reaction time	0.141	interval	*7 steps*	1.06	1.00	1.02	1.02	1.02	1.02	1.02	1.04	1.06	1.36			3.08	3.06	3.12
wind	0.2 m/s	velocity	5.32	8.62	9.14	8.96	8.96	8.96	8.96	8.96	8.79	8.62	10.31	8.33		8.90	8.96	8.79
FINAL - 1997 European Cup (Munich, GER)															*Jung (2003) - http://www.fgs.uni-halle.de*			
date	22-Jun-97	time	2.56	3.62	4.63	5.63	6.63	7.66	8.69	9.70	10.74	11.80		13.20	/ 1			
reaction time		interval	*7 steps*	1.06	1.01	1.00	1.00	1.03	1.03	1.01	1.04	1.06	1.40			3.07	3.06	3.11
wind	0.2 m/s	velocity	5.36	8.62	9.05	9.14	9.14	8.87	8.87	9.05	8.79	8.62	10.01	8.33		8.93	8.96	8.82
FINAL - 1996 Olympic Games (Atlanta, GA)															*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*			
date	26-Jul-96	time	2.38	3.46	4.44	5.43	6.44	7.44	8.44	9.49	10.54	11.61		13.17	3 / 3			
reaction time	0.164	interval	*7 steps*	1.08	0.98	0.99	1.01	1.00	1.00	1.05	1.05	1.07	1.56			3.05	3.01	3.17
wind	0.8 m/s	velocity	5.76	8.46	9.33	9.23	9.05	9.14	9.14	8.70	8.70	8.54	8.99	8.35		8.99	9.11	8.65

FINAL - 1996 LIVE (Nurnberg, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	07-Jun-96	time	2.57	3.62	4.62	5.62	6.62	7.64	8.65	9.67	10.69	11.73		13.11	/ 1			
reaction time		interval		1.05	1.00	1.00	1.00	1.02	1.01	1.02	1.02	1.04	1.38			3.05	3.03	3.08
wind	0.0 m/s	velocity	5.34	8.70	9.14	9.14	9.14	8.96	9.05	8.96	8.96	8.79	10.16	8.39		8.99	9.05	8.90

FINAL - 1995 German National Championships (Bremen, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	02-Jul-95	time	2.54	3.59	4.61	5.60	6.59	7.60	8.58	9.59	10.61	11.65		13.05	/ 1			
reaction time		interval		1.05	1.02	0.99	0.99	1.01	0.98	1.01	1.02	1.04	1.40	NR		3.06	2.98	3.07
wind	-0.8 m/s	velocity	5.40	8.70	8.96	9.23	9.23	9.05	9.33	9.05	8.96	8.79	10.01	8.43		8.96	9.20	8.93

FINAL - 1992 Olympic Games (Barcelona, ESP) *Knight (1992) - 1992 Olympic report: the hurdling events*

date	03-Aug-92	time	2.56	3.57	4.61	5.61	6.61	7.64	8.69	9.74	10.81	11.87		13.29	5 / 5			
reaction time	0.175	interval	*7 steps*	1.01	1.04	1.00	1.00	1.03	1.05	1.05	1.07	1.06	1.42			3.05	3.08	3.18
wind	0.8 m/s	velocity	5.36	9.05	8.79	9.14	9.14	8.87	8.70	8.70	8.54	8.62	9.87	8.28		8.99	8.90	8.62

FINAL - 1991 European Cup (Frankfurt, GER) *Federle (2003) - http://www.fgs.uni-halle.de*

date	30-Jun-91	time	2.54	3.61	4.66	5.69	6.74	7.79	8.83	9.86	10.90	11.98		13.43	/ 2			
reaction time		interval		1.07	1.05	1.03	1.05	1.05	1.04	1.03	1.04	1.08	1.45			3.15	3.14	3.15
wind	-0.9 m/s	velocity	5.40	8.54	8.70	8.87	8.70	8.70	8.79	8.87	8.79	8.46	9.67	8.19		8.70	8.73	8.70

Schwarzer, Helge (GER) (1985)

Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	20-Aug-09	time	2.59	3.69	4.77	5.82	6.88	7.92	8.98	10.04	11.12	12.24		13.72	6 / 7			
reaction time	0.132	interval		1.10	1.08	1.05	1.06	1.04	1.06	1.06	1.08	1.12	1.48			3.23	3.16	3.26
wind	0.1 m/s	velocity	5.30	8.31	8.46	8.70	8.62	8.79	8.62	8.62	8.46	8.16	9.47	8.02		8.49	8.68	8.41

Heat 2 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.59	3.63	4.71	5.74	6.78	7.84	8.91	9.99	11.07	12.17		13.66	7 / 2			
reaction time	0.136	interval		1.04	1.08	1.03	1.04	1.06	1.07	1.08	1.08	1.10	1.49			3.15	3.17	3.26
wind	-0.2 m/s	velocity	5.30	8.79	8.46	8.87	8.79	8.62	8.54	8.46	8.46	8.31	9.41	8.05		8.70	8.65	8.41

Scott, Ja'Qualon (USA) (2001)

FINAL - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	28-Jun-24	time	2.54	3.59	4.61	5.61	6.62	7.64	8.65	9.66	10.68	11.70		13.09	8 / 5			
reaction time		interval	*7 steps*	1.05	1.02	1.00	1.01	1.02	1.01	1.01	1.02	1.02	1.39	PB		3.07	3.04	3.05
wind	2.0 m/s	velocity	5.40	8.70	8.96	9.14	9.05	8.96	9.05	9.05	8.96	8.96	10.09	8.40		8.93	9.02	8.99

Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	27-Jun-24	time	2.57	3.60	4.62	5.62	6.63	7.65	8.67	9.70	10.72	11.78		13.23	6 / 2			
reaction time		interval	*7 steps*	1.03	1.02	1.00	1.01	1.02	1.02	1.03	1.02	1.06	1.45			3.05	3.05	3.11
wind	-0.2 m/s	velocity	5.34	8.87	8.96	9.14	9.05	8.96	8.96	8.87	8.96	8.62	9.67	8.31		8.99	8.99	8.82

Heat 4 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.55	3.60	4.63	5.66	6.66	7.66	8.65	9.68	10.73	11.80		13.15	2 / 3			
reaction time		interval	*7 steps*	1.05	1.03	1.03	1.00	1.00	0.99	1.03	1.05	1.07	1.35	PB		3.11	2.99	3.15
wind	1.2 m/s	velocity	5.38	8.70	8.87	8.87	9.14	9.14	9.23	8.87	8.70	8.54	10.39	8.37		8.82	9.17	8.70

FINAL - 2024 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	07-Jun-24	time	2.60	3.67	4.70	5.74	6.77	7.81	8.84	9.86	10.88	11.91		13.27	3 / 3			
reaction time		interval	*7 steps*	1.07	1.03	1.04	1.03	1.04	1.03	1.02	1.02	1.03	1.36	PB		3.14	3.10	3.07
wind	0.1 m/s	velocity	5.28	8.54	8.87	8.79	8.87	8.79	8.87	8.96	8.96	8.87	10.31	8.29		8.73	8.85	8.93

Šebrle, Roman (CZE) (1974)

Heat 2 - 2012 Czech Republic National Indoor Championships (Praha, CZE) *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	25-Feb-12	time	2.85	4.07	5.30	6.54	7.83							9.05	8 / 7			
reaction time	0.140	interval		1.22	1.23	1.24	1.29						1.22			3.69		
		velocity	4.81	7.49	7.43	7.37	7.09						7.97	6.63		7.43		

Decathlon - Heat 3 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.77	3.91	5.01	6.11	7.21	8.35	9.44	10.57	11.73	12.90		14.44	2 / 5			
reaction time	0.165	interval		1.14	1.10	1.10	1.10	1.14	1.09	1.13	1.16	1.17	1.54			3.34	3.33	3.46
wind	-0.1 m/s	velocity	4.95	8.02	8.31	8.31	8.31	8.02	8.39	8.09	7.88	7.81	9.10	7.62		8.21	8.23	7.92

Sedlák, Pavel (CZE) (1983)

FINAL - 2012 Czech Republic National Indoor Championships (Praha, CZE) *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	25-Feb-12	time	2.67	3.80	4.89	6.02	7.16							8.23	8 / 7			
reaction time	0.149	interval		1.13	1.09	1.13	1.14						1.07			3.35		
		velocity	5.14	8.09	8.39	8.09	8.02						9.08	7.29		8.19		

Heat 1 - 2012 Czech Republic National Indoor Championships (Praha, CZE) *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*

date	25-Feb-12	time	2.66	3.80	4.90	6.04	7.18							8.20	5 / 2			
reaction time	0.135	interval		1.14	1.10	1.14	1.14						1.02			3.38		

		velocity	5.16	8.02	8.31	8.02	8.02						9.53	7.32		8.11		

Sedlák, Václav (CZE) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2014 Czech Republic National Championships (Ostrava, CZE)													*Feher (2014) - Final report from the Czech Republic national championships*			
date 02-Aug-14 time	2.73	3.88	5.00	6.13	7.24	8.35							5 / --			
reaction time 0.151 interval		1.15	1.12	1.13	1.11	1.11						DQ		3.40		
wind -1.6 m/s velocity	5.03	7.95	8.16	8.09	8.23	8.23								8.06		
FINAL - 2013 Czech Republic National Championships (Tábor, CZE)													*Feher (2013) - Final report from the men's & women's Czech Republic national championships*			
date 15-Jun-13 time	2.73	3.85	4.96	6.05	7.13	8.25	9.40	10.53	11.68	12.87		14.36	3 / 4			
reaction time 0.147 interval		1.12	1.11	1.09	1.08	1.12	1.15	1.13	1.15	1.19	1.49			3.32	3.35	3.47
wind 0.4 m/s velocity	5.03	8.16	8.23	8.39	8.46	8.16	7.95	8.09	7.95	7.68	9.41	7.66		8.26	8.19	7.90
Heat 3 - 2013 Czech Republic National Championships (Tábor, CZE)													*Feher (2013) - Final report from the men's & women's Czech Republic national championships*			
date 15-Jun-13 time	2.75	3.91	5.03	6.13	7.26	8.38	9.52	10.67	11.84	13.00		14.56	4 / 1			
reaction time 0.131 interval		1.16	1.12	1.10	1.13	1.12	1.14	1.15	1.17	1.16	1.56			3.38	3.39	3.48
wind -0.3 m/s velocity	4.99	7.88	8.16	8.31	8.09	8.16	8.02	7.95	7.81	7.88	8.99	7.55		8.11	8.09	7.88
FINAL - 2012 Czech Republic National Indoor Championships (Praha, CZE)													*Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*			
date 25-Feb-12 time	2.67	3.78	4.85	5.93	7.00							7.89	5 / 2			
reaction time 0.141 interval		1.11	1.07	1.08	1.07						0.89			3.26		
velocity	5.14	8.23	8.54	8.46	8.54						10.92	7.60		8.41		
Heat 3 - 2012 Czech Republic National Indoor Championships (Praha, CZE)													*Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*			
date 25-Feb-12 time	2.70	3.82	4.88	5.99	7.05							7.98	4 / 1			
reaction time 0.141 interval		1.12	1.06	1.11	1.06						0.93			3.29		
velocity	5.08	8.16	8.62	8.23	8.62						10.45	7.52		8.33		

Sedoc, Gregory (NED) (1981)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 20-Aug-09 time	2.63	3.66	4.70	5.73	6.77	7.80	8.84	9.90	10.95	12.03		13.45	8 / 5			
reaction time 0.162 interval		1.03	1.04	1.03	1.04	1.03	1.04	1.06	1.05	1.08	1.42			3.10	3.11	3.19
wind 0.6 m/s velocity	5.22	8.87	8.79	8.87	8.79	8.87	8.79	8.62	8.70	8.46	9.87	8.18		8.85	8.82	8.60
Heat 5 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 19-Aug-09 time	2.63	3.69	4.74	5.77	6.79	7.83	8.90	9.95	11.03	12.14		13.54	7 / 3			
reaction time 0.145 interval		1.06	1.05	1.03	1.02	1.04	1.07	1.05	1.08	1.11	1.40			3.14	3.13	3.24
wind 0.0 m/s velocity	5.22	8.62	8.70	8.87	8.96	8.79	8.54	8.70	8.46	8.23	10.01	8.12		8.73	8.76	8.46

Sekiguchi, Sekigori (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2016 Gunma Perfecture High School Championships (Gunma, JPN)													*(2016.10.25) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 24-Sep-16 time	2.79	4.04	5.22	6.41	7.61	8.80	10.00	11.19	12.39	13.62		15.22	4 / 1			
reaction time interval		1.25	1.18	1.19	1.20	1.19	1.20	1.19	1.20	1.23	1.60			3.62	3.59	3.62
wind 0.3 m/s velocity	4.92	7.31	7.75	7.68	7.62	7.68	7.62	7.68	7.62	7.43	8.76	7.23		7.57	7.64	7.57

Sekiguchi, Takane (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm)													*(2016.11.07) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 21-Oct-16 time	2.69	3.82	4.93	6.03	7.15	8.28	9.42	10.54	11.68	12.87		14.44	4 / 3			
reaction time interval		1.13	1.11	1.10	1.12	1.13	1.14	1.12	1.14	1.19	1.57			3.34	3.39	3.45
wind 1.7 m/s velocity	5.10	8.09	8.23	8.31	8.16	8.09	8.02	8.16	8.02	7.68	8.93	7.62		8.21	8.09	7.95

Sekyra, Daniel (CZE) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2015 Czech Republic National U20 Indoor Championships (Praha, CZE) (99cm)													*Feher (2015) - Final report U18 & U20 Czech Republic indoor national champs*			
date 14-Feb-15 time	2.84	4.00	5.19	6.37	7.57							8.61	1 / 6			
reaction time 0.191 interval		1.16	1.19	1.18	1.20						1.04			3.53		
velocity	4.83	7.88	7.68	7.75	7.62						9.35	6.97		7.77		
Heat 3 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14 time	2.95	4.16	5.40	6.62	7.87	9.10	10.37	11.62	12.91	14.24		16.00	4 / 6			
reaction time 0.247 interval		1.21	1.24	1.22	1.25	1.23	1.27	1.25	1.29	1.33	1.76			3.67	3.75	3.87
wind -2.5 m/s velocity	4.65	7.55	7.37	7.49	7.31	7.43	7.20	7.31	7.09	6.87	7.97	6.88		7.47	7.31	7.09

Senryu, Asai (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN)													*Takashima (2023) - national high school sports festival - biomechanics data*			
date 06-Aug-23 time	2.77	3.91	5.01	6.11	7.21	8.31	9.46	10.59	11.75	12.89		14.38	9 / 6			
reaction time 0.212 interval		1.14	1.10	1.10	1.10	1.10	1.15	1.13	1.16	1.14	1.49			3.34	3.35	3.43
wind 0.8 m/s velocity	4.95	8.02	8.31	8.31	8.31	8.31	7.95	8.09	7.88	8.02	9.41	7.65		8.21	8.19	7.99

Sevier, Mikdat (TUR) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 2 - 2025 European Athletics Indoor Championships (Apeldoorn, NED)													*European Athletics (2025) - european athletics indoor championships results book*			
date 07-Mar-25 time	2.42	3.49	4.54	5.59	6.66							7.82	2 / 8			
reaction time 0.122 interval	7 steps	1.07	1.05	1.05	1.07						1.16			3.17		
velocity	5.67	8.54	8.70	8.70	8.54						8.38	7.67		8.65		

Semi-Final 1 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.53	3.60	4.66	5.66	6.73							7.75	2 / 8		
reaction time	0.129	interval		1.07	1.06	1.00	1.07						1.02			3.13	
		velocity	5.42	8.54	8.62	9.14	8.54						9.53	7.74		8.76	

Shabanov, Georgiy (URS) (1960)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1981 USSR vs. USA (Leningrad, URS) *Chanon (1987) - analyse comparee des caracteristiques des courses de 100m haies et 110m haies*

date	10-Jul-81	time	2.50	3.61	4.66	5.69	6.74	7.80	8.90	10.06	11.24	12.49		13.81	/ 4			
reaction time		interval		1.11	1.05	1.03	1.05	1.06	1.10	1.16	1.18	1.25	1.32			3.19	3.21	3.59
wind	2.8 m/s	velocity	5.49	8.23	8.70	8.87	8.70	8.62	8.31	7.88	7.75	7.31	10.62	7.97		8.60	8.54	7.64

FINAL - 1981 USSR vs. GDR (Tbilisi, URS) *Chanon (1987) - analyse comparee des caracteristiques des courses de 100m haies et 110m haies*

date	26-Jun-81	time	2.48	3.61	4.69	5.72	6.74	7.81	8.90	10.00	11.20	12.44		13.82	/ 2			
reaction time		interval		1.13	1.08	1.03	1.02	1.07	1.09	1.10	1.20	1.24	1.38			3.24	3.18	3.54
wind	???	velocity	5.53	8.09	8.46	8.87	8.96	8.54	8.39	8.31	7.62	7.37	10.16	7.96		8.46	8.62	7.75

Shabanov, Konstantin (RUS) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2013 European Indoor Championships (Göteborg, SWE) *Blomkvist (2013) - www.elitlandslag.se/SprintHäck/KortHäck.aspx*

date	01-Mar-13	time	2.59	3.64	4.67	5.71	6.77							7.66	7 / 8			
reaction time	0.137	interval		1.05	1.03	1.04	1.06						0.89			3.12		
		velocity	5.30	8.70	8.87	8.79	8.62						10.92	7.83		8.79		

FINAL - 2012 IAAF World Indoor Championships (Istanbul, TUR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	11-Mar-12	time	2.58	3.60	4.62	5.64	6.66							7.60	2 / 5			
reaction time	0.202	interval		1.02	1.02	1.02	1.02						0.94			3.06		
		velocity	5.32	8.96	8.96	8.96	8.96						10.34	7.89		8.96		

FINAL - 2009 Seiko Super Grand Prix (Kawasaki, JPN) *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*

date	23-Sep-09	time	2.61	3.69	4.75	5.79	6.85	7.91	9.02	10.14	11.26	12.41		13.96	/ 3			
reaction time		interval		1.08	1.06	1.04	1.06	1.06	1.11	1.12	1.12	1.15	1.55			3.18	3.23	3.39
wind	-1.3 m/s	velocity	5.26	8.46	8.62	8.79	8.62	8.62	8.23	8.16	8.16	7.95	9.05	7.88		8.62	8.49	8.09

Shaker, Amir (SWE) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2013 Windsprint (Sundsvall, SWE) *(2013) - www.ssg.se/windsprint/Splittider/*

date	28-Jul-13	time	2.70	3.79	4.84	5.91	6.97	8.05	9.14	10.21	11.29	12.40		13.87	2 / 6			
reaction time		interval		1.09	1.05	1.07	1.06	1.08	1.09	1.07	1.08	1.11	1.47			3.21	3.23	3.26
wind	1.7 m/s	velocity	5.08	8.39	8.70	8.54	8.62	8.46	8.39	8.54	8.46	8.23	9.54	7.93		8.54	8.49	8.41

FINAL - 2012 Windsprint (Sundsvall, SWE) *Blomkvist (2012) - www.sub13.se*

date	17-Jun-12	time	2.76	3.87	4.97	6.06	7.15	8.28	9.42	10.58	11.74	12.91		14.52	8 / 7			
reaction time		interval		1.11	1.10	1.09	1.09	1.13	1.14	1.16	1.16	1.17	1.61			3.30	3.36	3.49
wind	1.1 m/s	velocity	4.97	8.23	8.31	8.39	8.39	8.09	8.02	7.88	7.88	7.81	8.71	7.58		8.31	8.16	7.86

Shaker, Amir (IRQ) (1989)

FINAL - 2011 Folksam GP (Göteborg, SWE) *Blomkvist (2011) - www.sub13.se*

date	11-Jun-11	time	2.64	3.72	4.84	5.90	6.96	8.05	9.16	10.26	11.38	12.56		14.27	/ 6			
reaction time		interval		1.08	1.12	1.06	1.06	1.09	1.11	1.10	1.12	1.18	1.71			3.26	3.26	3.40
wind	0.6 m/s	velocity	5.20	8.46	8.16	8.62	8.62	8.39	8.23	8.31	8.16	7.75	8.20	7.71		8.41	8.41	8.06

FINAL - 2010 Swedish National Championships (Falun, SWE) *Blomkvist (2010) - www.sub13.se*

date	22-Aug-10	time	2.80	3.94	5.07	6.20	7.32	8.45	9.59	10.77	11.94	13.11		14.68	/ 4			
reaction time		interval		1.14	1.13	1.13	1.12	1.13	1.14	1.18	1.17	1.17	1.57	**PB**		3.40	3.39	3.52
wind	-0.7 m/s	velocity	4.90	8.02	8.09	8.09	8.16	8.09	8.02	7.75	7.81	7.81	8.93	7.49		8.06	8.09	7.79

Sharman, William (GBR) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2013 IAAF World Championships (Moscow, RUS) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	12-Aug-13	time	2.54	3.56	4.60	5.60	6.62	7.64	8.68	9.72	10.76	11.84		13.30	2 / 5			
reaction time	0.151	interval	7 steps	1.02	1.04	1.00	1.02	1.02	1.04	1.04	1.04	1.08	1.46			3.06	3.08	3.16
wind	0.3 m/s	velocity	5.40	8.96	8.79	9.14	8.96	8.96	8.79	8.79	8.79	8.46	9.60	8.27		8.96	8.90	8.68

FINAL - 2011 IAAF World Championships (Daegu, KOR) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	29-Aug-11	time	2.52	3.62	4.68	5.74	6.77	7.81	8.86	9.92	11.00	12.11		13.67	8 / ~~6~~ 5			
reaction time	0.178	interval	7 steps	1.10	1.06	1.06	1.03	1.04	1.05	1.06	1.08	1.11	1.56			3.22	3.12	3.25
wind	-1.1 m/s	velocity	5.44	8.31	8.62	8.62	8.87	8.79	8.70	8.62	8.46	8.23	8.99	8.05		8.52	8.79	8.44

FINAL - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.54	3.60	4.62	5.64	6.65	7.68	8.73	9.78	10.84	11.91		13.30	6 / 4			
reaction time	0.125	interval	7 steps	1.06	1.02	1.02	1.01	1.03	1.05	1.05	1.06	1.07	1.39	**PB**		3.10	3.09	3.18
wind	0.1 m/s	velocity	5.40	8.62	8.96	8.96	9.05	8.87	8.70	8.70	8.62	8.54	10.09	8.27		8.85	8.87	8.62

Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.56	3.58	4.63	5.65	6.66	7.69	8.72	9.77	10.82	11.90		13.38	8 / 1			
reaction time	0.110	interval	7 steps	1.02	1.05	1.02	1.01	1.03	1.03	1.05	1.05	1.08	1.48	**PB**		3.09	3.07	3.18

wind	0.1 m/s	velocity	5.36	8.96	8.70	8.96	9.05	8.87	8.87	8.70	8.70	8.46	9.47	8.22		8.87	8.93	8.62

Heat 4 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.61	3.67	4.71	5.75	6.81	7.85	8.90	9.97	11.03	12.11		13.52	1 / 3			
reaction time	0.143	interval	*7 steps*	1.06	1.04	1.04	1.06	1.04	1.05	1.07	1.06	1.08	1.41			3.14	3.15	3.21
wind	0.5 m/s	velocity	5.26	8.62	8.79	8.79	8.62	8.79	8.70	8.54	8.62	8.46	9.94	8.14		8.73	8.70	8.54

Shi Dongpeng (CHN) (1984)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 2012 Golden Grand Prix (Shanghai, CHN) (TV Analysis)															*Henson (2020) - Athlete First: 2012 Aries Merritt world record season*			
date	19-May-12	time	2.52	3.60	4.66	5.70	6.74	7.78	8.82	9.86	10.96	12.06		13.60	1 / 7			
reaction time	0.155	interval		1.08	1.06	1.04	1.04	1.04	1.04	1.04	1.10	1.10	1.54			3.18	3.12	3.24
wind	0.4 m/s	velocity	5.44	8.46	8.62	8.79	8.79	8.79	8.79	8.79	8.31	8.31	9.10	8.09		8.62	8.79	8.46

Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.63	3.73	4.77	5.79	6.81	7.83	8.86	9.90	10.95	12.03		13.42	3 / 4			
reaction time	0.144	interval		1.10	1.04	1.02	1.02	1.02	1.03	1.04	1.05	1.08	1.39			3.16	3.07	3.17
wind	0.6 m/s	velocity	5.22	8.31	8.79	8.96	8.96	8.96	8.87	8.79	8.70	8.46	10.09	8.20		8.68	8.93	8.65

Heat 1 - 2009 IAAF World Chamionships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.68	3.75	4.79	5.82	6.84	7.90	8.95	10.00	11.06	12.12		13.56	2 / 1			
reaction time	0.155	interval		1.07	1.04	1.03	1.02	1.06	1.05	1.05	1.06	1.06	1.44			3.14	3.13	3.17
wind	-0.4 m/s	velocity	5.12	8.54	8.79	8.87	8.96	8.62	8.70	8.70	8.62	8.62	9.74	8.11		8.73	8.76	8.65

FINAL - 2009 Osaka Grand Prix (Osaka, JPN) *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*

date	09-May-09	time	2.64	3.70	4.74	5.79	6.83	7.84	8.88	9.95	11.00	12.09		13.48	/ 2			
reaction time		interval		1.06	1.04	1.05	1.04	1.01	1.04	1.07	1.05	1.09	1.39			3.15	3.09	3.21
wind	0.2 m/s	velocity	5.20	8.62	8.79	8.70	8.79	9.05	8.79	8.54	8.70	8.39	10.09	8.16		8.70	8.87	8.54

FINAL - 2007 IAAF World Championships (Osaka, JPN) *Xiao (2014) - development process of the characterisitcs about 110m hurdle training in China*

date	31-Aug-07	time	2.59	3.62	4.63	5.62	6.60	7.57	8.57	9.57	10.59	11.62		13.19	6 / 5			
reaction time	0.150	interval		1.03	1.01	0.99	0.98	0.97	1.00	1.00	1.02	1.03	1.57	**PB**		3.03	2.95	3.05
wind	1.7 m/s	velocity	5.30	8.87	9.05	9.23	9.33	9.42	9.14	9.14	8.96	8.87	8.93	8.34		9.05	9.29	8.99

Race 2 - 2007 Athletissima Meeting (Lausanne, SUI) *Lu (2008) - 110m hurdle technical characteristics of Shi Dongpeng*

date	10-Jul-07	time	2.63	3.71	4.76	5.79	6.80	7.80	8.82	9.85	10.90	11.97		13.42	/ 8			
reaction time		interval		1.08	1.05	1.03	1.01	1.00	1.02	1.03	1.05	1.07	1.45			3.16	3.03	3.15
wind	0.0 m/s	velocity	5.22	8.46	8.70	8.87	9.05	9.14	8.96	8.87	8.70	8.54	9.67	8.20		8.68	9.05	8.70

FINAL - 2007 National Grand Prix (Zhaoqing, CHN) *Zhao (2009) - kinematic research on the 110m hurdle technique of Shi Dongpeng*

date	19-May-07	time	2.63	3.70	4.73	5.75	6.77	7.79	8.82	9.86	10.92	11.99		13.47	/ 1			
reaction time		interval		1.07	1.03	1.02	1.02	1.02	1.03	1.04	1.06	1.07	1.48			3.12	3.07	3.17
wind	0.4 m/s	velocity	5.22	8.54	8.87	8.96	8.96	8.96	8.87	8.79	8.62	8.54	9.47	8.17		8.79	8.93	8.65

FINAL - 2005 Chinese National Games (Nanjing, CHN) *Wang (2013) - analysis on the technical characteristics of Liu Xiang's and Shi Dongpeng's 110m Hurdles*

date	20-Oct-05	time	2.70	3.75	4.77	5.78	6.78	7.81	8.84	9.89	10.93	11.98		13.44	/ 2			
reaction time		interval		1.05	1.02	1.01	1.00	1.03	1.03	1.05	1.04	1.05	1.46			3.08	3.06	3.14
wind	0.4 m/s	velocity	5.08	8.70	8.96	9.05	9.14	8.87	8.87	8.70	8.79	8.70	9.60	8.18		8.90	8.96	8.73

FINAL - 2003 IAAF World Championships (Paris, FRA) *Yao (2012) - research on rhythm training methods between men's straight hurdles*

date	30-Aug-03	time	2.71	3.78	4.79	5.81	6.83	7.85	8.87	9.91	10.99	12.07		13.55	3 / ~~7~~ 6			
reaction time	0.145	interval		1.07	1.01	1.02	1.02	1.02	1.02	1.04	1.08	1.08	1.48			3.10	3.06	3.20
wind	0.3 m/s	velocity	5.06	8.54	9.05	8.96	8.96	8.96	8.96	8.79	8.46	8.46	9.47	8.12		8.85	8.96	8.57

FINAL - 2001 Chinese National Grand Prix (Shanghai, CHN) *Fang (2001) - analysis on technical characteristics in Liu Xiang's 110m hurdles*

date	06-May-01	time	2.71	3.78	4.79	5.81	6.83	7.86	8.87	9.91	10.99	12.07		13.43	/ 3			
reaction time		interval		1.07	1.01	1.02	1.02	1.03	1.01	1.04	1.08	1.08	1.36	**WYR NR PB**		3.10	3.06	3.20
wind	1.9 m/s	velocity	5.06	8.54	9.05	8.96	8.96	8.87	9.05	8.79	8.46	8.46	10.31	8.19		8.85	8.96	8.57

Shi Guoxing (CHN) (2000)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 2024 Chinese National Championships (Quzhou, CHN)															*Shandong Athletics Sport Science (2024)*			
date	16-Sep-24	time	2.68	3.74	4.78	5.81	6.83	7.86	8.91	9.96	11.03	12.11		13.54	3 / 5			
reaction time	0.170	interval		1.06	1.04	1.03	1.02	1.03	1.05	1.05	1.07	1.08	1.43			3.13	3.10	3.20
wind	0.2 m/s	velocity	5.12	8.62	8.79	8.87	8.96	8.87	8.70	8.70	8.54	8.46	9.80	8.12		8.76	8.85	8.57

FINAL - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.69	3.77	4.84	5.91	6.99	8.06	9.16	10.24	11.39	12.51		13.93	3 / 6			
reaction time	0.196	interval		1.08	1.07	1.07	1.08	1.07	1.10	1.08	1.15	1.12	1.42	**PB**		3.22	3.25	3.35
wind	1.6 m/s	velocity	5.10	8.46	8.54	8.54	8.46	8.54	8.31	8.46	7.95	8.16	9.87	7.90		8.52	8.44	8.19

Heat 3 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.70	3.79	4.85	5.94	7.02	8.09	9.19	10.31	11.43	12.56		14.03	8 / 5			
reaction time	0.172	interval		1.09	1.06	1.09	1.08	1.07	1.10	1.12	1.12	1.13	1.47	**PB**		3.24	3.25	3.37
wind	0.5 m/s	velocity	5.08	8.39	8.62	8.39	8.46	8.54	8.31	8.16	8.16	8.09	9.54	7.84		8.46	8.44	8.14

Heat 2 - 2020 Chinese Olympic Trials (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	12-Jun-21	time	2.65	3.76	4.87	5.97	7.11	8.24	9.36	10.49	11.63	12.77		14.39	7 / 6			
reaction time	0.156	interval		1.11	1.11	1.10	1.14	1.13	1.12	1.13	1.14	1.14	1.62			3.32	3.39	3.41
wind	-0.8 m/s	velocity	5.18	8.23	8.23	8.31	8.02	8.09	8.16	8.09	8.02	8.02	8.65	7.64		8.26	8.09	8.04

Heat 1 - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.72	3.86	5.00	6.11	7.24	8.37	9.50	10.63	11.76	12.90		14.34	9 / 7			
reaction time	0.169	interval		1.14	1.14	1.11	1.13	1.13	1.13	1.13	1.13	1.14	1.44	PB		3.39	3.39	3.40
wind	0.3 m/s	velocity	5.04	8.02	8.02	8.23	8.09	8.09	8.09	8.09	8.09	8.02	9.74	7.67		8.09	8.09	8.06

FINAL - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	24-Aug-19	time	2.78	3.89	4.99	6.10	7.19	8.32	9.44	10.56	11.72	12.88		14.36	3 / 6			
reaction time	0.201	interval		1.11	1.10	1.11	1.09	1.13	1.12	1.12	1.16	1.16	1.48	PB		3.32	3.34	3.44
wind	-0.1 m/s	velocity	4.94	8.23	8.31	8.23	8.39	8.09	8.16	8.16	7.88	7.88	9.47	7.66		8.26	8.21	7.97

Heat 2 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.81	3.94	5.06	6.17	7.34	8.48	9.62	10.76	11.92	13.08		14.58	5 / 3			
reaction time	0.195	interval		1.13	1.12	1.11	1.17	1.14	1.14	1.14	1.16	1.16	1.50			3.36	3.45	3.46
wind	-0.2 m/s	velocity	4.88	8.09	8.16	8.23	7.81	8.02	8.02	8.02	7.88	7.88	9.35	7.54		8.16	7.95	7.92

U20 FINAL - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.67	3.76	4.81	5.85	6.87	7.91	8.96	10.00	11.07	12.13		13.52	8 / 3			
reaction time	0.144	interval		1.09	1.05	1.04	1.02	1.04	1.05	1.04	1.07	1.06	1.39	PB		3.18	3.11	3.17
wind	-0.3 m/s	velocity	5.14	8.39	8.70	8.79	8.96	8.79	8.70	8.79	8.54	8.62	10.09	8.14		8.62	8.82	8.65

U20 Heat 2 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.72	3.81	4.86	5.91	6.97	8.04	9.11	10.19	11.26	12.34		13.77	5 / 2			
reaction time	0.179	interval		1.09	1.05	1.05	1.06	1.07	1.07	1.08	1.07	1.08	1.43			3.19	3.20	3.23
wind	-0.3 m/s	velocity	5.04	8.39	8.70	8.70	8.62	8.54	8.54	8.46	8.54	8.46	9.80	7.99		8.60	8.57	8.49

FINAL - 2018 Chinese National U20 Championships (Nanchang, CHN) (99.1cm) *Zhang (2019) - comparative analysis characteristics Chinese elite 110m hurdles in different age*

date	13-May-18	time	2.72	3.82	4.89	5.97	7.01	8.07	9.12	10.19	11.29	12.38		13.81	3 / 2			
reaction time		interval		1.10	1.07	1.08	1.04	1.06	1.05	1.07	1.10	1.09	1.43			3.25	3.15	3.26
wind	1.0 m/s	velocity	5.04	8.31	8.54	8.46	8.79	8.62	8.70	8.54	8.31	8.39	9.80	7.97		8.44	8.70	8.41

Shi Hanlin (CHN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 Chinese National U20 Championships (Nanchang, CHN) (99.1cm) *Zhang (2019) - comparative analysis characteristics Chinese elite 110m hurdles in different age*

date	13-May-18	time	2.78	3.89	4.98	6.07	7.16	8.27	9.38	10.50	11.63	12.78		14.31	2 / 7			
reaction time		interval		1.11	1.09	1.09	1.09	1.11	1.11	1.12	1.13	1.15	1.53			3.29	3.31	3.40
wind	1.0 m/s	velocity	4.94	8.23	8.39	8.39	8.39	8.23	8.23	8.16	8.09	7.95	9.16	7.69		8.33	8.28	8.06

Shibaya, Takumi (JPN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 6 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.08) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.75	3.85	4.97	6.08	7.21	8.32	9.44	10.59	11.75	12.90		14.43	1 / 2			
reaction time		interval		1.10	1.12	1.11	1.13	1.11	1.12	1.15	1.16	1.15	1.53			3.33	3.36	3.46
wind	1.2 m/s	velocity	4.99	8.31	8.16	8.23	8.09	8.23	8.16	7.95	7.88	7.95	9.16	7.62		8.23	8.16	7.92

Shikata, Makoto (JPN) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2022 Japanese U20 National Championsips (Osaka, JPN) (99cm) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	12-Jun-22	time	2.65	3.72	4.78	5.83	6.87	7.90	9.00	10.08	11.14	12.23		13.63	6 / 4			
reaction time	0.145	interval		1.07	1.06	1.05	1.04	1.03	1.10	1.08	1.06	1.09	1.40	PB		3.18	3.17	3.23
wind	1.1 m/s	velocity	5.18	8.54	8.62	8.70	8.79	8.87	8.31	8.46	8.62	8.39	10.01	8.07		8.62	8.65	8.49

Shimizu, Koichiro (JPN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	01-Jun-21	time	2.69	3.75	4.85	5.91	6.96	8.03	9.10	10.18	11.28	12.39		13.85	9 / 4			
reaction time	0.169	interval		1.06	1.10	1.06	1.05	1.07	1.07	1.08	1.10	1.11	1.46			3.22	3.19	3.29
wind	0.3 m/s	velocity	5.10	8.62	8.31	8.62	8.70	8.54	8.54	8.46	8.31	8.23	9.60	7.94		8.52	8.60	8.33

FINAL - 2019 Fuse Sprint (Tottori, JPN) *Kijima (2019) - research on athlete performance and technique- 2019 data book*

date	02-Jun-19	time	2.69	3.77	4.87	5.92	7.00	8.09	9.20	10.29	11.39	12.52		13.96	2 / 8			
reaction time	0.156	interval		1.08	1.10	1.05	1.08	1.09	1.11	1.09	1.10	1.13	1.44	PB		3.23	3.28	3.32
wind	1.9 m/s	velocity	5.10	8.46	8.31	8.70	8.46	8.39	8.23	8.39	8.31	8.09	9.74	7.88		8.49	8.36	8.26

Shimizu, Tsuyoshi (JPN) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2018 Tokyo Combined Event Meeting (Tokyo, JPN) *Matsubayashi (2018) - research on athlete performance and technique*

date	22-Apr-18	time	2.73	3.90	5.05	6.24	7.39	8.58	9.76	10.94	12.12	13.31		14.92	2 / 6			
reaction time		interval		1.17	1.15	1.19	1.15	1.19	1.18	1.18	1.18	1.19	1.61	PB		3.51	3.52	3.55
wind	1.8 m/s	velocity	5.03	7.81	7.95	7.68	7.95	7.68	7.75	7.75	7.75	7.68	8.71	7.37		7.81	7.79	7.72

Shinagawa, Yuto (JPN) (2005)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2023 Shimane High School Championships (Izumo, JPN) *Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*

date	28-May-23	time	2.85	4.05	5.27	6.45	7.68	8.92	10.15	11.40	12.63	13.90		15.55	3 / 1			
reaction time		interval		1.20	1.22	1.18	1.23	1.24	1.23	1.25	1.23	1.27	1.65			3.60	3.70	3.75
wind	-0.1 m/s	velocity	4.81	7.62	7.49	7.75	7.43	7.37	7.43	7.31	7.43	7.20	8.50	7.07		7.62	7.41	7.31

FINAL - 2022 Shimane High School Championships (Izumo, JPN) *Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*

date	28-May-22	time	2.92	4.12	5.37	6.57	7.77	8.98	10.23	11.50	12.77	14.08		15.67	6 / 3			
reaction time		interval		1.20	1.25	1.20	1.20	1.21	1.25	1.27	1.27	1.31	1.59			3.65	3.66	3.85
wind	0.6 m/s	velocity	4.70	7.62	7.31	7.62	7.62	7.55	7.31	7.20	7.20	6.98	8.82	7.02		7.51	7.49	7.12

FINAL - 2021 Shimane High School Championships (Izumo, JPN) *Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis*

date	30-May-21	time	3.02	4.35	5.70	7.05	8.37	9.72	11.07	12.42	13.80	15.22		17.07	1 / 6			
reaction time		interval		1.33	1.35	1.35	1.32	1.35	1.35	1.35	1.38	1.42	1.85			4.03	4.02	4.15
wind	1.7 m/s	velocity	4.54	6.87	6.77	6.77	6.92	6.77	6.77	6.77	6.62	6.44	7.58	6.44		6.80	6.82	6.61

Shinyo, Morito (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2016 Chiba Perfecture High School Championships (Chiba, JPN) *(2016.10.25) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	22-Sep-16	time	2.82	3.97	5.10	6.22	7.35	8.46	9.61	10.75	11.88	13.06		14.52	5 / 1			
reaction time		interval		1.15	1.13	1.12	1.13	1.11	1.15	1.14	1.13	1.18	1.46			3.40	3.39	3.45
wind	1.8 m/s	velocity	4.87	7.95	8.09	8.16	8.09	8.23	7.95	8.02	8.09	7.75	9.60	7.58		8.06	8.09	7.95

Shishkin, Vladimir (URS) (1964)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 1988 Olympic Games (Seoul, KOR) *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.57	3.63	4.67	5.71	6.74	7.79	8.83	9.87	10.96	12.06		13.51	3 / 4			
reaction time	0.139	interval	*7 steps*	1.06	1.04	1.04	1.03	1.05	1.04	1.04	1.09	1.10	1.45			3.14	3.12	3.23
wind	1.5 m/s	velocity	5.34	8.62	8.79	8.79	8.87	8.70	8.79	8.79	8.39	8.31	9.67	8.14		8.73	8.79	8.49

Semi-Final 1 - 1988 Olympic Games (Seoul, KOR) *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.60	3.67	4.70	5.73	6.75	7.78	8.81	9.87	10.93	12.01		13.46	5 / 1			
reaction time	0.160	interval	*7 steps*	1.07	1.03	1.03	1.02	1.03	1.03	1.06	1.06	1.08	1.45			3.13	3.08	3.20
wind	0.0 m/s	velocity	5.28	8.54	8.87	8.87	8.96	8.87	8.87	8.62	8.62	8.46	9.67	8.17		8.76	8.90	8.57

Shizuki, Kondo (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL B - 2016 Japanese Junior Olympics (Yokohama, JPN) (91cm) *(2016.10.28) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	30-Oct-16	time	2.72	3.88	4.99	6.12	7.24	8.38	9.54	10.73	11.97	13.20		14.89	5 / 2			
reaction time		interval		1.16	1.11	1.13	1.12	1.14	1.16	1.19	1.24	1.23	1.69			3.40	3.42	3.66
wind	-0.8 m/s	velocity	5.04	7.88	8.23	8.09	8.16	8.02	7.88	7.68	7.37	7.43	8.30	7.39		8.06	8.02	7.49

Semi-Final 3 B - 2016 Japanese Junior Olympics (Yokohama, JPN) (91cm) *(2016.10.27) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	30-Oct-16	time	2.75	3.91	5.03	6.16	7.33	8.49	9.66	10.87	12.10	13.38		15.14	7 / 1			
reaction time		interval		1.16	1.12	1.13	1.17	1.16	1.17	1.21	1.23	1.28	1.76			3.41	3.50	3.72
wind	-0.8 m/s	velocity	4.99	7.88	8.16	8.09	7.81	7.88	7.81	7.55	7.43	7.14	7.97	7.27		8.04	7.83	7.37

Heat 1 B - 2016 Japanese Junior Olympics (Yokohama, JPN) (91cm) *(2016.10.27) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	30-Oct-16	time	2.74	3.89	5.02	6.17	7.31	8.46	9.60	10.79	12.00	13.24		14.89	8 / 1			
reaction time		interval		1.15	1.13	1.15	1.14	1.15	1.14	1.19	1.21	1.24	1.65			3.43	3.43	3.64
wind	-0.6 m/s	velocity	5.01	7.95	8.09	7.95	8.02	7.95	8.02	7.68	7.55	7.37	8.50	7.39		7.99	7.99	7.53

Shkurenyov, Ilya (RUS) (1991)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	05-Aug-21	time	2.70	3.83	4.92	6.05	7.14	8.28	9.44	10.56	11.70	12.88		14.43	2 / 2			
reaction time	0.174	interval	7 steps	1.13	1.09	1.13	1.09	1.14	1.16	1.12	1.14	1.18	1.55			3.35	3.39	3.44
wind	0.0 m/s	velocity	5.08	8.09	8.39	8.09	8.39	8.02	7.88	8.16	8.02	7.75	9.05	7.62		8.19	8.09	7.97

Shohei, Miyamoto (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/04/07/post-249/*

date	06-Apr-17	time	2.75	3.91	5.08	6.24	7.39	8.53	9.70	10.89	12.05	13.23		14.79	4 / 3			
reaction time		interval	*7 steps*	1.16	1.17	1.16	1.15	1.14	1.17	1.19	1.16	1.18	1.56			3.49	3.46	3.53
wind	-1.8 m/s	velocity	4.99	7.88	7.81	7.88	7.95	8.02	7.81	7.68	7.88	7.75	8.99	7.44		7.86	7.92	7.77

Shubenkov, Sergey (ANA) (1990)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	06-Jul-21	time	2.50	3.53	4.54	5.56	6.55	7.54	8.54	9.57	10.61	11.64		13.19	6 / 3			
reaction time	0.150	interval	7 steps	1.03	1.01	1.02	0.99	0.99	1.00	1.03	1.04	1.03	1.55			3.06	2.98	3.10
wind	-0.1 m/s	velocity	5.49	8.87	9.05	8.96	9.23	9.23	9.14	8.87	8.79	8.87	9.05	8.34		8.96	9.20	8.85

FINAL - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.62	3.66	4.66	5.66	6.65	7.66	8.67	9.68	10.74	11.79		13.15	9 / 2			
reaction time	0.150	interval	7 steps	1.04	1.00	1.00	0.99	1.01	1.01	1.01	1.06	1.05	1.36			3.04	3.01	3.12
wind	0.6 m/s	velocity	5.24	8.79	9.14	9.14	9.23	9.05	9.05	9.05	8.62	8.70	10.31	8.37		9.02	9.11	8.79

Semi-Final 1 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.62	3.66	4.68	5.68	6.68	7.68	8.68	9.70	10.74	11.78		13.18	6 / 2			
reaction time	0.129	interval	7 steps	1.04	1.02	1.00	1.00	1.00	1.00	1.02	1.04	1.04	1.40			3.06	3.00	3.10

wind	1.1 m/s	velocity	5.24	8.79	8.96	9.14	9.14	9.14	9.14	8.96	8.79	8.79	10.01	8.35		8.96	9.14	8.85

Heat 2 - 2019 IAAF World Championships (Doha, QAT) (TV Analysis) *Henson (2021) - Athlete First: 2019 year end hurdle report*

date	30-Sep-19	time	2.52	3.52	4.54	5.54	6.54	7.54	8.58	9.62	10.68	11.74		13.27	6 / 1			
reaction time	0.138	interval	7 steps	1.00	1.02	1.00	1.00	1.00	1.04	1.04	1.06	1.06	1.53			3.02	3.04	3.16
wind	0.5 m/s	velocity	5.44	9.14	8.96	9.14	9.14	9.14	8.79	8.79	8.62	8.62	9.16	8.29		9.08	9.02	8.68

FINAL - 2019 The Match - Europe v USA (Minsk, BLR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	10-Sep-19	time	2.60	3.66	4.73	5.76	6.80	7.83	8.83	9.86	10.90	11.96		13.39	7 / 2			
reaction time	0.186	interval	7 steps	1.06	1.07	1.03	1.04	1.03	1.00	1.03	1.04	1.06	1.43			3.16	3.07	3.13
wind	0.1 m/s	velocity	5.28	8.62	8.54	8.87	8.79	8.87	9.14	8.87	8.79	8.62	9.80	8.22		8.68	8.93	8.76

FINAL - 2019 AG Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	06-Sep-19	time	2.54	3.60	4.64	5.64	6.64	7.64	8.68	9.72	10.76	11.82		13.33	7 / 3			
reaction time	0.153	interval	7 steps	1.06	1.04	1.00	1.00	1.00	1.04	1.04	1.04	1.06	1.51			3.10	3.04	3.14
wind	0.0 m/s	velocity	5.40	8.62	8.79	9.14	9.14	9.14	8.79	8.79	8.79	8.62	9.28	8.25		8.85	9.02	8.73

FINAL - 2019 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	24-Aug-19	time	2.56	3.64	4.72	5.76	6.80	7.88	8.94	10.00	11.12	12.26		13.88	4 / 8			
reaction time	0.144	interval	7 steps	1.08	1.08	1.04	1.04	1.08	1.06	1.06	1.12	1.14	1.62			3.20	3.18	3.32
wind	0.8 m/s	velocity	5.36	8.46	8.46	8.79	8.79	8.46	8.62	8.62	8.16	8.02	8.65	7.93		8.57	8.62	8.26

FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Jun-19	time	2.50	3.54	4.56	5.58	6.58	7.60	8.60	9.62	10.66	11.70		13.12	6 / 1			
reaction time	0.135	interval	7 steps	1.04	1.02	1.02	1.00	1.02	1.00	1.02	1.04	1.04	1.42			3.08	3.02	3.10
wind	0.3 m/s	velocity	5.49	8.79	8.96	8.96	9.14	8.96	9.14	8.96	8.79	8.79	9.87	8.38		8.90	9.08	8.85

FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	06-Jun-19	time	2.61	3.66	4.68	5.67	6.68	7.69	8.71	9.73	10.75	11.83		13.26	5 / 1			
reaction time	0.132	interval	7 steps	1.05	1.02	0.99	1.01	1.01	1.02	1.02	1.02	1.08	1.43			3.06	3.04	3.12
wind	0.4 m/s	velocity	5.26	8.70	8.96	9.23	9.05	9.05	8.96	8.96	8.96	8.46	9.80	8.30		8.96	9.02	8.79

FINAL - 2019 Nanjing World Challenge (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	21-May-19	time	2.62	3.66	4.68	5.68	6.71	7.73	8.76	9.79	10.85	11.94		13.37	7 / 4			
reaction time	0.165	interval	7 steps	1.04	1.02	1.00	1.03	1.02	1.03	1.03	1.06	1.09	1.43			3.06	3.08	3.18
wind	0.1 m/s	velocity	5.24	8.79	8.96	9.14	8.87	8.96	8.87	8.87	8.62	8.39	9.80	8.23		8.96	8.90	8.62

FINAL - 2019 Shanghai Diamond League (Shanghai, CHN) *CAA Hurdle Development (2019)*

date	18-May-19	time	2.60	3.66	4.68	5.66	6.66	7.68	8.74	9.76	10.82	11.90		13.28	5 / 3			
reaction time	0.126	interval	7 steps	1.06	1.02	0.98	1.00	1.02	1.06	1.02	1.06	1.08	1.38			3.06	3.08	3.16
wind	0.7 m/s	velocity	5.28	8.62	8.96	9.33	9.14	8.96	8.62	8.96	8.62	8.46	10.16	8.28		8.96	8.90	8.68

FINAL - 2018 IAAF Continental Cup (Ostrava, CZE) (TV Analysis) *Henson (2021) - Athlete First: 2018 year end hurdle report*

date	09-Sep-18	time	2.52	3.58	4.60	5.56	6.54	7.54	8.54	9.54	10.54	11.58		13.03	2 / 1			
reaction time	0.143	interval	7 steps	1.06	1.02	0.96	0.98	1.00	1.00	1.00	1.00	1.04	1.45			3.04	2.98	3.04
wind	0.9 m/s	velocity	5.44	8.62	8.96	9.52	9.33	9.14	9.14	9.14	9.14	8.79	9.67	8.44		9.02	9.20	9.02

FINAL - 2018 Meeting Cittá di Padova (Padova, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	02-Sep-18	time	2.56	3.58	4.60	5.58	6.56	7.56	8.56	9.56	10.56	11.60		13.09	4 / 1			
reaction time		interval	7 steps	1.02	1.02	0.98	0.98	1.00	1.00	1.00	1.00	1.04	1.49			3.02	2.98	3.04
wind	1.7 m/s	velocity	5.36	8.96	8.96	9.33	9.33	9.14	9.14	9.14	9.14	8.79	9.41	8.40		9.08	9.20	9.02

FINAL - 2018 AG Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	31-Aug-18	time	2.54	3.56	4.58	5.58	6.56	7.54	8.52	9.52	10.54	11.56		12.97	5 / 1			
reaction time	0.168	interval	7 steps	1.02	1.02	1.00	0.98	0.98	0.98	1.00	1.02	1.02	1.41			3.04	2.94	3.04
wind	-0.1 m/s	velocity	5.40	8.96	8.96	9.14	9.33	9.33	9.33	9.14	8.96	8.96	9.94	8.48		9.02	9.33	9.02

FINAL - 2018 Herculis Meeting International d'Athletisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	20-Jul-18	time	2.52	3.56	4.56	5.56	6.56	7.56	8.56	9.56	10.58	11.60		13.07	4 / 1			
reaction time	0.132	interval	7 steps	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.02	1.02	1.47			3.04	3.00	3.04
wind	-0.2 m/s	velocity	5.44	8.79	9.14	9.14	9.14	9.14	9.14	9.14	8.96	8.96	9.54	8.42		9.02	9.14	9.02

FINAL - 2018 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	05-Jul-18	time	2.59	3.61	4.62	5.60	6.58	7.56	8.54	9.54	10.58	11.65		12.95	6 / 1			
reaction time	0.147	interval	7 steps	1.02	1.01	0.98	0.98	0.98	0.98	1.00	1.04	1.07	1.30			3.01	2.94	3.11
wind	0.6 m/s	velocity	5.30	8.96	9.05	9.33	9.33	9.33	9.33	9.14	8.79	8.54	10.78	8.49		9.11	9.33	8.82

FINAL - 2018 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	02-Jul-18	time	2.52	3.54	4.54	5.52	6.50	7.48	8.46	9.46	10.48	11.52		12.92	6 / 1			
reaction time	0.169	interval	7 steps	1.02	1.00	0.98	0.98	0.98	0.98	1.00	1.02	1.04	1.40	NR PB		3.00	2.94	3.06
wind	0.6 m/s	velocity	5.44	8.96	9.14	9.33	9.33	9.33	9.33	9.14	8.96	8.79	10.01	8.51		9.14	9.33	8.96

FINAL - 2018 Meeting International de Montreuil (Montreuil, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	19-Jun-18	time	2.62	3.64	4.64	5.62	6.60	7.58	8.56	9.56	10.58	11.62		12.99	5 / 1				
reaction time	0.143	interval	7 steps	1.02	1.00	0.98	0.98	0.98	0.98	1.00	1.02	1.04	1.37			3.00	2.94	3.06	
wind	0.5 m/s	velocity	5.24	8.96	9.14	9.33	9.33	9.33	9.33	9.14	8.96	8.79	10.23	8.47		9.14	9.33	8.96	

FINAL - 2018 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	26-May-18	time	2.56	3.58	4.58	5.56	6.56	7.56	8.56	9.58	10.62	11.66		13.08	6 / 2				
reaction time	0.173	interval	7 steps	1.02	1.00	0.98	1.00	1.00	1.00	1.02	1.04	1.04	1.42			3.00	3.00	3.10	
wind	3.0 m/s	velocity	5.36	8.96	9.14	9.33	9.14	9.14	9.14	8.96	8.79	8.79	9.87	8.41		9.14	9.14	8.85	

FINAL - 2018 Shanghai Diamond League (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	12-May-18	time	2.52	3.58	4.62	5.66	6.68	7.70	8.72	9.76	10.78	11.82		13.27	6 / 3				
reaction time	0.148	interval	7 steps	1.06	1.04	1.04	1.02	1.02	1.02	1.04	1.02	1.04	1.45			3.14	3.06	3.10	
wind	0.2 m/s	velocity	5.44	8.62	8.79	8.79	8.96	8.96	8.96	8.79	8.96	8.79	9.67	8.29		8.73	8.96	8.85	

FINAL - 2017 Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	01-Sep-17	time	2.56	3.60	4.60	5.60	6.58	7.56	8.58	9.58	10.62	11.66		13.14	5 / 1				
reaction time	0.146	interval	7 steps	1.04	1.00	1.00	0.98	0.98	1.02	1.00	1.04	1.04	1.48			3.04	2.98	3.08	
wind	0.5 m/s	velocity	5.36	8.79	9.14	9.14	9.33	9.33	8.96	9.14	8.79	8.79	9.47	8.37		9.02	9.20	8.90	

FINAL - 2017 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	20-Aug-17	time	2.54	3.58	4.58	5.60	6.62	7.64	8.66	9.72	10.78	11.82		13.31	7 / 2				
reaction time	0.133	interval	7 steps	1.04	1.00	1.02	1.02	1.02	1.02	1.06	1.06	1.04	1.49			3.06	3.06	3.16	
wind	-0.6 m/s	velocity	5.40	8.79	9.14	8.96	8.96	8.96	8.96	8.62	8.62	8.79	9.41	8.26		8.96	8.96	8.68	

FINAL - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	07-Aug-17	time	2.41	3.45	4.45	5.46	6.45	7.46	8.47	9.48	10.52	11.57		13.14	2 / 2				
reaction time	0.132	interval	7 steps	1.04	1.00	1.01	0.99	1.01	1.01	1.01	1.04	1.05	1.57			3.05	3.01	3.10	
wind	0.0 m/s	velocity	5.69	8.79	9.14	9.05	9.23	9.05	9.05	9.05	8.79	8.70	8.93	8.37		8.99	9.11	8.85	

Semi-Final 1 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.46	3.52	4.54	5.54	6.55	7.55	8.56	9.58	10.62	11.70		13.22	9 / 3				
reaction time	0.160	interval	7 steps	1.06	1.02	1.00	1.01	1.00	1.01	1.02	1.04	1.08	1.52			3.08	3.02	3.14	
wind	0.2 m/s	velocity	5.58	8.62	8.96	9.14	9.05	9.14	9.05	8.96	8.79	8.46	9.22	8.32		8.90	9.08	8.73	

FINAL - 2017 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	04-Jul-17	time	2.56	3.58	4.60	5.56	6.54	7.54	8.54	9.56	10.58	11.60		13.01	6 / 2				
reaction time	0.177	interval	7 steps	1.02	1.02	0.96	0.98	1.00	1.00	1.02	1.02	1.02	1.41			3.00	2.98	3.06	
wind	0.3 m/s	velocity	5.36	8.96	8.96	9.52	9.33	9.14	9.14	8.96	8.96	8.96	9.94	8.46		9.14	9.20	8.96	

FINAL - 2017 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	01-Jul-17	time	2.56	3.60	4.58	5.58	6.56	7.58	8.58	9.60	10.66	11.76		13.18	4 / 4				
reaction time	0.125	interval	7 steps	1.04	0.98	1.00	0.98	1.02	1.00	1.02	1.06	1.10	1.42			3.02	3.00	3.18	
wind	-0.1 m/s	velocity	5.36	8.79	9.33	9.14	9.33	8.96	9.14	8.96	8.62	8.31	9.87	8.35		9.08	9.14	8.62	

FINAL - 2017 Bauhaus Athletics (Stockholm, SWE) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	18-Jun-17	time	2.52	3.58	4.56	5.58	6.58	7.56	8.56	9.54	10.60	11.66		13.10	5 / 2				
reaction time	0.141	interval	7 steps	1.06	0.98	1.02	1.00	0.98	1.00	0.98	1.06	1.06	1.44			3.06	2.98	3.10	
wind	3.5 m/s	velocity	5.44	8.62	9.33	8.96	9.14	9.33	9.14	9.33	8.62	8.62	9.74	8.40		8.96	9.20	8.85	

FINAL - 2017 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	08-Jun-17	time	2.60	3.66	4.68	5.68	6.68	7.68	8.70	9.70	10.72	11.78		13.21	4 / 3				
reaction time	0.154	interval	7 steps	1.06	1.02	1.00	1.00	1.00	1.02	1.00	1.02	1.06	1.43			3.08	3.02	3.08	
wind	-0.3 m/s	velocity	5.28	8.62	8.96	9.14	9.14	9.14	8.96	9.14	8.96	8.62	9.80	8.33		8.90	9.08	8.90	

FINAL - 2017 Shanghai Diamond League (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	13-May-17	time	2.56	3.64	4.66	5.70	6.70	7.70	8.76	9.80	10.86	11.92		13.35	4 / 5				
reaction time	0.153	interval	7 steps	1.08	1.02	1.04	1.00	1.00	1.06	1.04	1.06	1.06	1.43			3.14	3.06	3.16	
wind	0.5 m/s	velocity	5.36	8.46	8.96	8.79	9.14	9.14	8.62	8.79	8.62	8.62	9.80	8.24		8.73	8.96	8.68	

Shubenkov, Sergey (RUS) (1990)

FINAL - 2015 IAAF World Championships (Beijing, CHN) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	28-Aug-15	time	2.52	3.54	4.56	5.54	6.52	7.52	8.52	9.52	10.54	11.58		12.98	7 / 1				
reaction time	0.139	interval	7 steps	1.02	1.02	0.98	0.98	1.00	1.00	1.00	1.02	1.04	1.40	NR		3.02	2.98	3.06	
wind	0.2 m/s	velocity	5.44	8.96	8.96	9.33	9.33	9.14	9.14	9.14	8.96	8.79	10.01	8.47		9.08	9.20	8.96	

Heat 4 - 2014 European Championships (Zurich, SUI) *Incalza (2014) - https://www.youtube.com/watch?v=wFOM-j9iZHE&list=UU7691fXeyNFIMROfkJ-WWUg*

date	13-Aug-14	time	2.63	3.68	4.71	5.74	6.75	7.77	8.81	9.85	10.90	11.94		13.29	8 / 1				
reaction time	0.145	interval		1.05	1.03	1.03	1.01	1.02	1.04	1.04	1.05	1.04	1.35			3.11	3.07	3.13	
wind	0.7 m/s	velocity	5.22	8.70	8.87	8.87	9.05	8.96	8.79	8.79	8.70	8.79	10.39	8.28		8.82	8.93	8.76	

FINAL - 2013 IAAF World Championships (Moscow, RUS) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	12-Aug-13	time	2.56	3.58	4.58	5.56	6.58	7.62	8.66	9.68	10.72	11.80		13.24	5 / 3				
reaction time	0.154	interval		1.02	1.00	0.98	1.02	1.04	1.04	1.02	1.04	1.08	1.44			3.00	3.10	3.14	
wind	0.3 m/s	velocity	5.36	8.96	9.14	9.33	8.96	8.79	8.79	8.96	8.79	8.46	9.74	8.31		9.14	8.85	8.73	

FINAL - 2013 European Indoor Championships (Göteborg, SWE) *Blomkvist (2013) - www.elitlandslag.se/SprintHäck/KortHäck.aspx*

date	01-Mar-13	time	2.58	3.62	4.62	5.62	6.64							7.49	6 / 1			
reaction time	0.161	interval		1.04	1.00	1.00	1.02						0.85	**=PB**		3.04		
		velocity	5.32	8.79	9.14	9.14	8.96						11.44	8.01		9.02		

FINAL - 2012 Memorial Van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	07-Sep-12	time	2.52	3.56	4.56	5.58	6.58	7.58	8.62	9.66	10.70	11.78		13.21	1 / 4			
reaction time	0.165	interval		1.04	1.00	1.02	1.00	1.00	1.04	1.04	1.04	1.08	1.43			3.06	3.04	3.16
wind	0.3 m/s	velocity	5.44	8.79	9.14	8.96	9.14	9.14	8.79	8.79	8.79	8.46	9.80	8.33		8.96	9.02	8.68

FINAL - 2012 Herculis Meeting International D'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	20-Jul-12	time	2.46	3.50	4.52	5.54	6.54	7.52	8.52	9.54	10.56	11.60		13.09	7 / 3			
reaction time	0.143	interval		1.04	1.02	1.02	1.00	0.98	1.00	1.02	1.02	1.04	1.49	**NR**		3.08	2.98	3.08
wind	0.0 m/s	velocity	5.58	8.79	8.96	8.96	9.14	9.33	9.14	8.96	8.96	8.79	9.41	8.40		8.90	9.20	8.90

Shulman, Connor (USA) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2023 NCAA Championships (Austin, TX) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*																
date 09-Jun-23	time	2.53	3.57	4.62	5.64	6.66	7.72	8.79	9.84	10.89	11.97		13.47	6 / 7			
reaction time	interval	7 steps	1.04	1.05	1.02	1.02	1.06	1.07	1.05	1.05	1.08	1.50			3.11	3.15	3.18
wind 1.8 m/s	velocity	5.42	8.79	8.70	8.96	8.96	8.62	8.54	8.70	8.70	8.46	9.35	8.17		8.82	8.70	8.62

Shuto, Takayuki (JPN) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2009 Nambu Chuhei Memorial (Sapporo, JPN) *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*																
date 09-Jul-09	time	2.73	3.83	4.91	5.99	7.08	8.16	9.25	10.36	11.45	12.57		13.94	/ 5			
reaction time	interval		1.10	1.08	1.08	1.09	1.08	1.09	1.11	1.09	1.12	1.37			3.26	3.26	3.32
wind 1.2 m/s	velocity	5.03	8.31	8.46	8.46	8.39	8.46	8.39	8.23	8.39	8.16	10.23	7.89		8.41	8.41	8.26
FINAL - 2009 Japanese National Championships (Hiroshima, JPN) *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*																
date 27-Jun-09	time	2.65	3.75	4.81	5.90	6.94	8.01	9.08	10.15	11.27	12.32		13.77	4 / 2			
reaction time	interval		1.10	1.06	1.09	1.04	1.07	1.07	1.07	1.12	1.05	1.45	**PB**		3.25	3.18	3.24
wind 1.6 m/s	velocity	5.18	8.31	8.62	8.39	8.79	8.54	8.54	8.54	8.16	8.70	9.67	7.99		8.44	8.62	8.46

Si Zhengdong (CHN) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 3 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*																
date 08-Jul-19	time	2.72	3.84	4.92	6.01	7.09	8.17	9.27	10.38	11.57	12.80		14.43	7 / 5			
reaction time 0.185	interval		1.12	1.08	1.09	1.08	1.08	1.10	1.11	1.19	1.23	1.63	**PB**		3.29	3.26	3.53
wind -0.5 m/s	velocity	5.04	8.16	8.46	8.39	8.46	8.46	8.31	8.23	7.68	7.43	8.60	7.62		8.33	8.41	7.77
Heat 5 - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*																
date 13-Apr-19	time	2.72	3.86	5.00	6.14	7.24	8.34	9.46	10.59	11.76	12.94		14.55	5 / 3			
reaction time 0.197	interval		1.14	1.14	1.14	1.10	1.10	1.12	1.13	1.17	1.18	1.61			3.42	3.32	3.48
wind 0.6 m/s	velocity	5.04	8.02	8.02	8.02	8.31	8.31	8.16	8.09	7.81	7.75	8.71	7.56		8.02	8.26	7.88
A-FINAL - 2019 Chinese Indoor National Grand Prix 3 (Xi'an, CHN) *CAA Hurdle Development (2019)*																
date 28-Feb-19	time	2.62											**DQ**	5 / --			
reaction time	interval																
	velocity	5.24															

Siebeck, Frank (GDR) (1949)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1972 Olympic Games (Munich, FRG) *Kay (1972) - BAAB Munich Technical Report*																
date 07-Sep-72	time	2.5	3.6	4.6	5.6	6.7	7.8	8.9	9.9	11.1	12.2		13.71	6 / 5			
reaction time	interval	7 steps	1.10	1.00	1.00	1.10	1.10	1.10	1.00	1.20	1.10	1.51			3.10	3.30	3.30
wind 0.3 m/s	velocity	5.49	8.31	9.14	9.14	8.31	8.31	8.31	9.14	7.62	8.31	9.28	8.02		8.85	8.31	8.31

Šilhavy, Václav (CZE) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 2 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*																
date 28-Jun-14	time	2.96	4.14	5.38	6.59	7.78	9.00	10.22	11.42	12.69	13.95		15.61	2 / 5			
reaction time 0.217	interval		1.18	1.24	1.21	1.19	1.22	1.22	1.20	1.27	1.26	1.66			3.63	3.63	3.73
wind -2.9 m/s	velocity	4.64	7.75	7.37	7.55	7.68	7.49	7.49	7.62	7.20	7.25	8.45	7.05		7.55	7.55	7.35

Šimánek, Jindrich (CZE) (1979)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2012 Czech Republic National Indoor Championships (Praha, CZE) *Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*																
date 25-Feb-12	time	2.85	4.01	5.19	6.35	7.52							8.55	7 / 6			
reaction time 0.189	interval		1.16	1.18	1.16	1.17						1.03			3.50		
	velocity	4.81	7.88	7.75	7.88	7.81						9.44	7.02		7.83		

Simonelli, Lorenzo Ndele (ITA) (2002

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 1 - 2025 European Athletics Indoor Championships (Apeldoorn, NED) *European Athletics (2025) - european athletics indoor championships results book*																
date 07-Mar-25	time	2.38	3.45	4.49	5.52	6.54							7.60	1 / 5			
reaction time 0.139	interval	7 steps	1.07	1.04	1.03	1.02						1.06			3.14		
	velocity	5.76	8.54	8.79	8.87	8.96						9.17	7.89		8.73		

FINAL - 2024 Memorial van damme (Brussels, BEL) *Omega Timing (2024) - diamond league race analysis*

date	13-Sep-24	time	2.39	3.44	4.46	5.49	6.49	7.51	8.52	9.55	10.60	11.65		13.22	4 / 2			
reaction time	0.136	interval	7 steps	1.05	1.02	1.03	1.00	1.02	1.01	1.03	1.05	1.05	1.57			3.10	3.03	3.13
wind	0.4 m/s	velocity	5.74	8.70	8.96	8.87	9.14	8.96	9.05	8.87	8.70	8.70	8.93	8.32		8.85	9.05	8.76

FINAL - 2024 Weltklasse (Zürich, SUI) *Omega Timing (2024) - diamond league race analysis*

date	05-Sep-24	time	2.42	3.49	4.51	5.53	6.55	7.57	8.62	9.69	10.76	11.84		13.45	4 / 8			
reaction time	0.158	interval	7 steps	1.07	1.02	1.02	1.02	1.02	1.05	1.07	1.07	1.08	1.61			3.11	3.09	3.22
wind	-0.3 m/s	velocity	5.67	8.54	8.96	8.96	8.96	8.96	8.70	8.54	8.54	8.46	8.71	8.18		8.82	8.87	8.52

FINAL - 2024 Golden Gala • Pietro Mennea (Roma, ITA) *Omega Timing (2024) - diamond league race analysis*

date	30-Aug-24	time	2.38	3.44	4.48	5.50	6.52	7.53	8.56	9.61	10.67	11.76		13.34	4 / 6			
reaction time	0.164	interval	7 steps	1.06	1.04	1.02	1.02	1.01	1.03	1.05	1.06	1.09	1.58			3.12	3.06	3.20
wind	0.4 m/s	velocity	5.76	8.62	8.79	8.96	8.96	9.05	8.87	8.70	8.62	8.39	8.87	8.25		8.79	8.96	8.57

FINAL - 2024 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2024) - diamond league race analysis*

date	25-Aug-24	time	2.42	3.48	4.52	5.53	6.55	7.58	8.62	9.67	10.73	11.84		13.48	7 / 8			
reaction time	0.178	interval	7 steps	1.06	1.04	1.01	1.02	1.03	1.04	1.05	1.06	1.11	1.64			3.11	3.09	3.22
wind	1.1 m/s	velocity	5.67	8.62	8.79	9.05	8.96	8.87	8.79	8.70	8.62	8.23	8.55	8.16		8.82	8.87	8.52

FINAL - 2024 Athletissima (Lausanne, SUI) *Omega Timing (2024) - diamond league race analysis*

date	22-Aug-24	time	2.37	3.43	4.46	5.48	6.50	7.51	8.54	9.58	10.63	11.69		13.26	4 / 5			
reaction time	0.136	interval	7 steps	1.06	1.03	1.02	1.02	1.01	1.03	1.04	1.05	1.06	1.57			3.11	3.06	3.15
wind	-0.1 m/s	velocity	5.79	8.62	8.87	8.96	8.96	9.05	8.87	8.79	8.70	8.62	8.93	8.30		8.82	8.96	8.70

Semi-Final 2 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	2.33	3.39	4.42	5.44	6.44	7.46	8.50	9.55	10.61	11.72		13.38	7 / 5			
reaction time	0.154	interval	7 steps	1.06	1.03	1.02	1.00	1.02	1.04	1.05	1.06	1.11	1.66			3.11	3.06	3.22
wind	-0.1 m/s	velocity	5.89	8.62	8.87	8.96	9.14	8.96	8.79	8.70	8.62	8.23	8.45	8.22		8.82	8.96	8.52

Heat 4 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.36	3.43	4.46	5.44	6.44	7.46	8.48	9.55	10.60	11.68		13.27	7 / 2			
reaction time	0.151	interval	7 steps	1.07	1.03	0.98	1.00	1.02	1.02	1.07	1.05	1.08	1.59			3.08	3.04	3.20
wind	0.3 m/s	velocity	5.81	8.54	8.87	9.33	9.14	8.96	8.96	8.54	8.70	8.46	8.82	8.29		8.90	9.02	8.57

FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON) *Omega Timing (2024) - diamond league race analysis*

date	12-Jul-24	time	2.38	3.44	4.46	5.46	6.46	7.47	8.47	9.49	10.51	11.56		13.08	3 / 2			
reaction time	0.140	interval	7 steps	1.06	1.02	1.00	1.00	1.01	1.00	1.02	1.02	1.05	1.52			3.08	3.01	3.09
wind	-0.7 m/s	velocity	5.76	8.62	8.96	9.14	9.14	9.05	9.14	8.96	8.96	8.70	9.22	8.41		8.90	9.11	8.87

Heat 2 - 2024 Meeting de Paris (Paris, FRA) *Omega Timing (2024) - diamond league race analysis*

date	07-Jul-24	time	2.34	3.40	4.42	5.44	6.46	7.49	8.53	9.58	10.64	11.72		13.33	4 / 5			
reaction time	0.140	interval	7 steps	1.06	1.02	1.02	1.02	1.03	1.04	1.05	1.06	1.08	1.61			3.10	3.09	3.19
wind	0.4 m/s	velocity	5.86	8.62	8.96	8.96	8.96	8.87	8.79	8.70	8.62	8.46	8.71	8.25		8.85	8.87	8.60

FINAL - 2024 European Athletics Championships (Roma, ITA) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	08-Jun-24	time	2.53	3.55	4.56	5.56	6.56	7.56	8.56	9.57	10.62	11.64		13.05	5 / 1			
reaction time	0.145	interval	7 steps	1.02	1.01	1.00	1.00	1.00	1.00	1.01	1.05	1.02	1.41	**NR PB**		3.03	3.00	3.08
wind	0.6 m/s	velocity	5.42	8.96	9.05	9.14	9.14	9.14	9.14	9.05	8.70	8.96	9.94	8.43		9.05	9.14	8.90

FINAL - 2024 World Athletics Indoor Championships (Glasgow, GBR) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	02-Mar-24	time	2.51	3.55	4.57	5.57	6.54							7.43	1 / 2			
reaction time	0.152	interval	7 steps	1.04	1.02	1.00	0.97						0.89	**NR**		3.06		
		velocity	5.47	8.79	8.96	9.14	9.42						10.92	8.08		8.96		

FINAL - 2024 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	10-Feb-24	time	2.42	3.46	4.49	5.50	6.50							7.52	3 / 4			
reaction time	0.157	interval	7 steps	1.04	1.03	1.01	1.00						1.02			3.08		
		velocity	5.67	8.79	8.87	9.05	9.14						9.53	7.98		8.90		

Heat 2 - 2024 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	10-Feb-24	time	2.48	3.52	4.56	5.58	6.58							7.51	4 / 2			
reaction time	0.165	interval	7 steps	1.04	1.04	1.02	1.00						0.93			3.10		
		velocity	5.53	8.79	8.79	8.96	9.14						10.45	7.99		8.85		

FINAL - 2023 Weltklasse (Zürich, SUI) *Omega Timing (2023) - diamond league race analysis*

date	31-Aug-23	time	2.43	3.50	4.50	5.50	6.50	7.56	8.60	9.60	10.70	11.80		13.60	4 / 5			
reaction time	0.142	interval	7 steps	1.07	1.00	1.00	1.00	1.06	1.04	1.00	1.10	1.10	1.80			3.07	3.10	3.20
wind	-0.1 m/s	velocity	5.65	8.54	9.14	9.14	9.14	8.62	8.79	9.14	8.31	8.31	7.79	8.09		8.93	8.85	8.57

Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.53	3.60	4.62	5.65	6.70	7.78	8.85	9.93	11.02	12.13		13.69	2 / 8			
reaction time	0.151	interval	7 steps	1.07	1.02	1.03	1.05	1.08	1.07	1.08	1.09	1.11	1.56			3.12	3.20	3.28

wind	-0.2 m/s	velocity	5.42	8.54	8.96	8.87	8.70	8.46	8.54	8.46	8.39	8.23	8.99	8.04		8.79	8.57	8.36

Heat 3 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.53	3.58	4.63	5.65	6.72	7.76	8.80	9.86	10.95	12.03		13.50	4 / 4			
reaction time	0.152	interval	7 steps	1.05	1.05	1.02	1.07	1.04	1.04	1.06	1.09	1.08	1.47			3.12	3.15	3.23
wind	0.0 m/s	velocity	5.42	8.70	8.70	8.96	8.54	8.79	8.79	8.62	8.39	8.46	9.54	8.15		8.79	8.70	8.49

FINAL - 2023 Athletissima (Lausanne, SUI) *Omega Timing (2023) - diamond league race analysis*

date	30-Jun-23	time	2.39	3.46	4.50	5.53	6.57	7.60	8.64	9.68	10.74	11.82		13.41	1 / 4			
reaction time	0.136	interval	7 steps	1.07	1.04	1.03	1.04	1.03	1.04	1.04	1.06	1.08	1.59			3.14	3.11	3.18
wind	-1.0 m/s	velocity	5.74	8.54	8.79	8.87	8.79	8.87	8.79	8.79	8.62	8.46	8.82	8.20		8.73	8.82	8.62

FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	02-Jun-23	time	2.54	3.58	4.66	5.74	6.78	7.84	8.86	9.92	11.00	12.10		13.57	8 / 8			
reaction time	0.153	interval	7 steps	1.04	1.08	1.08	1.04	1.06	1.02	1.06	1.08	1.10	1.47	PB		3.20	3.12	3.24
wind	-0.2 m/s	velocity	5.40	8.79	8.46	8.46	8.79	8.62	8.96	8.62	8.46	8.31	9.54	8.11		8.57	8.79	8.46

Sirota, Martin (CZE) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.88	4.07	5.27	6.44	7.66	8.86	10.07	11.31	12.53	13.81		15.48	8 / 3			
reaction time	0.249	interval		1.19	1.20	1.17	1.22	1.20	1.21	1.24	1.22	1.28	1.67			3.56	3.63	3.74
wind	-2.9 m/s	velocity	4.76	7.68	7.62	7.81	7.49	7.62	7.55	7.37	7.49	7.14	8.40	7.11		7.70	7.55	7.33

Sjöberg, Christian (SWE) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2007 Windsprint (Sundsvall, SWE) *(2007) - www.ssg.se/en/Windsprint/Split-times/*

date	24-Jul-07	time		3.90		7.29				10.72				14.84	/ 7			
reaction time		interval				3.39				3.43			4.12					
wind	1.3 m/s	velocity		5.86		8.09				7.99			7.84	7.41				

Sjödin, Ludwig (SWE) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL 2 - 2017 Windsprint (Sundsvall, SWE) *(2017) - www.windsprint/Splittider/*

date	30-Jul-17	time	2.68	3.86	5.00	6.18	7.40	8.62	9.83	11.12	12.34	13.62		15.29	/ 4			
reaction time		interval		1.18	1.14	1.18	1.22	1.22	1.21	1.29	1.22	1.28	1.67			3.50	3.65	3.79
wind	1.0 m/s	velocity	5.12	7.75	8.02	7.75	7.49	7.49	7.55	7.09	7.49	7.14	8.40	7.19		7.83	7.51	7.23

FINAL - 2017 Windsprint (Sundsvall, SWE) *(2017) - www.windsprint/Splittider/*

date	30-Jul-17	time	2.76	3.96	5.11	6.32	7.56	8.78						15.68	/ 5			
reaction time		interval		1.20	1.15	1.21	1.24	1.22					6.90			3.56		
wind	1.0 m/s	velocity	4.97	7.62	7.95	7.55	7.37	7.49					7.33	7.02		7.70		

Sklenár, David (CZE) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2015 Czech Republic National U20 Indoor Championships (Praha, CZE) (99cm) *Feher (2015) - Final report U18 & U20 Czech Republic indoor national champs*

date	14-Feb-15	time	2.71	3.81	4.89	5.95	7.05							8.01	6 / 2			
reaction time	0.184	interval		1.10	1.08	1.06	1.10						0.96	PB		3.24		
		velocity	5.06	8.31	8.46	8.62	8.31						10.13	7.49		8.46		

FINAL - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.67	3.77	4.86	5.94	7.02	8.11	9.22	10.35	11.49	12.66		14.25	5 / 2			
reaction time	0.159	interval		1.10	1.09	1.08	1.08	1.09	1.11	1.13	1.14	1.17	1.59			3.27	3.28	3.44
wind	-3.7 m/s	velocity	5.14	8.31	8.39	8.46	8.46	8.39	8.23	8.09	8.02	7.81	8.82	7.72		8.39	8.36	7.97

Heat 2 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.73	3.83	4.93	6.04	7.12	8.21	9.33	10.44	11.50	12.65		14.30	3 / 1			
reaction time	0.197	interval		1.10	1.10	1.11	1.08	1.09	1.12	1.11	1.06	1.15	1.65			3.31	3.29	3.32
wind	-4.1 m/s	velocity	5.03	8.31	8.31	8.23	8.46	8.39	8.16	8.23	8.62	7.95	8.50	7.69		8.28	8.33	8.26

Skotheim, Sander (NOR) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	03-Aug-24	time	2.50	3.65	4.78	5.87	6.97	8.06	9.16	10.24	11.34	12.46		14.15	8 / 1			
reaction time	0.161	interval		1.15	1.13	1.09	1.10	1.09	1.10	1.08	1.10	1.12	1.69			3.37	3.29	3.30
wind	0.2 m/s	velocity	5.49	7.95	8.09	8.39	8.31	8.39	8.31	8.46	8.31	8.16	8.30	7.77		8.14	8.33	8.31

Decathlon - Heat 3 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2024) - Athlete First: 2023 year end hurdle report*

date	26-Aug-23	time	2.78	3.90	5.06	6.18	7.36	8.55	9.78	10.96	12.18	13.38		14.96	6 / 6			
reaction time	0.169	interval		1.12	1.16	1.12	1.18	1.19	1.23	1.18	1.22	1.20	1.58			3.40	3.60	3.60
wind	0.2 m/s	velocity	4.94	8.16	7.88	8.16	7.75	7.68	7.43	7.75	7.49	7.62	8.87	7.35		8.06	7.62	7.62

Decathlon - Heat 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2022 year end hurdle report*

date	24-Jul-22	time	2.83	4.03	5.24	6.40	7.60	8.76	9.95	11.10	12.28	13.48		15.05	7 / 7			
reaction time	0.138	interval		1.20	1.21	1.16	1.20	1.16	1.19	1.15	1.18	1.20	1.57			3.57	3.55	3.53
wind	1.5 m/s	velocity	4.85	7.62	7.55	7.88	7.62	7.88	7.68	7.95	7.75	7.62	8.93	7.31		7.68	7.72	7.77

Slavíček, Lukáš (CZE) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.82	3.99	5.20	6.36	7.57	8.80	10.01	11.20	12.42	13.60		15.44	8 / 5			
reaction time	0.180	interval		1.17	1.21	1.16	1.21	1.23	1.21	1.19	1.22	1.18	1.84			3.54	3.65	3.59
wind	-1.6 m/s	velocity	4.87	7.81	7.55	7.88	7.55	7.43	7.55	7.68	7.49	7.75	7.62	7.12		7.75	7.51	7.64

Smet, Koen (BEL) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2023 FBK Games (Hengelo, NED) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	04-Jun-23	time	2.65	3.73	4.80	5.87	6.96	8.03	9.13	10.20	11.33	12.40		13.85	9 / 9			
reaction time	0.147	interval		1.08	1.07	1.07	1.09	1.07	1.10	1.07	1.13	1.07	1.45			3.22	3.26	3.27
wind	0.4 m/s	velocity	5.18	8.46	8.54	8.54	8.39	8.54	8.31	8.54	8.09	8.54	9.67	7.94		8.52	8.41	8.39

FINAL - 2021 Weltklasse (Zürich, SUI) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	09-Sep-21	time	2.56	3.62	4.66	5.70	6.78	7.84	8.94	10.02	11.10	12.22		13.77	1 / 7			
reaction time	0.132	interval		1.06	1.04	1.04	1.08	1.06	1.10	1.08	1.08	1.12	1.55			3.14	3.24	3.28
wind	0.6 m/s	velocity	5.36	8.62	8.79	8.79	8.46	8.62	8.31	8.46	8.46	8.16	9.05	7.99		8.73	8.46	8.36

FINAL - 2021 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	26-Aug-21	time	2.56	3.60	4.62	5.64	6.68	7.72	8.78	9.78	10.88	11.94		13.42	1 / 6			
reaction time	0.144	interval		1.04	1.02	1.02	1.04	1.04	1.06	1.00	1.10	1.06	1.48			3.08	3.14	3.16
wind	2.5 m/s	velocity	5.36	8.79	8.96	8.96	8.79	8.79	8.62	9.14	8.31	8.62	9.47	8.20		8.90	8.73	8.68

FINAL - 2021 European Indoor Championships (Toruń, POL) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	07-Mar-21	time	2.54	3.60	4.64	5.68	6.74							7.73	1 / 7			
reaction time	0.144	interval		1.06	1.04	1.04	1.06						0.99			3.14		
		velocity	5.40	8.62	8.79	8.79	8.62						9.82	7.76		8.73		

FINAL - 2021 Villa de Madrid (Madrid, ESP) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Feb-21	time	2.50	3.59	4.63	5.67	6.71							7.73	2 / 7			
reaction time		interval		1.09	1.04	1.04	1.04						1.02			3.17		
		velocity	5.49	8.39	8.79	8.79	8.79						9.53	7.76		8.65		

Smit, Louw (RSA) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2010 Folksam GP (Sollentuna, SWE) *Blomkvist (2010) - www.sub13.se*

date	01-Jul-10	time	2.53	3.65	4.73									14.12	8 / 6			
reaction time		interval		1.12	1.08													
wind	0.4 m/s	velocity	5.42	8.16	8.46									7.79				

Smith, Chad (USA) (1974)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat ?? - 2004 Mt. SAC Relays (Walnut, CA) *Henson (2004) - USATF OTC sport science*

date	18-Apr-04	time	2.55	3.67	4.75	5.83	6.92	8.02	9.12	10.22	11.37	12.52		14.19	/ 1			
reaction time		interval		1.12	1.08	1.08	1.09	1.10	1.10	1.10	1.15	1.15	1.67			3.28	3.29	3.40
wind	2.8 m/s	velocity	5.38	8.16	8.46	8.46	8.39	8.31	8.31	8.31	7.95	7.95	8.40	7.75		8.36	8.33	8.06

Smith, Jayden (USA) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	27-Jun-24	time	2.49	3.55	4.60	5.64	6.67	7.71	8.75	9.81	10.88	11.96		13.41	4 / 6			
reaction time		interval	7 steps	1.06	1.05	1.04	1.03	1.04	1.04	1.06	1.07	1.08	1.45			3.15	3.11	3.21
wind	0.3 m/s	velocity	5.51	8.62	8.70	8.79	8.87	8.79	8.79	8.62	8.54	8.46	9.67	8.20		8.70	8.82	8.54

Heat 2 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.50	3.53	4.56	5.58	6.62	7.66	8.72	9.76	10.82	11.92		13.37	1 / 3			
reaction time		interval	7 steps	1.03	1.03	1.02	1.04	1.04	1.06	1.04	1.06	1.10	1.45	PB		3.08	3.14	3.20
wind	-0.3 m/s	velocity	5.49	8.87	8.87	8.96	8.79	8.79	8.62	8.79	8.62	8.31	9.67	8.23		8.90	8.73	8.57

Smith, Shakeem (BAH) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2020 Don Kirby Elite Invitational (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.65	3.75	4.84	5.91	6.99							7.91	6 / 3			
reaction time		interval		1.10	1.09	1.07	1.08						0.92			3.26		
		velocity	5.18	8.31	8.39	8.54	8.46						10.57	7.59		8.41		

Smolka, Adam (CZE) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2015 Czech Republic National U18 Indoor Championships (Praha, CZE) (91cm) *Feher (2015) - Final report U18 & U20 Czech Republic indoor national champs*

date	14-Feb-15	time	2.74	3.89	5.00	6.14	7.28							8.29	3 / 6			
reaction time	0.153	interval		1.15	1.11	1.14	1.14						1.01			3.40		
		velocity	5.01	7.95	8.23	8.02	8.02						9.62	7.24		8.06		

Snell, Errik (USA)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.65	3.77	4.90	5.98	7.11							8.08	6 / 7			
reaction time	0.159	interval		1.12	1.13	1.08	1.13						0.97			3.33		
		velocity	5.18	8.16	8.09	8.46	8.09						10.02	7.43		8.23		

Snow, Malachi (USA) (

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	07-Jun-24	time	2.57	3.60	4.67	5.71	6.74	7.77	8.81	9.88	10.91	11.98		13.33	8 / 4			
reaction time		interval	7 steps	1.03	1.07	1.04	1.03	1.03	1.04	1.07	1.03	1.07	1.35	PB		3.14	3.10	3.17
wind	0.1 m/s	velocity	5.34	8.87	8.54	8.79	8.87	8.87	8.79	8.54	8.87	8.54	10.39	8.25		8.73	8.85	8.65

Soga, Kentaro (JPN) (2001)

U20 FINAL - 2018 National Sports Festival (Fukui, JPN) (99cm) *Joshi (2018) - research on athlete performance and technique- 2018 data book*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 07-Oct-18 time	2.69	3.78	4.85	5.92	6.96	8.04	9.09	10.14	11.25	12.34		13.79	2 / 6			
reaction time 0.178 interval		1.09	1.07	1.07	1.04	1.08	1.05	1.05	1.11	1.09	1.45			3.23	3.17	3.25
wind 1.5 m/s velocity	5.10	8.39	8.54	8.54	8.79	8.46	8.70	8.70	8.23	8.39	9.67	7.98		8.49	8.65	8.44

Sonoyama, Tenshi (JPN)

FINAL - 2021 Shimane High School Championships (Izumo, JPN) *Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 30-May-21 time	2.82	4.02	5.22	6.40	7.60	8.80	10.02	11.27	12.50	13.82		15.45	3 / 3			
reaction time interval		1.20	1.20	1.18	1.20	1.20	1.22	1.25	1.23	1.32	1.63			3.58	3.62	3.80
wind 1.7 m/s velocity	4.87	7.62	7.62	7.75	7.62	7.62	7.49	7.31	7.43	6.92	8.60	7.12		7.66	7.57	7.22

FINAL - 2020 Shimane High School Championships (Izumo, JPN) *Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis*

date 11-Jul-20 time	2.83	4.08	5.32	6.53	7.82	9.15	10.52	11.83	13.18	14.58		16.36	5 / 5			
reaction time interval		1.25	1.24	1.21	1.29	1.33	1.37	1.31	1.35	1.40	1.78			3.70	3.99	4.06
wind -0.1 m/s velocity	4.85	7.31	7.37	7.55	7.09	6.87	6.67	6.98	6.77	6.53	7.88	6.72		7.41	6.87	6.75

Sophia, Matthew (NED) (2003)

FINAL - 2024 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 07-Jun-24 time	2.57	3.64	4.70	5.74	6.77	7.81	8.87	9.94	10.98	12.08		13.53	2 / 8			
reaction time interval		1.07	1.06	1.04	1.03	1.04	1.06	1.07	1.04	1.10	1.45			3.17	3.13	3.21
wind 0.1 m/s velocity	5.34	8.54	8.62	8.79	8.87	8.79	8.62	8.54	8.79	8.31	9.67	8.13		8.65	8.76	8.54

Sotono, Haru (JPN) (2004)

FINAL - 2022 Japanese National High School Championships (Naruto, JPN) *Kishima (2022) - national high school championships biomechanics data collection*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 07-Aug-22 time	2.66	3.80	4.94	6.08	7.19	8.35	9.51	10.68	11.89	13.09		14.61	6 / 2			
reaction time 0.150 interval		1.14	1.14	1.14	1.11	1.16	1.16	1.17	1.21	1.20	1.52	PB		3.42	3.43	3.58
wind -3.8 m/s velocity	5.16	8.02	8.02	8.02	8.23	7.88	7.88	7.81	7.55	7.62	9.22	7.53		8.02	7.99	7.66

FINAL - 2022 Shimane High School Championships (Izumo, JPN) *Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*

date 28-May-22 time	2.73	3.87	5.02	6.15	7.28	8.42	9.62	10.85	12.03	13.23		14.75	4 / 1			
reaction time interval		1.14	1.15	1.13	1.13	1.14	1.20	1.23	1.18	1.20	1.52			3.42	3.47	3.61
wind 0.6 m/s velocity	5.03	8.02	7.95	8.09	8.09	8.02	7.62	7.43	7.75	7.62	9.22	7.46		8.02	7.90	7.60

FINAL - 2021 Shimane High School Championships (Izumo, JPN) *Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis*

date 30-May-21 time	2.78	3.95	5.17	6.35	7.55	8.75	9.93	11.20	12.43	13.70		15.32	4 / 2			
reaction time interval		1.17	1.22	1.18	1.20	1.20	1.18	1.27	1.23	1.27	1.62			3.57	3.58	3.77
wind 1.7 m/s velocity	4.94	7.81	7.49	7.75	7.62	7.62	7.75	7.20	7.43	7.20	8.65	7.18		7.68	7.66	7.27

FINAL - 2020 Shimane High School Championships (Izumo, JPN) *Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis*

date 11-Jul-20 time	2.85	4.12	5.38	6.62	7.88	9.17	10.45	11.75	13.05	14.37		16.11	9 / 3			
reaction time interval		1.27	1.26	1.24	1.26	1.29	1.28	1.30	1.30	1.32	1.74			3.77	3.83	3.92
wind -0.1 m/s velocity	4.81	7.20	7.25	7.37	7.25	7.09	7.14	7.03	7.03	6.92	8.06	6.83		7.27	7.16	6.99

Souza, Éder Antônio (BRA) (1986)

Semi-Final 3 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 06-Aug-17 time	2.44	3.53	4.57	5.63	6.66	7.71	8.75	9.82	10.91	12.03		13.70	3 / 6			
reaction time 0.133 interval	7 steps	1.09	1.04	1.06	1.03	1.05	1.04	1.07	1.09	1.12	1.67			3.19	3.12	3.28
wind 0.3 m/s velocity	5.62	8.39	8.79	8.62	8.87	8.70	8.79	8.54	8.39	8.16	8.40	8.03		8.60	8.79	8.36

Sparrman, Markus (SWE) (1989)

Heat 2 - 2010 Samsung Galan (Göteborg, SWE) *Blomkvist (2010) - www.sub13.se*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 02-Feb-10 time	2.56	3.72	4.86	5.96	7.10							8.14	/ 5			
reaction time interval		1.16	1.14	1.10	1.14						1.04			3.40		
velocity	5.36	7.88	8.02	8.31	8.02						9.35	7.37		8.06		

Špičák, Daniel (CZE) (1997)

FINAL - 2015 Czech Republic National U20 Indoor Championships (Praha, CZE) (99cm) *Feher (2015) - Final report U18 & U20 Czech Republic indoor national champs*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 14-Feb-15 time	2.78	3.95	5.12	6.33	7.65							8.79	5 / 7			
reaction time 0.138 interval		1.17	1.17	1.21	1.32						1.14			3.55		
velocity	4.94	7.81	7.81	7.55	6.92						8.53	6.83		7.72		

FINAL - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date 28-Jun-14 time	2.96	4.11	5.29	6.48	7.65	8.80	9.95	11.15	12.34	13.55		15.09	8 / 5			
reaction time 0.288 interval		1.15	1.18	1.19	1.17	1.15	1.15	1.20	1.19	1.21	1.54			3.52	3.47	3.60
wind -3.7 m/s velocity	4.64	7.95	7.75	7.68	7.81	7.95	7.95	7.62	7.68	7.55	9.10	7.29		7.79	7.90	7.62

Heat 3 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.83	4.04	5.21	6.39	7.56	8.74	9.92	11.16	12.37	13.61		15.18	1 / 3			
reaction time	0.170	interval		1.21	1.17	1.18	1.17	1.18	1.18	1.24	1.21	1.24	1.57			3.56	3.53	3.69
wind	-1.6 m/s	velocity	4.85	7.55	7.81	7.75	7.81	7.75	7.75	7.37	7.55	7.37	8.93	7.25		7.70	7.77	7.43

St. Gilles, Olivier (FRA) (1963)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final ? - 1986 French National Indoor Championships (Lievin, FRA) — *Aubert (1986) - indoor - video - haies, etude des performances*

date	26-Jan-86	time	2.68	3.81	4.90	5.98	7.07							8.03	/ 4			
reaction time		interval		1.13	1.09	1.08	1.09						0.96			3.30		
		velocity	5.12	8.09	8.39	8.46	8.39						10.13	7.47		8.31		

Heat ? - 1986 French National Indoor Championships (Lievin, FRA) — *Aubert (1986) - indoor - video - haies, etude des performances*

date	25-Jan-86	time	2.78	3.90	5.02	6.10	7.20							8.07	/ 4			
reaction time		interval		1.12	1.12	1.08	1.10						0.87			3.32		
		velocity	4.94	8.16	8.16	8.46	8.31						11.17	7.43		8.26		

Šťastny, Michal (CZE) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2013 Czech Republic National Championships (Tábor, CZE) — *Feher (2013) - Final report from the men's & women's Czech Republic national championships*

date	15-Jun-13	time	2.88	4.15	5.43	6.75	8.07		10.73	12.09				16.54	7 / 5			
reaction time	0.193	interval		1.27	1.28	1.32	1.32		2.66	1.36						3.87	3.98	
wind	-0.6 m/s	velocity	4.76	7.20	7.14	6.92	6.92		6.87	6.72				6.65		7.09	6.89	

Stavang, Eivind (NOR) (1982)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2012 Windsprint (Sundsvall, SWE) — *Blomkvist (2012) - www.sub13.se*

date	17-Jun-12	time	2.72	3.85	4.99	6.12	7.23	8.36	9.49	10.64	11.79	12.95		14.47	2 / 6			
reaction time		interval		1.13	1.14	1.13	1.11	1.13	1.13	1.15	1.15	1.16	1.52			3.40	3.37	3.46
wind	1.1 m/s	velocity	5.04	8.09	8.02	8.09	8.23	8.09	8.09	7.95	7.95	7.88	9.22	7.60		8.06	8.14	7.92

FINAL - 2011 Landskamp FIN-SWE-NOR (Tampere, FIN) — *Blomkvist (2011) - www.sub13.se*

date	05-Feb-11	time	2.60	3.76	4.86	5.96	7.08							8.13	6 / 5			
reaction time		interval		1.16	1.10	1.10	1.12						1.05			3.36		
		velocity	5.28	7.88	8.31	8.31	8.16						9.26	7.38		8.16		

B FINAL - 2010 Folksam GP (Sollentuna, SWE) — *Blomkvist (2010) - www.sub13.se*

date	01-Jul-10	time	2.45	3.64	4.80	5.95	7.09	8.22	9.42	10.58	11.79	12.99		14.81	/ 2			
reaction time		interval		1.19	1.16	1.15	1.14	1.13	1.20	1.16	1.21	1.20	1.82			3.50	3.47	3.57
wind	0.8 m/s	velocity	5.60	7.68	7.88	7.95	8.02	8.09	7.62	7.88	7.55	7.62	7.70	7.43		7.83	7.90	7.68

Steinforth, Till (GER) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

date	03-Aug-24	time	2.48	3.63	4.75	5.86	6.97	8.08	9.21	10.34	11.49	12.65		14.37	6 / 4			
reaction time	0.103	interval	7 steps	1.15	1.12	1.11	1.11	1.11	1.13	1.13	1.15	1.16	1.72			3.38	3.35	3.44
wind	0.2 m/s	velocity	5.53	7.95	8.16	8.23	8.23	8.23	8.09	8.09	7.95	7.88	8.15	7.65		8.11	8.19	7.97

Suárez, Leonel (CUB) (1987)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.65	3.78	4.89	6.01	7.13	8.25	9.39	10.51	11.68	12.85		14.45	8 / 7			
reaction time	0.139	interval		1.13	1.11	1.12	1.12	1.12	1.14	1.12	1.17	1.17	1.60			3.36	3.38	3.46
wind	0.3 m/s	velocity	5.18	8.09	8.23	8.16	8.16	8.16	8.02	8.16	7.81	7.81	8.76	7.61		8.16	8.11	7.92

Sugaya, Takumi (JPN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2019 National Sports Festival (Hitachinaka, JPN) (99cm) — *Enomoto (2019) - research on athlete performance and technique- 2019 data book*

date	06-Oct-19	time	2.68	3.76	4.82	5.88	6.93	7.98	9.04	10.13	11.20	12.28		13.79	8 / 8			
reaction time	0.150	interval		1.08	1.06	1.06	1.05	1.05	1.06	1.09	1.07	1.08	1.51			3.20	3.16	3.24
wind	2.7 m/s	velocity	5.12	8.46	8.62	8.62	8.70	8.70	8.62	8.39	8.54	8.46	9.28	7.98		8.57	8.68	8.46

FINAL - 2019 Japanese National High School Championships (Okinawa, JPN) (99cm) — *Kota (2019) - 72nd high school champs: JAF scientific committee - biomechanics data*

date	08-Aug-19	time	2.74	3.86	4.99	6.12	7.24	8.37	9.50	10.63	11.75	12.91		14.40	7 / 3			
reaction time		interval		1.12	1.13	1.13	1.12	1.13	1.13	1.13	1.12	1.16	1.49	PB		3.38	3.38	3.41
wind	-3.0 m/s	velocity	5.01	8.16	8.09	8.09	8.16	8.09	8.09	8.09	8.16	7.88	9.41	7.64		8.11	8.11	8.04

Sun Haoru (CHN) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2021 Chinese National Championships (Chongqing, CHN) — *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.75	3.89	5.00	6.11	7.25	8.38	9.51	10.64	11.88	13.09		14.69	8 / 5			
reaction time	0.166	interval		1.14	1.11	1.11	1.14	1.13	1.13	1.13	1.24	1.21	1.60			3.36	3.40	3.58
wind	-1.2 m/s	velocity	4.99	8.02	8.23	8.23	8.02	8.09	8.09	8.09	7.37	7.55	8.76	7.49		8.16	8.06	7.66

FINAL - 2021 Philippe Cup Athletics Invitational (Wuhan, CHN) — *CAA Hurdle Development (2021)*

date	19-May-21	time	2.74	3.85	4.97	6.19								dnf	7 / --			
reaction time	0.156	interval		1.11	1.12	1.22										3.45		
wind	1.9 m/s	velocity	5.01	8.23	8.16	7.49										7.95		

FINAL - 2021 National Indoor Grand Prix (Jinan, CHN) — *CAA Hurdle Development (2021)*

date	18-Mar-21	time	2.77	3.89	4.98	6.09	7.17							8.15	1 / 5			

reaction time	0.188	interval		1.12	1.09	1.11	1.08						0.98				3.32	
		velocity	4.95	8.16	8.39	8.23	8.46						9.92	7.36			8.26	

Heat 2 - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.68	3.79	4.89	5.98	7.05	8.17	9.28	10.41	11.57	12.74		14.30	7 / 6			
reaction time	0.153	interval		1.11	1.10	1.09	1.07	1.12	1.11	1.13	1.16	1.17	1.56			3.30	3.30	3.46
wind	-0.5 m/s	velocity	5.12	8.23	8.31	8.39	8.54	8.16	8.23	8.09	7.88	7.81	8.99	7.69		8.31	8.31	7.92

Heat 2 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.65	3.77	4.87	5.98	7.06	8.14	9.25	10.36	11.48	12.63		14.14	6 / 4			
reaction time	0.174	interval		1.12	1.10	1.11	1.08	1.08	1.11	1.11	1.12	1.15	1.51	PB		3.33	3.27	3.38
wind	0.4 m/s	velocity	5.18	8.16	8.31	8.23	8.46	8.46	8.23	8.23	8.16	7.95	9.28	7.78		8.23	8.39	8.11

FINAL - 2019 Chinese National Grand Prix 3 (Jinhau, CHN) *CAA Hurdle Development (2019)*

date	23-May-19	time	2.70	3.82	4.92	6.00	7.08	8.20	9.28	10.38	11.50	12.60		14.13	9 / 7			
reaction time	0.231	interval		1.12	1.10	1.08	1.08	1.12	1.08	1.10	1.12	1.10	1.53			3.30	3.28	3.32
wind	2.5 m/s	velocity	5.08	8.16	8.31	8.46	8.46	8.16	8.46	8.31	8.16	8.31	9.16	7.78		8.31	8.36	8.26

FINAL - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.70	3.81	4.92	6.02	7.12	8.20	9.29	10.42	11.54	12.70		14.25	3 / 8			
reaction time	0.181	interval		1.11	1.11	1.10	1.10	1.08	1.09	1.13	1.12	1.16	1.55	PB		3.32	3.27	3.41
wind	-0.3 m/s	velocity	5.08	8.23	8.23	8.31	8.31	8.46	8.39	8.09	8.16	7.88	9.05	7.72		8.26	8.39	8.04

Heat 1 - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.67	3.79	4.90	5.97	7.07	8.19	9.31	10.46	11.61	12.78		14.35	9 / 1			
reaction time	0.185	interval		1.12	1.11	1.07	1.10	1.12	1.12	1.15	1.15	1.17	1.57			3.30	3.34	3.47
wind	0.0 m/s	velocity	5.14	8.16	8.23	8.54	8.31	8.16	8.16	7.95	7.95	7.81	8.93	7.67		8.31	8.21	7.90

B-FINAL - 2019 Chinese Indoor National Grand Prix 4 (Xi'an, CHN) *CAA Hurdle Development (2019)*

date	4-Mar-19	time	2.65	3.75	4.85	5.93	7.02							7.97	2 / 1			
reaction time		interval		1.10	1.10	1.08	1.09						0.95	PB		3.28		
		velocity	5.18	8.31	8.31	8.46	8.39						10.23	7.53		8.36		

B-FINAL - 2019 Chinese Indoor National Grand Prix 3 (Xi'an, CHN) *CAA Hurdle Development (2019)*

date	28-Feb-19	time	2.70	3.80	4.90	5.96	7.06							8.00	5 / 3			
reaction time		interval		1.10	1.10	1.06	1.10						0.94	PB		3.26		
		velocity	5.08	8.31	8.31	8.62	8.31						10.34	7.50		8.41		

Sun Qihao (CHN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 3 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	27-Jun-21	time	2.83	4.04	5.19	6.42	7.66	8.89	10.14	11.40	12.68	14.01		15.72	5 / 7			
reaction time	0.179	interval		1.21	1.15	1.23	1.24	1.23	1.25	1.26	1.28	1.33	1.71			3.59	3.72	3.87
wind	-0.2 m/s	velocity	4.85	7.55	7.95	7.43	7.37	7.43	7.31	7.25	7.14	6.87	8.20	7.00		7.64	7.37	7.09

Sun Zhenjiang (CHN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2024 Chinese Indoor Grand Prix I (Chengdu, CHN) *Shandong Athletics Sport Science (2024)*

date	27-Feb-24	time	2.69	3.80	4.89	5.97	7.07							8.00	6 / 2			
reaction time		interval	7 steps	1.11	1.09	1.08	1.10						0.93			3.28		
		velocity	5.10	8.23	8.39	8.46	8.31						10.45	7.50		8.36		

FINAL - 2021 Chinese National Games (Xi'an, CHN) *Huo (2022) - research on the technical characteristics of elite chinese 110m hurdlers*

date	22-Sep-21	time	2.57	3.64	4.67	5.71	6.76	7.81	8.85	9.93	10.98	12.08		13.51	/ 3			
reaction time	0.136	interval	7 steps	1.07	1.03	1.04	1.05	1.05	1.04	1.08	1.05	1.10	1.43	PB		3.14	3.14	3.23
wind	0.0 m/s	velocity	5.34	8.54	8.87	8.79	8.70	8.70	8.79	8.46	8.70	8.31	9.80	8.14		8.73	8.73	8.49

FINAL - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.60	3.70	4.73	5.77	6.80	7.86	8.88	9.96	11.02	12.09		13.56	7 / 1			
reaction time	0.157	interval	7 steps	1.10	1.03	1.04	1.03	1.06	1.02	1.08	1.06	1.07	1.47	PB		3.17	3.11	3.21
wind	1.6 m/s	velocity	5.28	8.31	8.87	8.79	8.87	8.62	8.96	8.46	8.62	8.54	9.54	8.11		8.65	8.82	8.54

Heat 1 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.58	3.66	4.72	5.79	6.85	7.91	9.00	10.09	11.21	12.33		13.91	4 / 1			
reaction time	0.150	interval	7 steps	1.08	1.06	1.07	1.06	1.06	1.09	1.09	1.12	1.12	1.58			3.21	3.21	3.33
wind	-1.0 m/s	velocity	5.32	8.46	8.62	8.54	8.62	8.62	8.39	8.39	8.16	8.16	8.87	7.91		8.54	8.54	8.23

FINAL - 2021 National Grand Prix (Chengdu, CHN) *CAA Hurdle Development (2021)*

date	02-Apr-21	time	2.62	3.72	4.78	5.82	6.88	7.93	9.01	10.10	11.24	12.36		13.98	5 / 2			
reaction time	0.168	interval	7 steps	1.10	1.06	1.04	1.06	1.05	1.08	1.09	1.14	1.12	1.62			3.20	3.19	3.35
wind	-0.1 m/s	velocity	5.24	8.31	8.62	8.79	8.62	8.70	8.46	8.39	8.02	8.16	8.65	7.87		8.57	8.60	8.19

Heat 1 - 2021 National Grand Prix (Chengdu, CHN) *CAA Hurdle Development (2021)*

date	02-Apr-21	time	2.66	3.74	4.80	5.88	6.92	7.96	9.04	10.14	11.24	12.36		13.88	4 / 1			
reaction time	0.189	interval	7 steps	1.08	1.06	1.08	1.04	1.04	1.08	1.10	1.10	1.12	1.52			3.22	3.16	3.32

wind	0.5 m/s	velocity	5.16	8.46	8.62	8.46	8.79	8.79	8.46	8.31	8.31	8.16	9.22	7.93		8.52	8.68	8.26

A FINAL - 2021 National Indoor Grand Prix (Chengdu, CHN) *CAA Hurdle Development (2021)*

date	13-Mar-21	time	2.62	3.70	4.78	5.83	6.88							7.81	5 / 2			
reaction time	0.187	interval	7 steps	1.08	1.08	1.05	1.05						0.93			3.21		
		velocity	5.24	8.46	8.46	8.70	8.70						10.45	7.68		8.54		

FINAL - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.60	3.70	4.77	5.83	6.90	7.95	9.03	10.13	11.24	12.36		13.88	9 / 5			
reaction time	0.176	interval	7 steps	1.10	1.07	1.06	1.07	1.05	1.08	1.10	1.11	1.12	1.52			3.23	3.20	3.33
wind	0.4 m/s	velocity	5.28	8.31	8.54	8.62	8.54	8.70	8.46	8.31	8.23	8.16	9.22	7.93		8.49	8.57	8.23

Heat 2 - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.59	3.71	4.76	5.82	6.88	7.95	9.03	10.11	11.23	12.34		13.86	3 / 2			
reaction time	0.152	interval	7 steps	1.12	1.05	1.06	1.06	1.07	1.08	1.08	1.12	1.11	1.52			3.23	3.21	3.31
wind	-0.5 m/s	velocity	5.30	8.16	8.70	8.62	8.62	8.54	8.46	8.46	8.16	8.23	9.22	7.94		8.49	8.54	8.28

FINAL - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	24-Aug-19	time	2.60	3.68	4.76	5.80	6.89	8.00	9.09	10.19	11.31	12.46		13.96	7 / 2			
reaction time	0.181	interval	7 steps	1.08	1.08	1.04	1.09	1.11	1.09	1.10	1.12	1.15	1.50			3.20	3.29	3.37
wind	-0.1 m/s	velocity	5.28	8.46	8.46	8.79	8.39	8.23	8.39	8.31	8.16	7.95	9.35	7.88		8.57	8.33	8.14

Heat 1 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.62	3.72	4.80	5.90	6.99	8.09	9.21	10.33	11.46	12.64		14.20	7 / 2			
reaction time	0.177	interval	7 steps	1.10	1.08	1.10	1.09	1.10	1.12	1.12	1.13	1.18	1.56			3.28	3.31	3.43
wind	-0.2 m/s	velocity	5.24	8.31	8.46	8.31	8.39	8.31	8.16	8.16	8.09	7.75	8.99	7.75		8.36	8.28	7.99

Heat 2 - 2019 Chinese World Championship Trials (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	02-Aug-19	time	2.72											dnf	5 / --			
reaction time	0.166	interval	7 steps															
wind	-0.2 m/s	velocity	5.04															

FINAL - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.58	3.64	4.69	5.72	6.77	7.82	8.88	9.96	11.04	12.13		13.60	5 / 2			
reaction time	0.164	interval	7 steps	1.06	1.05	1.03	1.05	1.05	1.06	1.08	1.08	1.09	1.47	PB		3.14	3.16	3.25
wind	0.1 m/s	velocity	5.32	8.62	8.70	8.87	8.70	8.70	8.62	8.46	8.46	8.39	9.54	8.09		8.73	8.68	8.44

Heat 1 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.60	3.70	4.76	5.86	6.94	8.05	9.13	10.24	11.34	12.47		13.96	5 / 1			
reaction time	0.163	interval	7 steps	1.10	1.06	1.10	1.08	1.11	1.08	1.11	1.10	1.13	1.49			3.26	3.27	3.34
wind	0.1 m/s	velocity	5.28	8.31	8.62	8.31	8.46	8.23	8.46	8.23	8.31	8.09	9.41	7.88		8.41	8.39	8.21

FINAL - 2019 Chinese National Grand Prix 4 (Luoyang, CHN) *CAA Hurdle Development (2019)*

date	30-May-19	time	2.62	3.70	4.74	5.80	6.86	7.93	9.02	10.11	11.22	12.38		14.15	3 / 6			
reaction time	0.173	interval	7 steps	1.08	1.04	1.06	1.06	1.07	1.09	1.09	1.11	1.16	1.77			3.18	3.22	3.36
wind	0.0 m/s	velocity	5.24	8.46	8.79	8.62	8.62	8.54	8.39	8.39	8.23	7.88	7.92	7.77		8.62	8.52	8.16

FINAL - 2019 Chinese National Grand Prix 3 (Jinhau, CHN) *CAA Hurdle Development (2019)*

date	23-May-19	time	2.62	3.68	4.74	5.78	6.82	7.90	8.96	10.02	11.12	12.22		13.71	2 / 1			
reaction time	0.179	interval	7 steps	1.06	1.06	1.04	1.04	1.08	1.06	1.06	1.10	1.10	1.49			3.16	3.18	3.26
wind	2.5 m/s	velocity	5.24	8.62	8.62	8.79	8.79	8.46	8.62	8.62	8.31	8.31	9.41	8.02		8.68	8.62	8.41

Heat 2 - 2nd Leg - 2019 IAAF World Relays - Shuttle Hurdle Relay (Yokohama, JPN) *CAA Hurdle Development (2019)*

date	11-May-19	time	2.45	3.53	4.62	5.72	6.79	7.87	8.97	10.07	11.21	12.34		13.88	4 /			
reaction time		interval	7 steps	1.08	1.09	1.10	1.07	1.08	1.10	1.10	1.14	1.13	1.54			3.27	3.25	3.37
wind	na	velocity	5.60	8.46	8.39	8.31	8.54	8.46	8.31	8.31	8.02	8.09	9.10	7.93	***57.54***	8.39	8.44	8.14

FINAL - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.65	3.72	4.76	5.80	6.84	7.90	8.98	10.06	11.14	12.26		13.75	2 / 2			
reaction time	0.181	interval	7 steps	1.07	1.04	1.04	1.04	1.06	1.08	1.08	1.08	1.12	1.49	PB		3.15	3.18	3.28
wind	-0.3 m/s	velocity	5.18	8.54	8.79	8.79	8.79	8.62	8.46	8.46	8.46	8.16	9.41	8.00		8.70	8.62	8.36

Heat 2 - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.64	3.72	4.79	5.86	6.94	8.04	9.18	10.31	11.45	12.68		14.33	3 / 2			
reaction time	0.169	interval	7 steps	1.08	1.07	1.07	1.08	1.10	1.14	1.13	1.14	1.23	1.65			3.22	3.32	3.50
wind	0.1 m/s	velocity	5.20	8.46	8.54	8.54	8.46	8.31	8.02	8.09	8.02	7.43	8.50	7.68		8.52	8.26	7.83

FINAL - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	09-Apr-19	time	2.62	3.70	4.78	5.82	6.88	7.94	9.02	10.10	11.22	12.32		13.83	4 / 1			
reaction time	0.177	interval	7 steps	1.08	1.08	1.04	1.06	1.06	1.08	1.08	1.12	1.10	1.51	PB		3.20	3.20	3.30
wind	0.2 m/s	velocity	5.24	8.46	8.46	8.79	8.62	8.62	8.46	8.46	8.16	8.31	9.28	7.95		8.57	8.57	8.31

Heat 3 - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	08-Apr-19	time	2.63	3.72	4.78	5.83	6.88	7.97	9.06	10.16	11.30	12.43		14.00	6 / 1				
reaction time	0.177	interval	*7 steps*	1.09	1.06	1.05	1.05	1.09	1.09	1.10	1.14	1.13	1.57	**PB**		3.20	3.23	3.37	
wind	0.0 m/s	velocity	5.22	8.39	8.62	8.70	8.70	8.39	8.39	8.31	8.02	8.09	8.93	7.86		8.57	8.49	8.14	

A-FINAL - 2019 Chinese Indoor National Grand Prix Final (Hangzhou, CHN) *CAA Hurdle Development (2019)*

date	20-Mar-19	time	2.61	3.69	4.73	5.77	6.86							7.79	5 / 2				
reaction time		interval	*7 steps*	1.08	1.04	1.04	1.09						0.93			3.16			
		velocity	5.26	8.46	8.79	8.79	8.39						10.45	7.70		8.68			

A-FINAL - 2019 Chinese Indoor National Grand Prix 3 (Xi'an, CHN) *CAA Hurdle Development (2019)*

date	28-Feb-19	time	2.58	3.63	4.69	5.75	6.81							7.80	3 / 1				
reaction time		interval	*7 steps*	1.05	1.06	1.06	1.06						0.99			3.17			
		velocity	5.32	8.70	8.62	8.62	8.62						9.82	7.69		8.65			

FINAL - 2018 Chinese National U20 Championships (Nanchang, CHN) (99.1cm) *Zhang (2019) - comparative analysis characteristics Chinese elite 110m hurdles in different age*

date	13-May-18	time	2.61	3.70	4.76	5.83	6.92	7.99	9.08	10.18	11.30	12.42		13.96	6 / 4				
reaction time		interval	*7 steps*	1.09	1.06	1.07	1.09	1.07	1.09	1.10	1.12	1.12	1.54			3.22	3.25	3.34	
wind	1.0 m/s	velocity	5.26	8.39	8.62	8.54	8.39	8.54	8.39	8.31	8.16	8.16	9.10	7.88		8.52	8.44	8.21	

Susami, Youhei (JPN) (2006)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 Japanese U16 National Championships (Matsuyama, JPN) (99cm) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	24-Oct-21	time	2.73	3.90	5.05	6.23	7.37	8.56	9.72	10.92	12.08	13.30		14.89	/ 6				
reaction time		interval		1.17	1.15	1.18	1.14	1.19	1.16	1.20	1.16	1.22	1.59			3.50	3.49	3.58	
wind	1.0 m/s	velocity	5.03	7.81	7.95	7.75	8.02	7.68	7.88	7.62	7.88	7.49	8.82	7.39		7.83	7.86	7.66	

Suzuki, Yusei (JPN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.07) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.64	3.76	4.89	6.01	7.13	8.27	9.42	10.55	11.72	12.91		14.46	4 / 3				
reaction time		interval		1.12	1.13	1.12	1.12	1.14	1.15	1.13	1.17	1.19	1.55			3.37	3.41	3.49	
wind	1.4 m/s	velocity	5.20	8.16	8.09	8.16	8.16	8.02	7.95	8.09	7.81	7.68	9.05	7.61		8.14	8.04	7.86	

Svoboda, Lukáš (CZE) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2015 Czech Republic National U18 Indoor Championships (Praha, CZE) (91cm) *Feher (2015) - Final report U18 & U20 Czech Republic indoor national champs*

date	14-Feb-15	time	2.73	3.87	5.02	6.13	7.26							8.30	7 / 7				
reaction time	0.158	interval		1.14	1.15	1.11	1.13						1.04			3.40			
		velocity	5.03	8.02	7.95	8.23	8.09						9.35	7.23		8.06			

Svoboda, Petr (CZE) (1984)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.50	3.56	4.58	5.58	6.63							7.71	5 / 7				
reaction time	0.136	interval		1.06	1.02	1.00	1.05						1.08			3.08			
		velocity	5.49	8.62	8.96	9.14	8.70						9.00	7.78		8.90			

Heat 4 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.53	3.58	4.60	5.62	6.66							7.59	4 / 1				
reaction time	0.132	interval		1.05	1.02	1.02	1.04						0.93			3.09			
		velocity	5.42	8.70	8.96	8.96	8.79						10.45	7.91		8.87			

FINAL - 2021 Boris Hanžeković Memorial (Zagreb, CRO) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	14-Sep-21	time	2.50	3.60	4.63	5.63	6.66	7.70	8.73	9.76	10.86	11.93		13.51	7 / 4				
reaction time	0.167	interval		1.10	1.03	1.00	1.03	1.04	1.03	1.03	1.10	1.07	1.58			3.13	3.10	3.20	
wind	0.7 m/s	velocity	5.49	8.31	8.87	9.14	8.87	8.79	8.87	8.87	8.31	8.54	8.87	8.14		8.76	8.85	8.57	

FINAL - 2014 Czech Republic National Championships (Ostrava, CZE) *Feher (2014) - Final report from the Czech Republic national championships*

date	02-Aug-14	time	2.57	3.63	4.67	5.68	6.71	7.76	8.80	9.85	10.91	12.01		13.50	4 / 1				
reaction time	0.140	interval		1.06	1.04	1.01	1.03	1.05	1.04	1.05	1.06	1.10	1.49			3.11	3.12	3.21	
wind	-1.2 m/s	velocity	5.34	8.62	8.79	9.05	8.87	8.70	8.79	8.70	8.62	8.31	9.41	8.15		8.82	8.79	8.54	

Heat 1 - 2014 Czech Republic National Championships (Ostrava, CZE) *Feher (2014) - Final report from the Czech Republic national championships*

date	02-Aug-14	time	2.57	3.65	4.70	5.75	6.81	7.87	8.92	9.98	11.05	12.15		13.64	4 / 1				
reaction time	0.133	interval		1.08	1.05	1.05	1.06	1.06	1.05	1.06	1.07	1.10	1.49			3.18	3.17	3.23	
wind	-1.6 m/s	velocity	5.34	8.46	8.70	8.70	8.62	8.62	8.70	8.62	8.54	8.31	9.41	8.06		8.62	8.65	8.49	

FINAL - 2010 IAAF World Indoor Championships (Doha, QAT) *Kuitunen (2010) - biomencanical analysis of the 14th IAAF World Indoor championships*

date	14-Mar-10	time	2.57	3.63	4.62	5.65	6.70							7.58	5 / 5				
reaction time	0.134	interval		1.06	0.99	1.03	1.05						0.88			3.08			
		velocity	5.34	8.62	9.23	8.87	8.70						11.05	7.92		8.90			

FINAL - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.58	3.62	4.64	5.66	6.69	7.74	8.77	9.82	10.87	11.94		13.38	7 / 6				
reaction time	0.144	interval		1.04	1.02	1.02	1.03	1.05	1.03	1.05	1.05	1.07	1.44			3.08	3.11	3.17	
wind	0.1 m/s	velocity	5.32	8.79	8.96	8.96	8.87	8.70	8.87	8.70	8.70	8.54	9.74	8.22		8.90	8.82	8.65	

Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.61	3.65	4.66	5.68	6.69	7.71	8.74	9.80	10.87	11.95		13.33	3 / 2			
reaction time	0.149	interval		1.04	1.01	1.02	1.01	1.02	1.03	1.06	1.07	1.08	1.38			3.07	3.06	3.21
wind	0.9 m/s	velocity	5.26	8.79	9.05	8.96	9.05	8.96	8.87	8.62	8.54	8.46	10.16	8.25		8.93	8.96	8.54

Heat 3 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.63	3.69	4.72	5.74	6.75	7.78	8.85	9.91	10.99	12.09		13.56	6 / =1			
reaction time	0.152	interval		1.06	1.03	1.02	1.01	1.03	1.07	1.06	1.08	1.10	1.47			3.11	3.11	3.24
wind	0.2 m/s	velocity	5.22	8.62	8.87	8.96	9.05	8.87	8.54	8.62	8.46	8.31	9.54	8.11		8.82	8.82	8.46

FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Sep-08	time	2.65	3.69	4.70	5.70	6.72	7.74	8.78	9.82	10.87	11.93		13.33	8 / 2			
reaction time	0.191	interval		1.04	1.01	1.00	1.02	1.02	1.04	1.04	1.05	1.06	1.40			3.05	3.08	3.15
wind	-1.3 m/s	velocity	5.18	8.79	9.05	9.14	8.96	8.96	8.79	8.79	8.70	8.62	10.01	8.25		8.99	8.90	8.70

Swift, Eugene (USA) (1964)

FINAL - 1996 Olympic Games (Atlanta, GA) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	26-Jul-96 time	2.36	3.42	4.44	5.47	6.48	7.47	8.46	9.50	10.55	11.62		13.23	4 / 6			
reaction time	0.151 interval		1.06	1.02	1.03	1.01	0.99	0.99	1.04	1.05	1.07	1.61			3.11	2.99	3.16
wind	0.8 m/s velocity	5.81	8.62	8.96	8.87	9.05	9.23	9.23	8.79	8.70	8.54	8.71	8.31		8.82	9.17	8.68

FINAL - 1996 USA Olympic Trials (Atlanta, GA) — *McNichols (2000) - Hurdle technique study through video analysis*

date	23-Jun-96	time	2.38	3.43	4.46	5.44	6.43	7.52	8.54	9.55	10.62	11.66		13.21	7 / 3			
reaction time		interval		1.05	1.03	0.98	0.99	1.09	1.02	1.01	1.07	1.04	1.55	PB		3.06	3.10	3.12
wind	0.9 m/s	velocity	5.76	8.70	8.87	9.33	9.23	8.39	8.96	9.05	8.54	8.79	9.05	8.33		8.96	8.85	8.79

Swift, Greggmar (BAR) (1991)

FINAL - 2019 Pan American Games (Lima, PER) (TV Analysis) — *Henson (2020) - Athlete First: 2019 year end hurdle report*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	10-Aug-19 time	2.60	3.60	4.65	5.68	6.70	7.74	8.79	9.86	10.95	12.05		13.51	4 / 4			
reaction time	0.140 interval		1.00	1.05	1.03	1.02	1.04	1.05	1.07	1.09	1.10	1.46			3.08	3.11	3.26
wind	1.8 m/s velocity	5.28	9.14	8.70	8.87	8.96	8.79	8.70	8.54	8.39	8.31	9.60	8.14		8.90	8.82	8.41

FINAL - 2019 Prefontaine Classic (Stanford, CA) (TV Analysis) — *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	30-Jun-19	time	2.55	3.58	4.62	5.68	6.70	7.74	8.82	9.86	10.93	12.03		13.56	9 / 9			
reaction time	0.150	interval		1.03	1.04	1.06	1.02	1.04	1.08	1.04	1.07	1.10	1.53			3.13	3.14	3.21
wind	0.3 m/s	velocity	5.38	8.87	8.79	8.62	8.96	8.79	8.46	8.79	8.54	8.31	9.16	8.11		8.76	8.73	8.54

FINAL - 2019 Seiko Golden Grand Prix (Osaka, JPN) — *Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*

date	19-May-19	time	2.54	3.61	4.66	5.69	6.70	7.76	8.79	9.84	10.91	12.02		13.45	2 / 2			
reaction time	0.150	interval		1.07	1.05	1.03	1.01	1.06	1.03	1.05	1.07	1.11	1.43			3.15	3.10	3.23
wind	2.9 m/s	velocity	5.40	8.54	8.70	8.87	9.05	8.62	8.87	8.70	8.54	8.23	9.80	8.18		8.70	8.85	8.49

FINAL - 2017 Seiko Golden Grand Prix (Kawasaki, JPN) — *(2017) - tfdata-store.com/2017/05/22/post-599/*

date	21-May-17	time	2.55	3.61	4.68	5.73	6.77	7.84	8.92	10.00	11.10	12.22		13.72	1 / 5			
reaction time	0.141	interval		1.06	1.07	1.05	1.04	1.07	1.08	1.08	1.10	1.12	1.50			3.18	3.19	3.30
wind	-1.8 m/s	velocity	5.38	8.62	8.54	8.70	8.79	8.54	8.46	8.46	8.31	8.16	9.35	8.02		8.62	8.60	8.31

FINAL - 2016 Seiko Golden Grand Prix (Kawasaki, JPN) — *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	08-May-16	time	2.67	3.82	4.95	6.11	7.24	8.41	9.56	10.75	11.94	13.14		14.79	6 / 7			
reaction time	0.153	interval		1.15	1.13	1.16	1.13	1.17	1.15	1.19	1.19	1.20	1.65			3.44	3.45	3.58
wind	-0.6 m/s	velocity	5.14	7.95	8.09	7.88	8.09	7.81	7.95	7.68	7.68	7.62	8.50	7.44		7.97	7.95	7.66

Sýkora, Jiří (CZE) (1995)

Decathlon - Heat 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) — *Henson (2024) - Athlete First: 2022 year end hurdle report*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	24-Jul-22 time	2.71	3.80	4.95	6.00	7.10	8.20	9.33	10.40	11.53	12.65		14.14	7 / 2			
reaction time	0.126 interval		1.09	1.15	1.05	1.10	1.10	1.13	1.07	1.13	1.12	1.49			3.29	3.33	3.32
wind	0.4 m/s velocity	5.06	8.39	7.95	8.70	8.31	8.31	8.09	8.54	8.09	8.16	9.41	7.78		8.33	8.23	8.26

Decathlon - Heat 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) — *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	05-Aug-21	time	2.75	3.86	5.03	6.15	7.25	8.38	9.53	10.66	11.81	12.94		14.48	8 / 3			
reaction time	0.160	interval		1.11	1.17	1.12	1.10	1.13	1.15	1.13	1.15	1.13	1.54			3.40	3.38	3.41
wind	0.0 m/s	velocity	4.99	8.23	7.81	8.16	8.31	8.09	7.95	8.09	7.95	8.09	9.10	7.60		8.06	8.11	8.04

Sykora, Miroslav (CZE) (1997)

FINAL - 2015 Czech Republic National U20 Indoor Championships (Praha, CZE) (99cm) — *Feher (2015) - Final report U18 & U20 Czech Republic indoor national champs*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	14-Feb-15 time	2.90	4.08	5.64	7.06	8.66							10.20	8 / 8			
reaction time	0.162 interval		1.18	1.56	1.42	1.60						1.54			4.16		
	velocity	4.73	7.75	5.86	6.44	5.71						6.31	5.88		6.59		

Heat 2 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) — *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.95	4.08	5.23	6.38	7.55	8.72	9.94	11.25	12.53	13.87		15.72	5 / 6			
reaction time	0.213	interval		1.13	1.15	1.15	1.17	1.17	1.22	1.31	1.28	1.34	1.85			3.43	3.56	3.93
wind	-4.1 m/s	velocity	4.65	8.09	7.95	7.95	7.81	7.81	7.49	6.98	7.14	6.82	7.58	7.00		7.99	7.70	6.98

Sysoyev, Aleksey (RUS) (1985)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 4 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 20-Aug-09 time	2.87	3.95	5.10	6.29	7.49	8.65	9.83	11.02	12.23	13.42		14.97	6 / 5			
reaction time 0.150 interval		1.08	1.15	1.19	1.20	1.16	1.18	1.19	1.21	1.19	1.55			3.42	3.54	3.59
wind 0.0 m/s velocity	4.78	8.46	7.95	7.68	7.62	7.88	7.75	7.68	7.55	7.68	9.05	7.35		8.02	7.75	7.64

Szücs, Valdó (HUN) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2022 New Balance Indoor Grand Prix (Staten Island, NY) (TV Analysis)													*Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*			
date 06-Feb-22 time	2.57	3.64	4.70	5.72	6.72							7.73	1 / 6			
reaction time 0.160 interval 7 steps		1.07	1.06	1.02	1.00						1.01			3.15		
velocity	5.34	8.54	8.62	8.96	9.14						9.62	7.76		8.70		
Semi-Final 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date 04-Aug-21 time	2.52	3.61	4.64	5.64	6.65	7.69	8.73	9.81	10.84	11.92		13.40	9 / 4			
reaction time 0.140 interval 7 steps		1.09	1.03	1.00	1.01	1.04	1.04	1.08	1.03	1.08	1.48			3.12	3.09	3.19
wind -0.1 m/s velocity	5.44	8.39	8.87	9.14	9.05	8.79	8.79	8.46	8.87	8.46	9.47	8.21		8.79	8.87	8.60
Heat 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date 03-Aug-21 time	2.54	3.69	4.69	5.75	6.75	7.78	8.82	9.84	10.94	12.06		13.50	9 / 3			
reaction time 0.137 interval 7 steps		1.15	1.00	1.06	1.00	1.03	1.04	1.02	1.10	1.12	1.44			3.21	3.07	3.24
wind 0.0 m/s velocity	5.40	7.95	9.14	8.62	9.14	8.87	8.79	8.96	8.31	8.16	9.74	8.15		8.54	8.93	8.46
FINAL - 2021 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis)													*Henson (2021) - Athlete First: 2021 year end hurdle report*			
date 06-Jul-21 time	2.45	3.50	4.52	5.57	6.61	7.61	8.67	9.72	10.78	11.86		13.47	2 / 5			
reaction time 0.147 interval 7 steps		1.05	1.02	1.05	1.04	1.00	1.06	1.05	1.06	1.08	1.61			3.12	3.10	3.19
wind -0.1 m/s velocity	5.60	8.70	8.96	8.70	8.79	9.14	8.62	8.70	8.62	8.46	8.71	8.17		8.79	8.85	8.60
FINAL - 2020 István Gyulai Memorial (Székesfehérvár, HUN) (TV Analysis)													*Henson (2020) - Athlete First: 2020 year end hurdle report*			
date 19-Aug-20 time	2.50	3.67	4.74	5.80	6.85	7.91	8.94	9.98	11.08	12.18		13.74	7 / 7			
reaction time 0.141 interval 7 steps		1.17	1.07	1.06	1.05	1.06	1.03	1.04	1.10	1.10	1.56			3.30	3.14	3.24
wind 0.3 m/s velocity	5.49	7.81	8.54	8.62	8.70	8.62	8.87	8.79	8.31	8.31	8.99	8.01		8.31	8.73	8.46

Szymański, Jakub (POL) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2025 European Athletics Indoor Championships (Apeldoorn, NED)													*European Athletics (2025) - european athletics indoor championships results book*			
date 07-Mar-25 time	2.42	3.45	4.44	5.43	6.41							7.43	6 / 1			
reaction time 0.155 interval 7 steps		1.03	0.99	0.99	0.98						1.02			3.01		
velocity	5.67	8.87	9.23	9.23	9.33						9.53	8.08		9.11		
Semi-Final 2 - 2025 European Athletics Indoor Championships (Apeldoorn, NED)													*European Athletics (2025) - european athletics indoor championships results book*			
date 07-Mar-25 time	2.41	3.45	4.44	5.43	6.43							7.49	6 / 1			
reaction time 0.164 interval 7 steps		1.04	0.99	0.99	1.00						1.06			3.02		
velocity	5.69	8.79	9.23	9.23	9.14						9.17	8.01		9.08		
FINAL - 2024 Kamila Skolimowska Memorial (Silesia, POL)													*Omega Timing (2024) - diamond league race analysis*			
date 25-Aug-24 time	2.43	3.47	4.46	5.46	6.46	7.46	8.48	9.52	10.61	11.71		13.41	2 / 7			
reaction time 0.182 interval 7 steps		1.04	0.99	1.00	1.00	1.00	1.02	1.04	1.09	1.10	1.70			3.03	3.02	3.23
wind 1.1 m/s velocity	5.65	8.79	9.23	9.14	9.14	9.14	8.96	8.79	8.39	8.31	8.25	8.20		9.05	9.08	8.49
Repechage 3 - 2024 Olympic Games (Paris, FRA)													*Paris 2024 Olympic Games - Results Book (2024)*			
date 06-Aug-24 time	2.43	3.51	4.53	5.55	6.56	7.58	8.63	9.69	10.78	11.91		13.63	5 / 4			
reaction time 0.153 interval 7 steps		1.08	1.02	1.02	1.01	1.02	1.05	1.06	1.09	1.13	1.72			3.12	3.08	3.28
wind -1.1 m/s velocity	5.65	8.46	8.96	8.96	9.05	8.96	8.70	8.62	8.40	8.07	8.15	8.07		8.79	8.90	8.36
Heat 1 - 2024 Olympic Games (Paris, FRA)													*Paris 2024 Olympic Games - Results Book (2024)*			
date 04-Aug-24 time	2.42	3.50	4.51	5.52	6.53	7.57	8.63	9.72	10.84	11.99		13.75	5 / 7			
reaction time 0.161 interval 7 steps		1.08	1.01	1.01	1.01	1.04	1.06	1.09	1.12	1.15	1.76			3.10	3.11	3.36
wind 0.1 m/s velocity	5.67	8.46	9.05	9.05	9.05	8.79	8.62	8.39	8.16	7.95	7.97	8.00		8.85	8.82	8.16
FINAL - 2024 World Athletics Indoor Championships (Glasgow, GBR) (TV Analysis)													*Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*			
date 02-Mar-24 time	2.56	3.59	4.60	5.58	6.60							7.53	6 / 5			
reaction time 0.163 interval 7 steps		1.03	1.01	0.98	1.02						0.93			3.02		
velocity	5.36	8.87	9.05	9.33	8.96						10.45	7.97		9.08		
FINAL - 2024 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis)													*Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*			
date 10-Feb-24 time	2.42	3.45	4.42	5.42	6.42							7.48	6 / 3			
reaction time 0.183 interval 7 steps		1.03	0.97	1.00	1.00						1.06			3.00		
velocity	5.67	8.87	9.42	9.14	9.14						9.17	8.02		9.14		
Semi-Final 3 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)													*Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*			
date 20-Mar-22 time	2.53	3.56	4.58	5.60	6.60							7.59	7 / 5			
reaction time 0.146 interval 7 steps		1.03	1.02	1.02	1.00						0.99	**PB**		3.07		
velocity	5.42	8.87	8.96	8.96	9.14						9.82	7.91		8.93		

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

FINAL - 2022 Müller Indoor Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	19-Feb-22	time	2.46	3.50	4.52	5.55	6.57							7.62	8 / 4			
reaction time	0.165	interval	7 steps	1.04	1.02	1.03	1.02						1.05			3.09		
		velocity	5.58	8.79	8.96	8.87	8.96						9.26	7.87		8.87		

Taam, Rik (NED) (1997)

Decathlon - Heat 1 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 03-Aug-24	time 2.56	3.72	4.85	5.98	7.13	8.31	9.50	10.66	11.86	13.06		14.78	3 / 5			
reaction time 0.181	interval	1.16	1.13	1.13	1.15	1.18	1.19	1.16	1.20	1.20	1.72			3.42	3.52	3.56
wind 0.2 m/s	velocity 5.36	7.88	8.09	8.09	7.95	7.75	7.68	7.88	7.62	7.62	8.15	7.44		8.02	7.79	7.70

Decathlon - Heat 1 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2024) - Athlete First: 2023 year end hurdle report*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 26-Aug-23	time 2.80	3.92	5.06	6.23	7.40	8.58	9.70	10.88	12.07	13.27		14.80	3 / 4			
reaction time 0.158	interval 7 steps	1.12	1.14	1.17	1.17	1.18	1.12	1.18	1.19	1.20	1.53			3.43	3.47	3.57
wind 0.2 m/s	velocity 4.90	8.16	8.02	7.81	7.81	7.75	8.16	7.75	7.68	7.62	9.16	7.43		7.99	7.90	7.68

Tagaku, Takashi (JPN)

FINAL - 2016 All-Star Night Athletics (Hiratsuka, JPN) *(2016.07.23) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 23-Jul-16	time 2.69	3.78	4.85	5.90	6.96	8.01	9.10	10.16	11.25	12.35		13.81	3 / 2			
reaction time 0.160	interval 7 steps	1.09	1.07	1.05	1.06	1.05	1.09	1.06	1.09	1.10	1.46			3.21	3.20	3.25
wind 0.5 m/s	velocity 5.10	8.39	8.54	8.70	8.62	8.70	8.39	8.62	8.39	8.31	9.60	7.97		8.54	8.57	8.44

Tahara, Ayuma (JPN) (2004)

FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (99cm) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 22-Oct-21	time 2.63	3.74	4.82	5.88	6.95	8.03	9.11	10.20	11.31	12.43		13.94	6 / 2			
reaction time 0.150	interval 7 steps	1.11	1.08	1.06	1.07	1.08	1.08	1.09	1.11	1.12	1.51			3.25	3.23	3.32
wind -0.6 m/s	velocity 5.22	8.23	8.46	8.62	8.54	8.46	8.46	8.39	8.23	8.16	9.28	7.89		8.44	8.49	8.26

Tahara, Keigo (JPN) (2003)

FINAL - 2022 Japanese U20 National Championsips (Osaka, JPN) (99cm) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 12-Jun-22	time 2.63	3.73	4.83	5.86	6.92	7.96	9.05	10.13	11.23	12.34		13.87	2 / 7			
reaction time 0.155	interval	1.10	1.10	1.03	1.06	1.04	1.09	1.08	1.10	1.11	1.53	PB		3.23	3.19	3.29
wind 1.1 m/s	velocity 5.22	8.31	8.31	8.87	8.62	8.79	8.39	8.46	8.31	8.23	9.16	7.93		8.49	8.60	8.33

Tait, Emmanuel (USA)

Semi-Final 1 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 15-Feb-20	time 2.63	3.75	4.85	5.92	7.04							7.99	2 / 6			
reaction time 0.158	interval	1.12	1.10	1.07	1.12						0.95			3.29		
	velocity 5.22	8.16	8.31	8.54	8.16						10.23	7.51		8.33		

Heat 1 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 14-Feb-20	time 2.64	3.72	4.84	5.87	6.96							7.89	1 / 4			
reaction time 0.146	interval	1.08	1.12	1.03	1.09						0.93	PB		3.23		
	velocity 5.20	8.46	8.16	8.87	8.39						10.45	7.60		8.49		

Takahashi, Daishi (JPN)

FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN) *Takashima (2023) - national high school sports festival - biomechanics data*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 06-Aug-23	time 2.69	3.76	4.85	5.96	7.07	8.17	9.29	10.40	11.52	12.66		14.17	2 / 3			
reaction time 0.180	interval	1.07	1.09	1.11	1.11	1.10	1.12	1.11	1.12	1.14	1.51			3.27	3.33	3.37
wind 0.8 m/s	velocity 5.10	8.54	8.39	8.23	8.23	8.31	8.16	8.23	8.16	8.02	9.28	7.76		8.39	8.23	8.14

Takahashi, Harumasa (JPN) (2003)

U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (99cm) *Kijima (2019) - research on athlete performance and technique- 2019 data book*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 18-Oct-19	time 2.62	3.73	4.80	5.85	6.90	7.92	8.97	10.01	11.08	12.15		13.60	6 / 1			
reaction time 0.131	interval	1.11	1.07	1.05	1.05	1.02	1.05	1.04	1.07	1.07	1.45			3.23	3.12	3.18
wind -0.4 m/s	velocity 5.24	8.23	8.54	8.70	8.70	8.96	8.70	8.79	8.54	8.54	9.67	8.09		8.49	8.79	8.62

Takahashi, Hayato (JPN)

FINAL - 2021 Japanese U16 National Championships (Matsuyama, JPN) (99cm) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 24-Oct-21	time 2.78	3.96	5.13	6.32	7.52	8.73	9.93	11.13	12.32	13.57		15.22	/ 8			
reaction time	interval	1.18	1.17	1.19	1.20	1.21	1.20	1.20	1.19	1.25	1.65			3.54	3.61	3.64
wind 1.0 m/s	velocity 4.94	7.75	7.81	7.68	7.62	7.55	7.62	7.62	7.68	7.31	8.50	7.23		7.75	7.60	7.53

Takahashi, Masahiro (JPN)

FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/04/07/post-249/*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 06-Apr-17	time 2.76	3.92				8.58	9.79	10.98	12.18	13.41		14.98	2 / 6			
reaction time	interval	1.16				4.66	1.21	1.19	1.20	1.23	1.57					3.62
wind -1.8 m/s	velocity 4.97	7.88				7.85	7.55	7.68	7.62	7.43	8.93	7.34				7.57

Takahashi, Rui (JPN) (1997)

FINAL - 2015 Japanese National High School Championships (Wakayama, JPN) (99cm) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date 02-Aug-15	time 2.73	3.86	5.00	6.13	7.28	8.46	9.57	10.75	11.93	13.04		14.57	7 / 7			

reaction time		interval		1.13	1.14	1.13	1.15	1.18	1.11	1.18	1.18	1.11	1.53			3.40	3.44	3.47
wind	1.4 m/s	velocity	5.03	8.09	8.02	8.09	7.95	7.75	8.23	7.75	7.75	8.23	9.16	7.55		8.06	7.97	7.90

Takahashi, Ryo (JPN) (2005)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (99cm)													*Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*			
date 22-Oct-21 time	2.71	3.83	4.93	6.02	7.10	8.19	9.31	10.40	11.52	12.64		14.15	9 / 5			
reaction time 0.163 interval		1.12	1.10	1.09	1.08	1.09	1.12	1.09	1.12	1.12	1.51			3.31	3.29	3.33
wind -0.6 m/s velocity	5.06	8.16	8.31	8.39	8.46	8.39	8.16	8.39	8.16	8.16	9.28	7.77		8.28	8.33	8.23

Takahashi, Yoshihito (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2023 Shimane High School Championships (Izumo, JPN)													*Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*			
date 28-May-23 time	2.83	4.17	5.47	6.78	8.07	9.42	10.72	12.00	13.30	14.58		16.26	8 / 2			
reaction time interval		1.34	1.30	1.31	1.29	1.35	1.30	1.28	1.30	1.28	1.68			3.95	3.94	3.86
wind -0.1 m/s velocity	4.85	6.82	7.03	6.98	7.09	6.77	7.03	7.14	7.03	7.14	8.35	6.77		6.94	6.96	7.10
FINAL - 2022 Shimane High School Championships (Izumo, JPN)													*Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*			
date 28-May-22 time	2.98	4.28	5.58	6.90	8.18	9.48	10.82	12.18	13.55	14.88		16.54	9 / 4			
reaction time interval		1.30	1.30	1.32	1.28	1.30	1.34	1.36	1.37	1.33	1.66			3.92	3.92	4.06
wind 0.6 m/s velocity	4.60	7.03	7.03	6.92	7.14	7.03	6.82	6.72	6.67	6.87	8.45	6.65		6.99	6.99	6.75

Takahasai, Yusuke (JPN) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2023 Fuse Sprint (Tottori, JPN)													*Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*			
date 25-Jun-23 time	2.62	3.70	4.78	5.84	6.92	7.98	9.05	10.15	11.25	12.41		13.84	9 / 5			
reaction time 0.128 interval		1.08	1.08	1.06	1.08	1.06	1.07	1.10	1.10	1.16	1.43			3.22	3.21	3.36
wind 1.1 m/s velocity	5.24	8.46	8.46	8.62	8.46	8.62	8.54	8.31	8.31	7.88	9.80	7.95		8.52	8.54	8.16
FINAL - 2023 Mikio Oda Memorial (Hiroshima, JPN)													*Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*			
date 29-Apr-23 time	2.63	3.69	4.77	5.83	6.89	7.98	9.08	10.22	11.34	12.48		13.94	7 / 8			
reaction time 0.145 interval		1.06	1.08	1.06	1.06	1.09	1.10	1.14	1.12	1.14	1.46			3.20	3.25	3.40
wind 0.3 m/s velocity	5.22	8.62	8.46	8.62	8.62	8.39	8.31	8.02	8.16	8.02	9.60	7.89		8.57	8.44	8.06
FINAL - 2022 Japanese National Championsips (Osaka, JPN)													*Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*			
date 12-Jun-22 time	2.63	3.70	4.74	5.78	6.83	7.87	8.94	9.99	11.08	12.17		13.57	6 / 4			
reaction time 0.152 interval		1.07	1.04	1.04	1.05	1.04	1.07	1.05	1.09	1.09	1.40			3.15	3.16	3.23
wind -1.2 m/s velocity	5.22	8.54	8.79	8.79	8.70	8.79	8.54	8.70	8.39	8.39	10.01	8.11		8.70	8.68	8.49
FINAL - 2020 Athlete Night Games (Fukui, JPN)													*Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*			
date 29-Aug-20 time	2.62	3.72	4.76	5.81	6.87	7.93	9.01	10.07	11.15	12.23		13.60	4 / 6			
reaction time interval		1.10	1.04	1.05	1.06	1.06	1.08	1.06	1.08	1.08	1.37	**PB**		3.19	3.20	3.22
wind 1.4 m/s velocity	5.24	8.31	8.79	8.70	8.62	8.62	8.46	8.62	8.46	8.46	10.23	8.09		8.60	8.57	8.52
Heat 3 - 2017 Mito Invitational (Mito, JPN)													*(2017) - tfdata-store.com/2017/05/06/post-423/*			
date 05-May-17 time	2.65	3.83	4.96	6.10	7.25	8.37	9.49	10.63	11.80	12.97		14.43	8 / 6			
reaction time interval		1.18	1.13	1.14	1.15	1.12	1.12	1.14	1.17	1.17	1.46			3.45	3.39	3.48
wind -2.5 m/s velocity	5.18	7.75	8.09	8.02	7.95	8.16	8.16	8.02	7.81	7.81	9.60	7.62		7.95	8.09	7.88

Takajo, Koki (JPN) (2008)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)													*Takashima (2024) - national high school sports festival - biomechanics data*			
date 01-Aug-24 time	2.64	3.70	4.77	5.81	6.84	7.90	8.97	10.03	11.12	12.20		13.68	5 / 2			
reaction time 0.136 interval		1.06	1.07	1.04	1.03	1.06	1.07	1.06	1.09	1.08	1.48	**PB**		3.17	3.16	3.23
wind -0.7 m/s velocity	5.20	8.62	8.54	8.79	8.87	8.62	8.54	8.62	8.39	8.46	9.47	8.04		8.65	8.68	8.49
FINAL - 2024 Japanese National U20 Championsips (Niigata, JPN) (99.1cm)													*Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*			
date 30-Jun-24 time	2.64	3.73	4.76	5.82	6.86	7.88	8.92	9.95	11.00	12.05		13.52	3 / 1			
reaction time 0.141 interval		1.09	1.03	1.06	1.04	1.02	1.04	1.03	1.05	1.05	1.47	**=PB**		3.18	3.10	3.13
wind 0.1 m/s velocity	5.20	8.39	8.87	8.62	8.79	8.96	8.79	8.87	8.70	8.70	9.54	8.14		8.62	8.85	8.76

Takaoka, Yudai (JPN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 1 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm)													*(2016.11.08) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 21-Oct-16 time	2.66	3.76	4.84	5.93	7.03	8.11	9.21	10.35	11.47	12.58		14.06	6 / 3			
reaction time interval		1.10	1.08	1.09	1.10	1.08	1.10	1.14	1.12	1.11	1.48			3.27	3.28	3.37
wind 1.0 m/s velocity	5.16	8.31	8.46	8.39	8.31	8.46	8.31	8.02	8.16	8.23	9.47	7.82		8.39	8.36	8.14
Heat 4 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm)													*(2016.11.08) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 21-Oct-16 time	2.72	3.82	4.93	6.02	7.11	8.19	9.31	10.43	11.62	12.77		14.28	8 / 2			
reaction time interval		1.10	1.11	1.09	1.09	1.08	1.12	1.12	1.19	1.15	1.51			3.30	3.29	3.46
wind 1.5 m/s velocity	5.04	8.31	8.23	8.39	8.39	8.46	8.16	8.16	7.68	7.95	9.28	7.70		8.31	8.33	7.92

Takata, Kota (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2016 Kyoto Perfecture High School Meeting (Kyoto, JPN)													*(2016.05.30) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 21-May-16 time	2.73	3.82	4.96	6.03	7.14	8.24	9.34	10.46	11.59	12.73		14.19	7 / 1			
reaction time interval		1.09	1.14	1.07	1.11	1.10	1.10	1.12	1.13	1.14	1.46			3.30	3.31	3.39
wind 2.1 m/s velocity	5.03	8.39	8.02	8.54	8.23	8.31	8.31	8.16	8.09	8.02	9.60	7.75		8.31	8.28	8.09

Takaya, Yasuda (JPN)			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN)															*(2017) - tfdata-store.com/2017/04/07/post-249/*			
date	06-Apr-17	time	2.73	3.90	5.07	6.23				10.98	12.19	13.42		14.97	9 / 5			
reaction time		interval		1.17	1.17	1.16				4.75	1.21	1.23	1.55			3.50		
wind	-1.8 m/s	velocity	5.03	7.81	7.81	7.88				7.70	7.55	7.43	9.05	7.35		7.83		

Takayama, Shunya (JPN) (1994)			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Repechage 3 - 2024 Olympic Games (Paris, FRA)															*Paris 2024 Olympic Games - Results Book (2024)*			
date	06-Aug-24	time	2.34	3.40	4.44	5.45	6.48	7.50	8.56	9.62	10.71	11.82		13.45	7 / 3			
reaction time	0.140	interval		1.06	1.04	1.01	1.03	1.02	1.06	1.06	1.09	1.11	1.63			3.11	3.11	3.26
wind	-1.1 m/s	velocity	5.86	8.62	8.79	9.05	8.87	8.96	8.62	8.62	8.39	8.23	8.60	8.18		8.82	8.82	8.41
Heat 5 - 2024 Olympic Games (Paris, FRA)															*Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*			
date	04-Aug-24	time	2.55	3.61	4.65	5.68	6.72	7.75	8.80	9.85	10.93	12.02		13.46	5 / 4			
reaction time	0.147	interval		1.06	1.04	1.03	1.04	1.03	1.05	1.05	1.08	1.09	1.44			3.13	3.12	3.22
wind	0.7 m/s	velocity	5.38	8.62	8.79	8.87	8.79	8.87	8.70	8.70	8.46	8.39	9.74	8.17		8.76	8.79	8.52
FINAL - 2024 Japanese National Championsips (Niigata, JPN)															*Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*			
date	30-Jun-24	time	2.56	3.59	4.59	5.59	6.61	7.63	8.65	9.71	10.78	11.85		13.31	6 / 2			
reaction time	0.147	interval		1.03	1.00	1.00	1.02	1.02	1.02	1.06	1.07	1.07	1.46			3.03	3.06	3.20
wind	0.2 m/s	velocity	5.36	8.87	9.14	9.14	8.96	8.96	8.96	8.62	8.54	8.54	9.60	8.26		9.05	8.96	8.57
FINAL - 2024 Seiko Golden Grand Prix (Tokyo, JPN)															*Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*			
date	19-May-24	time	2.56	3.60	4.62	5.66	6.71	7.76	8.81	9.88	10.98	12.09		13.56	5 / 4			
reaction time	0.130	interval		1.04	1.02	1.04	1.05	1.05	1.05	1.07	1.10	1.11	1.47			3.10	3.15	3.28
wind	-0.6 m/s	velocity	5.36	8.79	8.96	8.79	8.70	8.70	8.70	8.54	8.31	8.23	9.54	8.11		8.85	8.70	8.36
FINAL - 2024 Mikio Oda Memorial (Hiroshima, JPN)															*Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*			
date	29-Apr-24	time	2.58	3.65	4.68	5.73	6.76	7.81	8.86	9.96	11.04	12.15		13.64	6 / 6			
reaction time	0.149	interval		1.07	1.03	1.05	1.03	1.05	1.05	1.10	1.08	1.11	1.49			3.15	3.13	3.29
wind	-0.6 m/s	velocity	5.04	7.94	8.25	8.10	8.25	8.10	8.10	7.73	7.87	7.66	9.41	8.06		8.70	8.76	8.33
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)															*Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*			
date	21-Aug-23	time	2.54	3.56	4.60	5.60	6.63	7.65	8.70	9.75	10.82	11.89		13.34	7 / 5			
reaction time	0.135	interval		1.02	1.04	1.00	1.03	1.02	1.05	1.05	1.07	1.07	1.45			3.06	3.10	3.19
wind	-0.1 m/s	velocity	5.40	8.96	8.79	9.14	8.87	8.96	8.70	8.70	8.54	8.54	9.67	8.25		8.96	8.85	8.60
Heat 5 - 2023 World Athletics Championships (Budapest, HUN)															*Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*			
date	20-Aug-23	time	2.56	3.60	4.62	5.64	6.66	7.70	8.74	9.79	10.85	11.93		13.35	9 / 2			
reaction time	0.146	interval		1.04	1.02	1.02	1.02	1.04	1.04	1.05	1.06	1.08	1.42			3.08	3.10	3.19
wind	-0.9 m/s	velocity	5.36	8.79	8.96	8.96	8.96	8.79	8.79	8.70	8.62	8.46	9.87	8.24		8.90	8.85	8.60
FINAL - 2023 Fuse Sprint (Tottori, JPN)															*Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*			
date	25-Jun-23	time	2.54	3.55	4.58	5.59	6.62	7.63	8.68	9.73	10.79	11.86		13.28	4 / 2			
reaction time	0.136	interval		1.01	1.03	1.01	1.03	1.01	1.05	1.05	1.06	1.07	1.42			3.05	3.09	3.18
wind	1.1 m/s	velocity	5.40	9.05	8.87	9.05	8.87	9.05	8.70	8.70	8.62	8.54	9.87	8.28		8.99	8.87	8.62
FINAL - 2023 Japanese National Championsips (Osaka, JPN)															*Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*			
date	04-Jun-23	time	2.53	3.54	4.56	5.58	6.61	7.63	8.67	9.73	10.78	11.86		13.30	4 / 2			
reaction time	0.128	interval		1.01	1.02	1.02	1.03	1.02	1.04	1.06	1.05	1.08	1.44			3.05	3.09	3.19
wind	-0.9 m/s	velocity	5.42	9.05	8.96	8.96	8.87	8.96	8.79	8.62	8.70	8.46	9.74	8.27		8.99	8.87	8.60
FINAL - 2023 Seiko Golden Grand Prix (Yokohama, JPN)															*Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*			
date	21-May-23	time	2.56	3.60	4.60	5.62	6.64	7.65	8.69	9.72	10.76	11.83		13.25	5 / 2			
reaction time	0.144	interval		1.04	1.00	1.02	1.02	1.01	1.04	1.03	1.04	1.07	1.42			3.06	3.07	3.14
wind	0.8 m/s	velocity	5.36	8.79	9.14	8.96	8.96	9.05	8.79	8.87	8.79	8.54	9.87	8.30		8.96	8.93	8.73
FINAL - 2023 Mikio Oda Memorial (Hiroshima, JPN)															*Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*			
date	29-Apr-23	time	2.56	3.60	4.63	5.68	6.73	7.78	8.83	9.88	10.95	12.03		13.47	4 / 2			
reaction time	0.135	interval		1.04	1.03	1.05	1.05	1.05	1.05	1.05	1.07	1.08	1.44			3.12	3.15	3.20
wind	0.3 m/s	velocity	5.36	8.79	8.87	8.70	8.70	8.70	8.70	8.70	8.54	8.46	9.74	8.17		8.79	8.70	8.57
FINAL - 2022 Japanese National Championsips (Osaka, JPN)															*Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*			
date	12-Jun-22	time	2.56	3.58	4.64	5.69	6.73	7.79	8.85	9.93	11.03	12.13		13.60	2 / 5			
reaction time	0.136	interval		1.02	1.06	1.05	1.04	1.06	1.06	1.08	1.10	1.10	1.47			3.13	3.16	3.28
wind	-1.2 m/s	velocity	5.36	8.96	8.62	8.70	8.79	8.62	8.62	8.46	8.31	8.31	9.54	8.09		8.76	8.68	8.36
FINAL - 2022 Seiko Golden Grand Prix (Tokyo, JPN)															*Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*			
date	08-May-22	time	2.63	3.69	4.73	5.80	6.86	7.93	9.00	10.09	11.18	12.31		13.75	4 / 7			
reaction time	0.156	interval		1.06	1.04	1.07	1.06	1.07	1.07	1.09	1.09	1.13	1.44			3.17	3.20	3.31
wind	0.1 m/s	velocity	5.22	8.62	8.79	8.54	8.62	8.54	8.54	8.39	8.39	8.09	9.74	8.00		8.65	8.57	8.28

FINAL - 2022 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	29-Apr-22	time	2.59	3.67	4.75	5.82	6.90	7.98	9.07	10.18	11.31	12.43		13.92	7 / 4			
reaction time	0.165	interval		1.08	1.08	1.07	1.08	1.08	1.09	1.11	1.13	1.12	1.49			3.23	3.25	3.36
wind	-1.5 m/s	velocity	5.30	8.46	8.46	8.54	8.46	8.46	8.39	8.23	8.09	8.16	9.41	7.90		8.49	8.44	8.16

Heat 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.49	3.56	4.62	5.72	6.86	7.93	9.05	10.21	11.33	12.44		13.98	2 / 6			
reaction time	0.153	interval		1.07	1.06	1.10	1.14	1.07	1.12	1.16	1.12	1.11	1.54			3.23	3.33	3.39
wind	-0.1 m/s	velocity	5.51	8.54	8.62	8.31	8.02	8.54	8.16	7.88	8.16	8.23	9.10	7.87		8.49	8.23	8.09

FINAL - 2021 Japanese National Championships (Osaka, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	27-Jun-21	time	2.57	3.60	4.64	5.68	6.71	7.74	8.78	9.83	10.88	11.95		13.37	3 / 3			
reaction time	0.139	interval		1.03	1.04	1.04	1.03	1.03	1.04	1.05	1.05	1.07	1.42			3.11	3.10	3.17
wind	1.2 m/s	velocity	5.34	8.87	8.79	8.79	8.87	8.87	8.79	8.70	8.70	8.54	9.87	8.23		8.82	8.85	8.65

FINAL - 2021 Fuse Sprint (Tottori, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	06-Jun-21	time	2.56	3.61	4.64	5.68	6.71	7.75	8.79	9.85	10.91	12.02		13.48	6 / 3			
reaction time	0.145	interval		1.05	1.03	1.04	1.03	1.04	1.04	1.06	1.06	1.11	1.46			3.12	3.11	3.23
wind	1.8 m/s	velocity	5.36	8.70	8.87	8.79	8.87	8.79	8.79	8.62	8.62	8.23	9.60	8.16		8.79	8.82	8.49

FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	09-May-21	time	2.58	3.64	4.65	5.67	6.70	7.74	8.77	9.84	10.92	12.01		13.45	5 / 3			
reaction time	0.163	interval		1.06	1.01	1.02	1.03	1.04	1.03	1.07	1.08	1.09	1.44			3.09	3.10	3.24
wind	-0.8 m/s	velocity	5.32	8.62	9.05	8.96	8.87	8.79	8.87	8.54	8.46	8.39	9.74	8.18		8.87	8.85	8.46

FINAL - 2020 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	24-Oct-20	time	2.53	3.58	4.61	5.65	6.68	7.73	8.79	9.84	10.93	12.01		13.49	7 / 1			
reaction time		interval		1.05	1.03	1.04	1.03	1.05	1.06	1.05	1.09	1.08	1.48			3.12	3.14	3.22
wind	0.6 m/s	velocity	5.42	8.70	8.87	8.79	8.87	8.70	8.62	8.70	8.39	8.46	9.47	8.15		8.79	8.73	8.52

FINAL - 2020 Japanese National Championships (Niigata, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	03-Oct-20	time	2.57	3.60	4.63	5.66	6.70	7.73	8.78	9.84	10.92	12.02		13.47	7 / 2			
reaction time	0.146	interval		1.03	1.03	1.03	1.04	1.03	1.05	1.06	1.08	1.10	1.45			3.09	3.12	3.24
wind	-0.1 m/s	velocity	5.34	8.87	8.87	8.87	8.79	8.87	8.70	8.62	8.46	8.31	9.67	8.17		8.87	8.79	8.46

FINAL - 2020 All Japan Corporate Championships (Kumagaya, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	20-Sep-20	time	2.58	3.64	4.67	5.69	6.73	7.78	8.83	9.88	10.95	12.05		13.51	5 / 1			
reaction time	0.153	interval		1.06	1.03	1.02	1.04	1.05	1.05	1.05	1.07	1.10	1.46			3.11	3.14	3.22
wind	0.1 m/s	velocity	5.32	8.62	8.87	8.96	8.79	8.70	8.70	8.70	8.54	8.31	9.60	8.14		8.82	8.73	8.52

FINAL - 2020 Athlete Night Games (Fukui, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	29-Aug-20	time	2.57	3.60	4.62	5.63	6.64	7.68	8.72	9.75	10.82	11.90		13.34	3 / 2			
reaction time		interval		1.03	1.02	1.01	1.01	1.04	1.04	1.03	1.07	1.08	1.44			3.06	3.09	3.18
wind	1.4 m/s	velocity	5.34	8.87	8.96	9.05	9.05	8.79	8.79	8.87	8.54	8.46	9.74	8.25		8.96	8.87	8.62

FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	23-Aug-20	time	2.58	3.65	4.70	5.75	6.81	7.87	8.95	10.06	11.16	12.27		13.74	5 / 3			
reaction time	0.135	interval		1.07	1.05	1.05	1.06	1.06	1.08	1.11	1.10	1.11	1.47			3.17	3.20	3.32
wind	-0.4 m/s	velocity	5.32	8.54	8.70	8.70	8.62	8.62	8.46	8.23	8.31	8.23	9.54	8.01		8.65	8.57	8.26

Semi-Final 3 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.54	3.58	4.58	5.60	6.61	7.67	8.86	9.99	11.07	12.16		13.58	6 / 6			
reaction time	0.144	interval		1.04	1.00	1.02	1.01	1.06	1.19	1.13	1.08	1.09	1.42			3.06	3.26	3.30
wind	0.6 m/s	velocity	5.40	8.79	9.14	8.96	9.05	8.62	7.68	8.09	8.46	8.39	9.87	8.10		8.96	8.41	8.31

Heat 4 - 2019 IAAF World Championships (Doha, QAT) *Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*

date	30-Sep-19	time	2.56	3.58	4.62	5.64	6.66	7.69	8.72	9.77	10.83	11.89		13.32	7 / 2			
reaction time	0.146	interval		1.02	1.04	1.02	1.02	1.03	1.03	1.05	1.06	1.06	1.43			3.08	3.08	3.17
wind	0.4 m/s	velocity	5.36	8.96	8.79	8.96	8.96	8.87	8.87	8.70	8.62	8.62	9.80	8.26		8.90	8.90	8.65

FINAL - 2019 Japanese World Championships Trials (Fujiyoshida, JPN) *Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*

date	01-Sep-19	time	2.53	3.61	4.63	5.68	6.70	7.73	8.75	9.80	10.83	11.88		13.29	5 / 1			
reaction time		interval		1.08	1.02	1.05	1.02	1.03	1.02	1.05	1.03	1.05	1.41			3.15	3.07	3.13
wind	1.4 m/s	velocity	5.42	8.46	8.96	8.70	8.96	8.87	8.96	8.70	8.87	8.70	9.94	8.28		8.70	8.93	8.76

FINAL - 2019 Athlete Night Games (Fukui, JPN) *(2019) - http://tfdata-store.com/2019/09/03/post-1615/*

date	17-Aug-19	time	2.54	3.57	4.59	5.62	6.63	7.65	8.68	9.72	10.77	11.82		13.25	4 / 1			
reaction time		interval		1.03	1.02	1.03	1.01	1.02	1.03	1.04	1.05	1.05	1.43	NR		3.08	3.06	3.14
wind	1.1 m/s	velocity	5.40	8.87	8.96	8.87	9.05	8.96	8.87	8.79	8.70	8.70	9.80	8.30		8.90	8.96	8.73

FINAL - 2019 Corporate Team vs College Team (Hiratsukai, JPN) *(2019) - http://tfdata-store.com/2019/09/03/post-1615/*

date	27-Jul-19	time	2.55	3.58	4.62	5.63	6.66	7.71	8.75	9.79	10.84	11.91		13.30	4 / 1			
reaction time	0.129	interval		1.03	1.04	1.01	1.03	1.05	1.04	1.04	1.05	1.07	1.39	NR		3.08	3.12	3.16

wind	1.9 m/s	velocity	5.38	8.87	8.79	9.05	8.87	8.70	8.79	8.79	8.70	8.54	10.09	8.27		8.90	8.79	8.68

FINAL - 2019 Japanese National Championships (Fukuoka, JPN) *Yamanaka (2019) - research on athlete performance and technique- 2019 data book*

date	30-Jun-19	time	2.54	3.59	4.61	5.63	6.66	7.69	8.73	9.78	10.84	11.92		13.36	7 / 1			
reaction time	0.146	interval		1.05	1.02	1.02	1.03	1.03	1.04	1.05	1.06	1.08	1.44	**=NR =PB**		3.09	3.10	3.19
wind	-0.6 m/s	velocity	5.40	8.70	8.96	8.96	8.87	8.87	8.79	8.70	8.62	8.46	9.74	8.23		8.87	8.85	8.60

FINAL - 2019 Fuse Sprint (Tottori, JPN) *Kijima (2019) - research on athlete performance and technique- 2019 data book*

date	02-Jun-19	time	2.54	3.58	4.62	5.66	6.68	7.70	8.75	9.80	10.87	11.92		13.36	7 / 1			
reaction time	0.128	interval		1.04	1.04	1.04	1.02	1.02	1.05	1.05	1.07	1.05	1.44	**=NR PB**		3.12	3.09	3.17
wind	1.9 m/s	velocity	5.40	8.79	8.79	8.79	8.96	8.96	8.70	8.70	8.54	8.70	9.74	8.23		8.79	8.87	8.65

FINAL - 2019 Seiko Golden Grand Prix (Osaka, JPN) *Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*

date	19-May-19	time	2.57	3.62	4.68	5.72	6.76	7.80	8.84	9.90	10.96	12.05		13.51	7 / 4			
reaction time	0.143	interval		1.05	1.06	1.04	1.04	1.04	1.04	1.06	1.06	1.09	1.46			3.15	3.12	3.21
wind	2.9 m/s	velocity	5.34	8.70	8.62	8.79	8.79	8.79	8.79	8.62	8.62	8.39	9.60	8.14		8.70	8.79	8.54

FINAL - 2019 Asian Athletics Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	24-Apr-19	time	2.57	3.59	4.65	5.69	6.75	7.82	8.89	9.98	11.08	12.16		13.59	4 / 4			
reaction time	0.145	interval		1.02	1.06	1.04	1.06	1.07	1.07	1.09	1.10	1.08	1.43			3.12	3.20	3.27
wind	1.7 m/s	velocity	5.34	8.96	8.62	8.79	8.62	8.54	8.54	8.39	8.31	8.46	9.80	8.09		8.79	8.57	8.39

FINAL - 2018 Asian Games (Jakarta, INA) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	28-Aug-18	time	2.56	3.60	4.63	5.66	6.70	7.74	8.78	9.85	10.93	12.03		13.48	4 / 3			
reaction time	0.147	interval		1.04	1.03	1.03	1.04	1.04	1.04	1.07	1.08	1.10	1.45			3.10	3.12	3.25
wind	0.0 m/s	velocity	5.36	8.79	8.87	8.87	8.79	8.79	8.79	8.54	8.46	8.31	9.67	8.16		8.85	8.79	8.44

FINAL - 2018 Japanese National Championships (Yamaguchi, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	24-Jun-18	time	2.56	3.60	4.63	5.66	6.69	7.72	8.77	9.84	10.90	12.01		13.45	7 / 2			
reaction time	0.145	interval		1.04	1.03	1.03	1.03	1.03	1.05	1.07	1.06	1.11	1.44			3.10	3.11	3.24
wind	0.7 m/s	velocity	5.36	8.79	8.87	8.87	8.87	8.87	8.70	8.54	8.62	8.23	9.74	8.18		8.85	8.82	8.46

FINAL - 2018 Fuse Sprint (Tottori, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	03-Jun-18	time	2.63	3.69	4.74	5.79	6.83	7.88	8.96	10.03	11.11	12.20		13.67	/ 2			
reaction time		interval		1.06	1.05	1.05	1.04	1.05	1.08	1.07	1.08	1.09	1.47			3.16	3.17	3.24
wind	0.5 m/s	velocity	5.22	8.62	8.70	8.70	8.79	8.70	8.46	8.54	8.46	8.39	9.54	8.05		8.68	8.65	8.46

FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	20-May-18	time	2.61	3.69	4.74	5.78	6.83	7.89	8.94	10.00	11.07	12.17		13.55	6 / 3			
reaction time	0.150	interval		1.08	1.05	1.04	1.05	1.06	1.05	1.06	1.07	1.10	1.38			3.17	3.16	3.23
wind	-0.4 m/s	velocity	5.26	8.46	8.70	8.79	8.70	8.62	8.70	8.62	8.54	8.31	10.16	8.12		8.65	8.68	8.49

FINAL - 2018 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	29-Apr-18	time	2.64	3.71	4.78	5.83	6.89	7.95	9.01	10.09	11.20	12.32		13.76	5 / 5			
reaction time		interval		1.07	1.07	1.05	1.06	1.06	1.06	1.08	1.11	1.12	1.44			3.19	3.18	3.31
wind	2.6 m/s	velocity	5.20	8.54	8.54	8.70	8.62	8.62	8.62	8.46	8.23	8.16	9.74	7.99		8.60	8.62	8.28

FINAL - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	25-Jun-17	time	2.57	3.60	4.65	5.68	6.70	7.75	8.80	9.87	10.94	12.03		13.45	4 / 1			
reaction time	0.138	interval		1.03	1.05	1.03	1.02	1.05	1.05	1.07	1.07	1.09	1.42			3.11	3.12	3.23
wind	-0.2 m/s	velocity	5.34	8.87	8.70	8.87	8.96	8.70	8.70	8.54	8.54	8.39	9.87	8.18		8.82	8.79	8.49

Semi-Final 1 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.58	3.62	4.65	5.68	6.71	7.75	8.80	9.85	10.89	12.00		13.44	4 / 1			
reaction time	0.150	interval		1.04	1.03	1.03	1.03	1.04	1.05	1.05	1.04	1.11	1.44	**PB**		3.10	3.12	3.20
wind	0.6 m/s	velocity	5.32	8.79	8.87	8.87	8.87	8.79	8.70	8.70	8.79	8.23	9.74	8.18		8.85	8.79	8.57

Heat 3 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.59	3.64	4.69	5.74	6.78	7.83	8.87	9.93	11.00	12.08		13.50	7 / 1			
reaction time	0.159	interval		1.05	1.05	1.05	1.04	1.05	1.04	1.06	1.07	1.08	1.42	**PB**		3.15	3.13	3.21
wind	0.5 m/s	velocity	5.30	8.70	8.70	8.70	8.79	8.70	8.79	8.62	8.54	8.46	9.87	8.15		8.70	8.76	8.54

FINAL - 2017 Fuse Sprint (Tottori, JPN) *(2017) - tfdata-store.com/2017/06/04/post-848/*

date	04-Jun-17	time	2.62	3.67	4.72	5.77	6.82	7.87	8.93	10.00	11.08	12.18		13.62	5 / 2			
reaction time		interval		1.05	1.05	1.05	1.05	1.05	1.06	1.07	1.08	1.10	1.44			3.15	3.16	3.25
wind	3.2 m/s	velocity	5.24	8.70	8.70	8.70	8.70	8.70	8.62	8.54	8.46	8.31	9.74	8.08		8.70	8.68	8.44

Heat 5 - 2017 Fuse Sprint (Tottori, JPN) *(2017) - tfdata-store.com/2017/06/04/post-848/*

date	04-Jun-17	time	2.57	3.61	4.68	5.73	6.77	7.82	8.89	9.96	11.04	12.16		13.63	5 / 3			
reaction time		interval		1.04	1.07	1.05	1.04	1.05	1.07	1.07	1.08	1.12	1.47			3.16	3.16	3.27
wind	1.5 m/s	velocity	5.34	8.79	8.54	8.70	8.79	8.70	8.54	8.54	8.46	8.16	9.54	8.07		8.68	8.68	8.39

FINAL - 2017 East Japan Business Athletics Championships (Yuma, JPN) *(2017) - tfdata-store.com/2017/05/20/post-579/*

date	20-May-17	time	2.58	3.62	4.64	5.68	6.72	7.77	8.83	9.90	10.98	12.08		13.53	4 / 1			
reaction time		interval		1.04	1.02	1.04	1.04	1.05	1.06	1.07	1.08	1.10	1.45	PB		3.10	3.15	3.25
wind	1.1 m/s	velocity	5.32	8.79	8.96	8.79	8.79	8.70	8.62	8.54	8.46	8.31	9.67	8.13		8.85	8.70	8.44

FINAL - 2017 Mikio Oda Memorial (Hiroshima, JPN) *(2017) - tfdata-store.com/2017/05/01/458/*

date	29-Apr-17	time	2.62	3.68	4.74	5.80	6.85	7.92	8.97	10.05	11.13	12.21		13.67	6 / 3			
reaction time		interval		1.06	1.06	1.06	1.05	1.07	1.05	1.08	1.08	1.08	1.46			3.18	3.17	3.24
wind	1.5 m/s	velocity	5.24	8.62	8.62	8.62	8.70	8.54	8.70	8.46	8.46	8.46	9.60	8.05		8.62	8.65	8.46

FINAL - 2016 Japanese University Championships (Kumagaya, JPN) *(2016.09.06) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Sep-16	time	2.67	3.74	4.84	5.92	7.01	8.09	9.19	10.31	11.43	12.56		14.02	7 / 1			
reaction time	0.159	interval		1.07	1.10	1.08	1.09	1.08	1.10	1.12	1.12	1.13	1.46			3.25	3.27	3.37
wind	-1.9 m/s	velocity	5.14	8.54	8.31	8.46	8.39	8.46	8.31	8.16	8.16	8.09	9.60	7.85		8.44	8.39	8.14

Semi-Final 3 - 2016 Japanese University Championships (Kumagaya, JPN) *(2016.09.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Sep-16	time	2.71	3.83	4.94	6.06	7.17	8.27	9.39	10.51	11.64	12.80		14.32	9 / 5			
reaction time	0.151	interval		1.12	1.11	1.12	1.11	1.10	1.12	1.12	1.13	1.16	1.52			3.35	3.33	3.41
wind	-0.1 m/s	velocity	5.06	8.16	8.23	8.16	8.23	8.31	8.16	8.16	8.09	7.88	9.22	7.68		8.19	8.23	8.04

Division 1 FINAL - 2016 Kanto Collegiate Championships (Yokohama, JPN) *(2016.05.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	20-May-16	time	2.62	3.72	4.78	5.83	6.90	7.97	9.03	10.12	11.20	12.30		13.75	6 / 1			
reaction time	0.160	interval		1.10	1.06	1.05	1.07	1.07	1.06	1.09	1.08	1.10	1.45	PB		3.21	3.20	3.27
wind	0.3 m/s	velocity	5.24	8.31	8.62	8.70	8.54	8.54	8.62	8.39	8.46	8.31	9.67	8.00		8.54	8.57	8.39

FINAL - 2016 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	29-Apr-16	time	2.61	3.68	4.76	5.82	6.91	7.98	9.06	10.16	11.26	12.39		13.89	/ 3			
reaction time		interval		1.07	1.08	1.06	1.09	1.07	1.08	1.10	1.10	1.13	1.50			3.21	3.24	3.33
wind	-0.5 m/s	velocity	5.26	8.54	8.46	8.62	8.39	8.54	8.46	8.31	8.31	8.09	9.35	7.92		8.54	8.46	8.23

FINAL - 2015 Japanese National Championships (Niigata, JPN) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	28-Jun-15	time	2.58	3.64	4.69	5.76	6.84	7.91	8.98	10.08	11.18	12.30		13.81	4 / 1			
reaction time	0.135	interval		1.06	1.05	1.07	1.08	1.07	1.07	1.10	1.10	1.12	1.51			3.18	3.22	3.32
wind	-1.4 m/s	velocity	5.32	8.62	8.70	8.54	8.46	8.54	8.54	8.31	8.31	8.16	9.28	7.97		8.62	8.52	8.26

Takeuchi, Tomoki (JPN) (2004)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2022 Japanese National High School Championships (Naruto, JPN) *Kishima (2022) - national high school championships biomechanics data collection*

date	07-Aug-22	time	2.70	3.86	5.02	6.16	7.34	8.52	9.70	10.92	12.17	13.45		14.96	2 / 6			
reaction time	0.157	interval		1.16	1.16	1.14	1.18	1.18	1.18	1.22	1.25	1.28	1.51			3.46	3.54	3.75
wind	-3.8 m/s	velocity	5.08	7.88	7.88	8.02	7.75	7.75	7.75	7.49	7.31	7.14	9.28	7.35		7.92	7.75	7.31

Takeyoshi, Daiki (JPN) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 Kinami Michitaka Memorial (Osaka, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	06-May-18	time	2.65	3.72	4.79	5.85	6.90	7.95	9.03	10.12	11.22	12.34		13.83	5 / 3			
reaction time		interval		1.07	1.07	1.06	1.05	1.05	1.08	1.09	1.10	1.12	1.49	PB		3.20	3.18	3.31
wind	1.6 m/s	velocity	5.18	8.54	8.54	8.62	8.70	8.70	8.46	8.39	8.31	8.16	9.41	7.95		8.57	8.62	8.28

Semi-Final 3 - 2016 Japanese University Championships (Kumagaya, JPN) *(2016.09.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Sep-16	time	2.66	3.74	4.82	5.90	7.00	8.09	9.22	10.35	11.49	12.65		14.15	6 / 2			
reaction time	0.134	interval		1.08	1.08	1.08	1.10	1.09	1.13	1.13	1.14	1.16	1.50			3.24	3.32	3.43
wind	-0.1 m/s	velocity	5.16	8.46	8.46	8.46	8.31	8.39	8.09	8.09	8.02	7.88	9.35	7.77		8.46	8.26	7.99

Tamura, Eita (JPN) (2006)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN) *Takashima (2024) - national high school sports festival - biomechanics data*

date	01-Aug-24	time	2.75	3.86	4.96	6.06	7.16	8.27	9.41	10.53	11.68	12.85		14.30	2 / 8			
reaction time	0.213	interval		1.11	1.10	1.10	1.10	1.11	1.14	1.12	1.15	1.17	1.45			3.31	3.35	3.44
wind	-0.7 m/s	velocity	4.99	8.23	8.31	8.31	8.31	8.23	8.02	8.16	7.95	7.81	9.67	7.69		8.28	8.19	7.97

Tan Junyu (CHN) (2004)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 National Grand Prix (Chengdu, CHN) *CAA Hurdle Development (2021)*

date	02-Apr-21	time	2.76	3.92	5.14	6.36	7.56	8.74	10.06	11.36	12.68	13.98		15.64	7 / 7			
reaction time	0.194	interval		1.16	1.22	1.22	1.20	1.18	1.32	1.30	1.32	1.30	1.66			3.60	3.70	3.92
wind	-0.1 m/s	velocity	4.97	7.88	7.49	7.49	7.62	7.75	6.92	7.03	6.92	7.03	8.45	7.03		7.62	7.41	6.99

Heat 2 - 2021 National Grand Prix (Chengdu, CHN) *CAA Hurdle Development (2021)*

date	02-Apr-21	time	2.80	3.96	5.16	6.32	7.52	8.72	9.92	11.10	12.32	13.54		15.14	4 / 4			
reaction time	0.218	interval		1.16	1.20	1.16	1.20	1.20	1.20	1.18	1.22	1.22	1.60			3.52	3.60	3.62
wind	0.3 m/s	velocity	4.90	7.88	7.62	7.88	7.62	7.62	7.62	7.75	7.49	7.49	8.76	7.76		7.79	7.62	7.57

Tanaka, Hideaki (JPN) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2020 All Japan Corporate Championships (Kumagaya, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	20-Sep-20	time	2.68	3.78	4.86	5.95	7.04	8.13	9.22	10.33	11.47	12.61		14.09	3 / 4			
reaction time	0.131	interval		1.10	1.08	1.09	1.09	1.09	1.09	1.11	1.14	1.14	1.48			3.27	3.27	3.39
wind	1.7 m/s	velocity	5.12	8.31	8.46	8.39	8.39	8.39	8.39	8.23	8.02	8.02	9.47	7.81		8.39	8.39	8.09

Race 2 - 2020 World Athletics Trials (Fuji, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	06-Sep-20	time	2.71	3.83	4.92	6.00	7.10	8.19	9.28	10.40	11.51	12.65		14.13	6 / 3			
reaction time		interval	7 steps	1.12	1.09	1.08	1.10	1.09	1.09	1.12	1.11	1.14	1.48			3.29	3.28	3.37
wind	1.3 m/s	velocity	5.06	8.16	8.39	8.46	8.31	8.39	8.39	8.16	8.23	8.02	9.47	7.78		8.33	8.36	8.14

Tanaka, Hiromasa (JPN) (1981)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2009 Japanese National Championships (Hiroshima, JPN) *Hisashi (2010) - the run performance analysis in the decathlon sprint events*

date	26-Jun-09	time	2.53	3.71	4.89	6.08	7.27	8.48	9.70	10.92	12.17	13.44		15.23	1 / 4			
reaction time		interval		1.18	1.18	1.19	1.19	1.21	1.22	1.22	1.25	1.27	1.79			3.55	3.62	3.74
wind	1.6 m/s	velocity	5.42	7.75	7.75	7.68	7.68	7.55	7.49	7.49	7.31	7.20	7.83	7.22		7.72	7.57	7.33

Tanaka, Shinya (JPN) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 Japanese National Championships (Yamaguchi, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	24-Jun-18	time	2.60	3.66	4.70	5.73	6.83	7.90	8.98	10.06	11.15	12.23		13.64	5 / 3			
reaction time	0.145	interval		1.06	1.04	1.03	1.10	1.07	1.08	1.08	1.09	1.08	1.41	=PB		3.13	3.25	3.25
wind	0.7 m/s	velocity	5.28	8.62	8.79	8.87	8.31	8.54	8.46	8.46	8.39	8.46	9.94	8.06		8.76	8.44	8.44

FINAL - 2018 Fuse Sprint (Tottori, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	03-Jun-18	time	2.65	3.75	4.83	5.92	7.00	8.11	9.25	10.38	11.53	12.70		14.25	/ 7			
reaction time		interval		1.10	1.08	1.09	1.08	1.11	1.14	1.13	1.15	1.17	1.55			3.27	3.33	3.45
wind	0.5 m/s	velocity	5.18	8.31	8.46	8.39	8.46	8.23	8.02	8.09	7.95	7.81	9.05	7.72		8.39	8.23	7.95

FINAL - 2018 Kinami Michitaka Memorial (Osaka, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	06-May-18	time	2.63	3.78	4.87	5.95	7.03	8.10	9.16	10.28	11.38	12.50		13.96	6 / 5			
reaction time		interval		1.15	1.09	1.08	1.08	1.07	1.06	1.12	1.10	1.12	1.46			3.32	3.21	3.34
wind	1.6 m/s	velocity	5.22	7.95	8.39	8.46	8.46	8.54	8.62	8.16	8.31	8.16	9.60	7.88		8.26	8.54	8.21

FINAL - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	25-Jun-17	time	2.61	3.69	4.75	5.80	6.86	7.93	9.00	10.11	11.22	12.37		13.92	9 / 8			
reaction time	0.141	interval	7 steps	1.08	1.06	1.05	1.06	1.07	1.07	1.11	1.11	1.15	1.55			3.19	3.20	3.37
wind	-0.2 m/s	velocity	5.26	8.46	8.62	8.70	8.62	8.54	8.54	8.23	8.23	7.95	9.05	7.90		8.60	8.57	8.14

Heat 4 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.62	3.69	4.74	5.78	6.84	7.88	8.95	10.02	11.11	12.19		13.64	6 / 1			
reaction time	0.148	interval	7 steps	1.07	1.05	1.04	1.06	1.04	1.07	1.07	1.09	1.08	1.45	PB		3.16	3.17	3.24
wind	0.0 m/s	velocity	5.24	8.54	8.70	8.79	8.62	8.79	8.54	8.54	8.39	8.46	9.67	8.06		8.68	8.65	8.46

FINAL - 2017 Fuse Sprint (Tottori, JPN) *(2017) - tfdata-store.com/2017/06/04/post-848/*

date	04-Jun-17	time	2.61	3.68	4.73	5.79	6.85	7.92	8.99	10.07	11.16	12.25		13.68	9 / 3			
reaction time		interval	7 steps	1.07	1.05	1.06	1.06	1.07	1.07	1.08	1.09	1.09	1.43			3.18	3.20	3.26
wind	3.2 m/s	velocity	5.26	8.54	8.70	8.62	8.62	8.54	8.54	8.46	8.39	8.39	9.80	8.04		8.62	8.57	8.41

Heat 5 - 2017 Fuse Sprint (Tottori, JPN) *(2017) - tfdata-store.com/2017/06/04/post-848/*

date	04-Jun-17	time	2.63	3.70	4.79	5.85	6.93	8.02	9.10	10.18	11.31	12.42		13.89	1 / 7			
reaction time		interval	7 steps	1.07	1.09	1.06	1.08	1.09	1.08	1.08	1.13	1.11	1.47			3.22	3.25	3.32
wind	1.5 m/s	velocity	5.22	8.54	8.39	8.62	8.46	8.39	8.46	8.46	8.09	8.23	9.54	7.92		8.52	8.44	8.26

FINAL - 2017 East Japan Business Athletics Championships (Yuma, JPN) *(2017) - tfdata-store.com/2017/05/20/post-579/*

date	20-May-17	time	2.58	3.65	4.70	5.78	6.84	7.93	9.02	10.10	11.20	12.32		13.76	6 / 3			
reaction time		interval	7 steps	1.07	1.05	1.08	1.06	1.09	1.09	1.08	1.10	1.12	1.44	PB		3.20	3.24	3.30
wind	1.1 m/s	velocity	5.32	8.54	8.70	8.46	8.62	8.39	8.39	8.46	8.31	8.16	9.74	7.99		8.57	8.46	8.31

FINAL - 2017 Mito Invitational (Mito, JPN) *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.66	3.74	4.83	5.91	7.00	8.09	9.18	10.28	11.35	12.50		13.94	7 / 2			
reaction time		interval	7 steps	1.08	1.09	1.08	1.09	1.09	1.09	1.10	1.07	1.15	1.44			3.25	3.27	3.32
wind	-2.3 m/s	velocity	5.16	8.46	8.39	8.46	8.39	8.39	8.39	8.31	8.54	7.95	9.74	7.89		8.44	8.39	8.26

Heat 3 - 2017 Mito Invitational (Mito, JPN) *(2017) - tfdata-store.com/2017/05/06/post-423/*

date	05-May-17	time	2.63	3.70	4.79	5.87	6.95	8.02	9.10	10.19	11.27	12.41		13.88	6 / 2			
reaction time		interval	7 steps	1.07	1.09	1.08	1.08	1.07	1.08	1.09	1.08	1.14	1.47	PB		3.24	3.23	3.31
wind	-2.5 m/s	velocity	5.22	8.54	8.39	8.46	8.46	8.54	8.46	8.39	8.46	8.02	9.54	7.93		8.46	8.49	8.28

B FINAL - 2017 Mikio Oda Memorial (Hiroshima, JPN) *(2017) - tfdata-store.com/2017/05/01/458/*

date	29-Apr-17	time	2.62	3.74	4.82	5.89	6.98	8.09	9.21	10.34	11.49	12.64		14.13	7 / 4			
reaction time		interval	7 steps	1.12	1.08	1.07	1.09	1.11	1.12	1.13	1.15	1.15	1.49			3.27	3.32	3.43
wind	-1.5 m/s	velocity	5.24	8.16	8.46	8.54	8.39	8.23	8.16	8.09	7.95	7.95	9.41	7.78		8.39	8.26	7.99

Semi-Final 3 - 2016 Japanese University Championships (Kumagaya, JPN) *(2016.09.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Sep-16	time	2.68	3.77	4.86	5.96	7.07	8.17	9.29	10.44	11.58	12.75		14.22	7 / 3			
reaction time	0.141	interval	7 steps	1.09	1.09	1.10	1.11	1.10	1.12	1.15	1.14	1.17	1.47			3.28	3.33	3.46
wind	-0.1 m/s	velocity	5.12	8.39	8.39	8.31	8.23	8.31	8.16	7.95	8.02	7.81	9.54	7.74		8.36	8.23	7.92

Tanaka, Yuga (JPN) (2005)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2024 Japanese National U20 Championsips (Niigata, JPN) (99.1cm)																
date 30-Jun-24	time	2.65	3.73	4.83	5.90	6.92	7.98	9.05	10.13	11.22	12.30		13.72	8 / 5			
reaction time 0.143	interval	7 steps	1.08	1.10	1.07	1.02	1.06	1.07	1.08	1.09	1.08	1.42			3.25	3.15	3.25
wind 0.1 m/s	velocity	5.18	8.46	8.31	8.54	8.96	8.62	8.54	8.46	8.39	8.46	9.87	8.02		8.44	8.70	8.44

Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season

Tanigawa, Satoru (JPN) (1972)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2004 Olympic Games (Athens, GRE)																
date 24-Aug-04	time	2.63	3.69	4.75	5.81	6.87	7.94	9.02	10.10	11.18	12.26		13.72	/ 1			
reaction time 0.128	interval		1.06	1.06	1.06	1.06	1.07	1.08	1.08	1.08	1.08	1.46			3.18	3.21	3.24
wind 1.5 m/s	velocity	5.22	8.62	8.62	8.62	8.62	8.54	8.46	8.46	8.46	8.46	9.60	8.02		8.62	8.54	8.46

(2016.05.12) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en

Tanonaka, Tasuku (JPN) (1978)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2009 Nambu Chuhei Memorial (Sapporo, JPN)																
date 09-Jul-09	time	2.63	3.69	4.75	5.81	6.87	7.94	9.02	10.10	11.18	12.26		13.72	/ 1			
reaction time	interval		1.06	1.06	1.06	1.06	1.07	1.08	1.08	1.08	1.08	1.46			3.18	3.21	3.24
wind 1.2 m/s	velocity	5.22	8.62	8.62	8.62	8.62	8.54	8.46	8.46	8.46	8.46	9.60	8.02		8.62	8.54	8.46

Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles

FINAL - 2009 Japanese National Championships (Hiroshima, JPN)

date 27-Jun-09	time	2.59	3.67	4.72	5.76	6.80	7.87	8.91	9.97	11.05	12.13		13.57	3 / 1			
reaction time	interval		1.08	1.05	1.04	1.04	1.07	1.04	1.06	1.08	1.08	1.44			3.17	3.15	3.22
wind 1.6 m/s	velocity	5.30	8.46	8.70	8.79	8.79	8.54	8.79	8.62	8.46	8.46	9.74	8.11		8.65	8.70	8.52

Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles

FINAL - 2009 Osaka Grand Prix (Osaka, JPN)

date 09-May-09	time	2.60	3.69	4.73	5.79	6.84	7.89	8.96	10.02	11.10	12.19		13.67	/ 4			
reaction time	interval		1.09	1.04	1.06	1.05	1.05	1.07	1.06	1.08	1.09	1.48			3.19	3.17	3.23
wind 0.2 m/s	velocity	5.28	8.39	8.79	8.62	8.70	8.70	8.54	8.62	8.46	8.39	9.47	8.05		8.60	8.65	8.49

Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles

FINAL - 2009 Mikio Oda Memorial (Hiroshima, JPN)

date 29-Apr-09	time	2.60	3.68	4.74	5.80	6.85	7.90	8.96	10.04	11.12	12.20		13.65	/ 2			
reaction time	interval		1.08	1.06	1.06	1.05	1.05	1.06	1.08	1.08	1.08	1.45			3.20	3.16	3.24
wind 1.9 m/s	velocity	5.28	8.46	8.62	8.62	8.70	8.70	8.62	8.46	8.46	8.46	9.67	8.06		8.57	8.68	8.46

Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles

FINAL - 2008 Seiko Super Grand Prix (Kawasaki, JPN)

date 23-Sep-08	time	2.44	3.52	4.59	5.66	6.73	7.80	8.89	9.99	11.10	12.20		13.88	/ 4			
reaction time	interval		1.08	1.07	1.07	1.07	1.07	1.09	1.10	1.11	1.10	1.68			3.22	3.23	3.31
wind -0.7 m/s	velocity	5.62	8.46	8.54	8.54	8.54	8.54	8.39	8.31	8.23	8.31	8.35	7.93		8.52	8.49	8.28

Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles

FINAL - 2008 Nambu Chuhei Memorial (Harodate, JPN)

date 06-Jul-08	time	2.44	3.52	4.57	5.62	6.67	7.74	8.81	9.88	10.95	12.04		13.64	/ 1			
reaction time	interval		1.08	1.05	1.05	1.05	1.07	1.07	1.07	1.07	1.09	1.60			3.18	3.19	3.23
wind 0.5 m/s	velocity	5.62	8.46	8.70	8.70	8.70	8.54	8.54	8.54	8.54	8.39	8.76	8.06		8.62	8.60	8.49

Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles

Heat 2 - 2008 Nambu Chuhei Memorial (Harodate, JPN)

date 06-Jul-08	time	2.45	3.52	4.58	5.62	6.69	7.78	8.83	9.91	11.00	12.10		13.72	/ 2			
reaction time	interval		1.07	1.06	1.04	1.07	1.09	1.05	1.08	1.09	1.10	1.62			3.17	3.21	3.27
wind 2.0 m/s	velocity	5.60	8.54	8.62	8.79	8.54	8.39	8.70	8.46	8.39	8.31	8.65	8.02		8.65	8.54	8.39

Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles

FINAL - 2008 Japanese National Championships (Kawasaki, JPN)

date 28-Jun-08	time	2.43	3.51	4.57	5.63	6.68	7.75	8.81	9.90	10.98	12.09		13.73	/ 2			
reaction time	interval		1.08	1.06	1.06	1.05	1.07	1.06	1.09	1.08	1.11	1.64			3.20	3.18	3.28
wind -0.2 m/s	velocity	5.65	8.46	8.62	8.62	8.70	8.54	8.62	8.39	8.46	8.23	8.55	8.01		8.57	8.62	8.36

Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles

FINAL - 2008 Mikio Oda Memorial (Hiroshima, JPN)

date 29-Apr-08	time	2.40	3.47	4.52	5.57	6.63	7.69	8.75	9.84	10.93	12.02		13.62	/ 2			
reaction time	interval		1.07	1.05	1.05	1.06	1.06	1.06	1.09	1.09	1.09	1.60			3.17	3.18	3.27
wind 1.6 m/s	velocity	5.72	8.54	8.70	8.70	8.62	8.62	8.62	8.39	8.39	8.39	8.76	8.08		8.65	8.62	8.39

Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles

Heat 2 - 2008 Mikio Oda Memorial (Hiroshima, JPN)

date 29-Apr-08	time	2.43	3.51	4.56	5.61	6.65	7.71	8.77	9.86	10.95	12.04		13.67	/ 1			
reaction time	interval		1.08	1.05	1.05	1.04	1.06	1.06	1.09	1.09	1.09	1.63			3.18	3.16	3.27
wind 1.3 m/s	velocity	5.65	8.46	8.70	8.70	8.79	8.62	8.62	8.39	8.39	8.39	8.60	8.05		8.62	8.68	8.39

Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles

Heat 4 - 2007 IAAF World Championships (Osaka, JPN)

date 29-Aug-07	time	2.64	3.69	4.76	5.81	6.84	7.89	8.94	10.03	11.11	12.19		13.61	5 / 3			
reaction time 0.140	interval		1.05	1.07	1.05	1.03	1.05	1.05	1.09	1.08	1.08	1.42			3.17	3.13	3.25
wind 0.6 m/s	velocity	5.20	8.70	8.54	8.70	8.87	8.70	8.70	8.39	8.46	8.46	9.87	8.08		8.65	8.76	8.44

Shibayama (2008) - analysis of racing patterns in the men's 110m & women's 100m sprint hurdles

FINAL - 2007 Osaka Grand Prix (Osaka, JPN)

date 05-May-07	time	2.40	3.48	4.52	5.56	6.62	7.68	8.74	9.82	10.90	11.99		13.59	/ 3			
reaction time	interval		1.08	1.04	1.04	1.06	1.06	1.06	1.08	1.08	1.09	1.60			3.16	3.18	3.25
wind 0.8 m/s	velocity	5.72	8.46	8.79	8.79	8.62	8.62	8.62	8.46	8.46	8.39	8.76	8.09		8.68	8.62	8.44

Akirabun (2008) - 2007 speed analysis of the men's & women's 100m, 100m hurdles, & 110m hurdles

FINAL - 2007 Mikio Oda Memorial (Hiroshima, JPN) *Akirabun (2008) - 2007 speed analysis of the men's & women's 100m, 100m hurdles, & 110m hurdles*

date	29-Apr-07	time	2.42	3.49	4.54	5.59	6.65	7.71	8.78	9.87	10.98	12.10		13.73	/ 1			
reaction time		interval		1.07	1.05	1.05	1.06	1.06	1.07	1.09	1.11	1.12	1.63			3.17	3.19	3.32
wind	0.0 m/s	velocity	5.67	8.54	8.70	8.70	8.62	8.62	8.54	8.39	8.23	8.16	8.60	8.01		8.65	8.60	8.26

Heat 2 - 2007 Mikio Oda Memorial (Hiroshima, JPN) *Akirabun (2008) - 2007 speed analysis of the men's & women's 100m, 100m hurdles, & 110m hurdles*

date	29-Apr-07	time	2.40	3.49	4.55	5.60	6.65	7.70	8.76	9.83	10.90	11.99		13.60	/ 1			
reaction time		interval		1.09	1.06	1.05	1.05	1.05	1.06	1.07	1.07	1.09	1.61			3.20	3.16	3.23
wind	2.6 m/s	velocity	5.72	8.39	8.62	8.70	8.70	8.70	8.62	8.54	8.54	8.39	8.71	8.09		8.57	8.68	8.49

FINAL - 2006 Osaka Grand Prix (Osaka, JPN) *Akirabun (2007) - speed analysis of the 100m and hurdles with a laser system*

date	06-May-06	time	2.45	3.53	4.60	5.65	6.70	7.77	8.85	9.93	11.03	12.13		13.72	/ 4			
reaction time		interval		1.08	1.07	1.05	1.05	1.07	1.08	1.08	1.10	1.10	1.59			3.20	3.20	3.28
wind	1.2 m/s	velocity	5.60	8.46	8.54	8.70	8.70	8.54	8.46	8.46	8.31	8.31	8.82	8.02		8.57	8.57	8.36

Tateyama, Masama (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN) *Takashima (2023) - national high school sports festival - biomechanics data*

date	06-Aug-23	time	2.73	3.84	4.96	6.09	7.24	8.34	9.48	10.62	11.78	12.96		14.46	6 / 8			
reaction time	0.171	interval		1.11	1.12	1.13	1.15	1.10	1.14	1.14	1.16	1.18	1.50			3.36	3.39	3.48
wind	0.8 m/s	velocity	5.03	8.23	8.16	8.09	7.95	8.31	8.02	8.02	7.88	7.75	9.35	7.61		8.16	8.09	7.88

Taue, Shun (JPN) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2023 Japanese Multi-Event National Championsips (Akita, JPN) *Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season*

date	11-Jun-23	time	2.85	4.00	5.21	6.39	7.55	8.74	9.93	11.13	12.34	13.62		15.27	6 / 6			
reaction time		interval		1.15	1.21	1.18	1.16	1.19	1.19	1.20	1.21	1.28	1.65			3.54	3.54	3.69
wind	-0.1 m/s	velocity	4.81	7.95	7.55	7.75	7.88	7.68	7.68	7.62	7.55	7.14	8.50	7.20		7.75	7.75	7.43

Decathlon - Heat 2 - 2023 Michitaka Kinami Memorial (Osaka, JPN) *Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season*

date	08-May-23	time	2.72	3.86	4.96	6.07	7.17	8.28	9.38	10.50	11.62	12.78		14.26	8 / 1			
reaction time	0.161	interval		1.14	1.10	1.11	1.10	1.11	1.10	1.12	1.12	1.16	1.48			3.35	3.31	3.40
wind	-0.2 m/s	velocity	5.04	8.02	8.31	8.23	8.31	8.23	8.31	8.16	8.16	7.88	9.47	7.71		8.19	8.28	8.06

Decathlon - FINAL - 2022 Japanese Multi-Event National Championsips (Akita, JPN) *Takefu (2023) - performance analyisis of decathlon athletes in the 2022 season*

date	05-Jun-22	time	2.72	3.87	4.99	6.09	7.23	8.35	9.49	10.65	11.81	12.99		14.48	7 / 1			
reaction time		interval		1.15	1.12	1.10	1.14	1.12	1.14	1.16	1.16	1.18	1.49			3.37	3.40	3.50
wind	-2.3 m/s	velocity	5.04	7.95	8.16	8.31	8.02	8.16	8.02	7.88	7.88	7.75	9.41	7.60		8.14	8.06	7.83

Decathlon - Heat 1 - 2022 Michitaka Kinami Memorial (Osaka, JPN) *Takefu (2023) - performance analyisis of decathlon athletes in the 2022 season*

date	01-May-22	time	2.75	3.90	5.03	6.16	7.28	8.40	9.53	10.69	11.84	13.02		14.54	4 / 1			
reaction time	0.139	interval		1.15	1.13	1.13	1.12	1.12	1.13	1.16	1.15	1.18	1.52			3.41	3.37	3.49
wind	0.0 m/s	velocity	4.99	7.95	8.09	8.09	8.16	8.16	8.09	7.88	7.95	7.75	9.22	7.57		8.04	8.14	7.86

Decathlon - Heat 3 - 2020 Japanese Multi-Event National Championships (Nagano, JPN) *Matsubayashi (2020) - research athlete performance technique- 2020 databook*

date	27-Sep-20	time	2.77	3.88	4.97	6.06	7.16	8.24	9.34	10.44	11.56	12.68		14.15	7 / 1			
reaction time		interval		1.11	1.09	1.09	1.10	1.08	1.10	1.10	1.12	1.12	1.47			3.29	3.28	3.34
wind	0.7 m/s	velocity	4.95	8.23	8.39	8.39	8.31	8.46	8.31	8.31	8.16	8.16	9.54	7.77		8.33	8.36	8.21

FINAL - 2016 Kanto Student Championships (Sagamihara, JPN) *(2016.09.17) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	17-Sep-16	time	2.71	3.81	4.90	5.97	7.04	8.12	9.22	10.31	11.41	12.54		13.95	7 / 3			
reaction time		interval		1.10	1.09	1.07	1.07	1.08	1.10	1.09	1.10	1.13	1.41			3.26	3.25	3.32
wind	3.2 m/s	velocity	5.06	8.31	8.39	8.54	8.54	8.46	8.31	8.39	8.31	8.09	9.94	7.89		8.41	8.44	8.26

Semi-Final 1 - 2016 Japanese University Championships (Kumagaya, JPN) *(2016.09.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	04-Sep-16	time	2.73	3.85	4.94	6.02	7.12	8.22	9.32	10.41	11.54	12.69		14.16	2 / 4			
reaction time	0.144	interval		1.12	1.09	1.08	1.10	1.10	1.10	1.09	1.13	1.15	1.47			3.29	3.30	3.37
wind	0.6 m/s	velocity	5.03	8.16	8.39	8.46	8.31	8.31	8.31	8.39	8.09	7.95	9.54	7.77		8.33	8.31	8.14

FINAL - 2015 Japanese National High School Championships (Wakayama, JPN) (99cm) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	02-Aug-15	time	2.72	3.83	4.94	6.01	7.11	8.21	9.30	10.40	11.52	12.65		14.10	6 / 2			
reaction time		interval		1.11	1.11	1.07	1.10	1.10	1.09	1.10	1.12	1.13	1.45	=PB		3.29	3.29	3.35
wind	1.4 m/s	velocity	5.04	8.23	8.23	8.54	8.31	8.31	8.39	8.31	8.16	8.09	9.67	7.80		8.33	8.33	8.19

Tawada, Asahi (JPN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

U20 FINAL - 2018 National Sports Festival (Fukui, JPN) (99cm) *Joshi (2018) - research on athlete performance and technique- 2018 data book*

date	07-Oct-18	time	2.59	3.66	4.69	5.73	6.75	7.78	8.80	9.83	10.86	11.91		13.31	3 / 1			
reaction time	0.122	interval		1.07	1.03	1.04	1.02	1.03	1.02	1.03	1.03	1.05	1.40			3.14	3.07	3.11
wind	1.5 m/s	velocity	5.30	8.54	8.87	8.79	8.96	8.87	8.96	8.87	8.87	8.70	10.01	8.26		8.73	8.93	8.82

FINAL - 2018 Japanese National High School Championships (Nagoya, JPN) (99cm) *Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection*

date	06-Aug-18	time	2.65	3.76	4.88	6.00	7.09	8.19	9.30	10.45	11.59	12.75		14.31	6 / 5			
reaction time		interval		1.11	1.12	1.12	1.09	1.10	1.11	1.15	1.14	1.16	1.56			3.35	3.30	3.45
wind	1.6 m/s	velocity	5.18	8.23	8.16	8.16	8.39	8.31	8.23	7.95	8.02	7.88	8.99	7.69		8.19	8.31	7.95

Tawiah, Casimir (USA) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 2 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude)														*CAA Hurdle Development (2020)*		
date 15-Feb-20	time	2.68	3.80	4.92	6.00	7.15						8.09	8 / 8			
reaction time 0.162	interval	7 Steps	1.12	1.12	1.08	1.15					0.94			3.32		
	velocity	5.12	8.16	8.16	8.46	7.95					10.34	7.42		8.26		
Heat 3 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude)														*CAA Hurdle Development (2020)*		
date 14-Feb-20	time	2.70	3.80	4.90	5.98	7.07						8.03	7 / 6			
reaction time 0.168	interval	7 Steps	1.10	1.10	1.08	1.09					0.96			3.28		
	velocity	5.08	8.31	8.31	8.46	8.39					10.13	7.47		8.36		

Tay, Marvin (SWE) (1990)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL 2 - 2017 Windsprint (Sundsvall, SWE)														*(2017) - www.windsprint/Splittider/*		
date 30-Jul-17	time	2.69	3.82	4.92								dnf	/ --			
reaction time	interval		1.13	1.10												
wind 1.0 m/s	velocity	5.10	8.09	8.31												
FINAL - 2017 Windsprint (Sundsvall, SWE)														*(2017) - www.windsprint/Splittider/*		
date 30-Jul-17	time	2.68	3.79	4.89	6.01	7.12	8.25	9.41	10.56	11.72	12.93	14.59	/ 4			
reaction time	interval		1.11	1.10	1.12	1.11	1.13	1.16	1.15	1.16	1.21	1.66		3.33	3.40	3.52
wind 1.0 m/s	velocity	5.12	8.23	8.31	8.16	8.23	8.09	7.88	7.95	7.88	7.55	8.45	7.54	8.23	8.06	7.79
FINAL - 2010 Swedish National Championships (Falun, SWE)														*Blomkvist (2010) - www.sub13.se*		
date 22-Aug-10	time	2.71	3.82	4.95	6.07	7.20	8.37	9.53	10.70	11.85	13.02	14.77	/ 5			
reaction time	interval		1.11	1.13	1.12	1.13	1.17	1.16	1.17	1.15	1.17	1.75		3.36	3.46	3.49
wind -0.7 m/s	velocity	5.06	8.23	8.09	8.16	8.09	7.81	7.88	7.81	7.95	7.81	8.01	7.45	8.16	7.92	7.86

Taylor, Logan (USA) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 3 - 2007 USATF National Championships (Indianapolis, IN)														*USATF Men's Hurdle Development (2007)*		
date 23-Jun-07	time	2.64	3.75	4.84	5.94	7.06	8.12	9.22	10.36	11.46	12.63	14.12	7 / 6			
reaction time	interval		1.11	1.09	1.10	1.12	1.06	1.10	1.14	1.10	1.17	1.49		3.30	3.28	3.41
wind -3.2 m/s	velocity	5.20	8.23	8.39	8.31	8.16	8.62	8.31	8.02	8.31	7.81	9.41	7.79	8.31	8.36	8.04

Teape, Hugh (GBR) (1963)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1992 Olympic Games (Barcelona, ESP)														*Knight (1992) - 1992 Olympic report: the hurdling events*		
date 03-Aug-92	time	2.64	3.78	4.84	5.97	6.99	8.03	9.10	10.19	11.34	12.57	14.00	1 / 8			
reaction time 0.156	interval		1.14	1.06	1.13	1.02	1.04	1.07	1.09	1.15	1.23	1.43		3.33	3.13	3.47
wind 0.8 m/s	velocity	5.20	8.02	8.62	8.09	8.96	8.79	8.54	8.39	7.95	7.43	9.80	7.86	8.23	8.76	7.90

Teramoto, Soya (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2023 Shimane High School Championships (Izumo, JPN)														*Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*		
date 28-May-23	time	2.85	4.13	5.42	6.72	8.02	9.33	10.65	12.00	13.42	14.82	16.72	4 / 6			
reaction time	interval		1.28	1.29	1.30	1.30	1.31	1.32	1.35	1.42	1.40	1.90		3.87	3.93	4.17
wind -0.1 m/s	velocity	4.81	7.14	7.09	7.03	7.03	6.98	6.92	6.77	6.44	6.53	7.38	6.58	7.09	6.98	6.58
FINAL - 2022 Shimane High School Championships (Izumo, JPN)														*Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*		
date 28-May-22	time	2.88	4.12	5.47	6.82	8.10	9.40	10.87	12.30	13.85	15.37	17.23	7 / 6			
reaction time	interval		1.24	1.35	1.35	1.28	1.30	1.47	1.43	1.55	1.52	1.86		3.94	4.05	4.50
wind 0.6 m/s	velocity	4.76	7.37	6.77	6.77	7.14	7.03	6.22	6.39	5.90	6.01	7.54	6.38	6.96	6.77	6.09

Tetsuguchi, Ren (JPN) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2017 Mito Invitational (Mito, JPN)														*(2017) - tfdata-store.com/2017/05/06/post-423/*		
date 05-May-17	time	2.79	3.94	5.08	6.21	7.36	8.51	9.65	10.82	12.01	13.21	14.73	8 / 5			
reaction time	interval	*7 steps*	1.15	1.14	1.13	1.15	1.15	1.14	1.17	1.19	1.20	1.52		3.42	3.44	3.56
wind 0.3 m/s	velocity	4.92	7.95	8.02	8.09	7.95	7.95	8.02	7.81	7.68	7.62	9.22	7.47	8.02	7.97	7.70

Tharp, Jakobe (USA) (2005)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis)														*Henson (2024) - Athlete First: 2024 year end hurdle report*		
date 24-Jun-24	time	2.56	3.63	4.68	5.70	6.70	7.72	8.75	9.81	10.86	11.92	13.37	3 / 4			
reaction time	interval		1.07	1.05	1.02	1.00	1.02	1.03	1.06	1.05	1.06	1.45		3.14	3.05	3.17
wind 0.8 m/s	velocity	5.36	8.54	8.70	8.96	9.14	8.96	8.87	8.62	8.70	8.62	9.67	8.23	8.73	8.99	8.65
FINAL - 2024 NCAA Championships (Eugene, OR) (TV Analysis)														*Henson (2024) - Athlete First: 2024 year end hurdle report*		
date 07-Jun-24	time	2.57	3.60	4.67	5.67	6.70	7.71	8.74	9.76	10.78	11.81	13.20	5 / 2			
reaction time	interval		1.03	1.07	1.00	1.03	1.01	1.03	1.02	1.02	1.03	1.39		3.10	3.07	3.07
wind 0.1 m/s	velocity	5.34	8.87	8.54	9.14	8.87	9.05	8.87	8.96	8.96	8.87	10.09	8.33	8.85	8.93	8.93

Thomas, Chris (USA) (1981)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2007 Windsprint (Sundsvall, SWE)														*(2007) - www.ssg.se/en/Windsprint/Split-times/*		
date 24-Jul-07	time		3.73			6.92			10.19				13.95	/ 2		
reaction time	interval					3.19			3.27			3.76				
wind 1.3 m/s	velocity		6.13			8.60			8.39			8.59	7.89			

Heat 2 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.82	3.90	4.99	6.06	7.12	8.19	9.27	10.34	11.43	12.55		13.90	8 / 6			
reaction time		interval		1.08	1.09	1.07	1.06	1.07	1.08	1.07	1.09	1.12	1.35			3.24	3.21	3.28
wind	-1.9 m/s	velocity	4.87	8.46	8.39	8.54	8.62	8.54	8.46	8.54	8.39	8.16	10.39	7.91		8.46	8.54	8.36

Thomas, Damion (JAM) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2023 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2023) - diamond league race analysis*

date	16-Jul-23	time	2.47	3.55	4.59	5.62	6.65	7.69	8.73	9.78	10.85	11.93		13.53	9 / 8			
reaction time	0.147	interval	7 steps	1.08	1.04	1.03	1.03	1.04	1.04	1.05	1.07	1.08	1.60			3.15	3.11	3.20
wind	0.3 m/s	velocity	5.55	8.46	8.79	8.87	8.87	8.79	8.79	8.70	8.54	8.46	8.76	8.13		8.70	8.82	8.57

FINAL - 2023 USATF New York City Grand Prix (Randalls Island, NY) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	24-Jun-23	time	2.57	3.60	4.65	5.68	6.71	7.73	8.77	9.83	10.92	12.02		13.53	9 / 8			
reaction time	0.163	interval	7 steps	1.03	1.05	1.03	1.03	1.02	1.04	1.06	1.09	1.10	1.51			3.11	3.09	3.25
wind	1.6 m/s	velocity	5.34	8.87	8.70	8.87	8.87	8.96	8.79	8.62	8.39	8.31	9.28	8.13		8.82	8.87	8.44

FINAL - 2023 USATF Bermuda Grand Prix (Devonshire, BER) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-May-23	time	2.63	3.67	4.70	5.70	6.72	7.73	8.75	9.82	10.87	11.93		13.38	8 / 5			
reaction time	0.166	interval	7 steps	1.04	1.03	1.00	1.02	1.01	1.02	1.07	1.05	1.06	1.45			3.07	3.05	3.18
wind	4.0 m/s	velocity	5.22	8.79	8.87	9.14	8.96	9.05	8.96	8.54	8.70	8.62	9.67	8.22		8.93	8.99	8.62

FINAL - 2022 New York Grand Prix (New York, NY) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	12-Jun-22	time	2.52	3.56	4.57	5.58	6.61	7.63	8.70	9.75	10.82	11.90		13.40	7 / 6			
reaction time	0.149	interval	7 steps	1.04	1.01	1.01	1.03	1.02	1.07	1.05	1.07	1.08	1.50			3.06	3.12	3.20
wind	1.6 m/s	velocity	5.44	8.79	9.05	9.05	8.87	8.96	8.54	8.70	8.54	8.46	9.35	8.21		8.96	8.79	8.57

Semi-Final 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.62	3.68	4.70	5.71	6.76	7.79	8.83	9.85	10.88	11.95		13.39	8 / 3			
reaction time	0.135	interval	7 steps	1.06	1.02	1.01	1.05	1.03	1.04	1.02	1.03	1.07	1.44			3.09	3.12	3.12
wind	0.1 m/s	velocity	5.24	8.62	8.96	9.05	8.70	8.87	8.79	8.96	8.87	8.54	9.74	8.22		8.87	8.79	8.79

Heat 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.70	3.78	4.81	5.81	6.85	7.89	8.90	9.97	11.04	12.12		13.54	8 / 3			
reaction time	0.142	interval	7 steps	1.08	1.03	1.00	1.04	1.04	1.01	1.07	1.07	1.08	1.42			3.11	3.09	
wind	-0.1 m/s	velocity	5.08	8.46	8.87	9.14	8.79	8.79	9.05	8.54	8.54	8.46	9.87	8.12		8.82	8.87	

FINAL - 2021 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2021) - Athlete First: 2021 year end hurdle report*

date	11-Jun-21	time	2.60	3.67	4.70	5.75	6.77	7.80	8.90	10.00	11.07	12.23		13.76	6 / 8			
reaction time	0.200	interval	7 steps	1.07	1.03	1.05	1.02	1.03	1.10	1.10	1.07	1.16	1.53			3.15	3.15	3.33
wind	-0.6 m/s	velocity	5.28	8.54	8.87	8.70	8.96	8.87	8.31	8.31	8.54	7.88	9.16	7.99		8.70	8.70	8.23

FINAL - 2018 IAAF World Junior Championships (Tampere, FIN) (99cm) *Koyama (2018) - research on athlete performance and technique- 2018 data book*

date	12-Jul-18	time	2.58	3.63	4.66	5.69	6.70	7.76	8.79	9.86	10.92	11.98		13.16	6 / 1			
reaction time	0.186	interval		1.05	1.03	1.03	1.01	1.06	1.03	1.07	1.06	1.06	1.18			3.11	3.10	3.19
wind	0.3 m/s	velocity	5.32	8.70	8.87	8.87	9.05	8.62	8.87	8.54	8.62	8.62	11.88	8.36		8.82	8.85	8.60

FINAL - 2018 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	08-Jun-18	time	2.60	3.67	4.67	5.70	6.71	7.74	8.78	9.82	10.89	11.95		13.45	3 / 3			
reaction time		interval		1.07	1.00	1.03	1.01	1.03	1.04	1.04	1.07	1.06	1.50			3.10	3.08	3.17
wind	-1.1 m/s	velocity	5.28	8.54	9.14	8.87	9.05	8.87	8.79	8.79	8.54	8.62	9.35	8.18		8.85	8.90	8.65

Thomas, Dwight (JAM) (1980)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2012 Golden Grand Prix (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	19-May-12	time	2.58	3.68	4.78	5.86	6.90	7.94	8.98	10.04	11.12	12.20		13.72	3 / 9			
reaction time	0.174	interval	7 steps	1.10	1.10	1.08	1.04	1.04	1.04	1.06	1.08	1.08	1.52			3.28	3.12	3.22
wind	0.4 m/s	velocity	5.32	8.31	8.31	8.46	8.79	8.79	8.79	8.62	8.46	8.46	9.22	8.02		8.36	8.79	8.52

FINAL - 2011 IAAF World Championships (Daegu, KOR) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	29-Aug-11	time	2.57	3.68										dnf	2 / --			
reaction time	0.153	interval	7 steps	1.11														
wind	-1.1 m/s	velocity	5.34	8.23														

FINAL - 2010 Colorful Daegu Meeting (Daegu, KOR) *Hong (2018) - performance of men's 110m hurdles using rhythmic units*

date	19-May-10	time	2.65	3.73	4.73	5.73	6.75	7.78	8.83	9.86	10.93	11.99		13.40	/ 3			
reaction time	0.161	interval		1.08	1.00	1.00	1.02	1.03	1.05	1.03	1.07	1.06	1.41			3.08	3.10	3.16
wind	-0.2 m/s	velocity	5.18	8.46	9.14	9.14	8.96	8.87	8.70	8.87	8.54	8.62	9.94	8.21		8.90	8.85	8.68

FINAL - 2010 GE Galan (Stockholm, SWE) *Blomkvist (2010) - www.sub13.se*

date	10-Feb-10	time	2.42	3.48	4.51	5.55	6.58							7.66	/ 3			
reaction time		interval		1.06	1.03	1.04	1.03						1.08			3.13		
		velocity	5.67	8.62	8.87	8.79	8.87						9.00	7.83		8.76		

FINAL - 2009 Seiko Super Grand Prix (Kawasaki, JPN) *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*

date	23-Sep-09	time	2.60	3.66	4.70	5.73	6.74	7.78	8.83	9.85	10.95	11.98		13.37	/ 1			
reaction time		interval		1.06	1.04	1.03	1.01	1.04	1.05	1.02	1.10	1.03	1.39			3.13	3.10	3.15
wind	-1.3 m/s	velocity	5.28	8.62	8.79	8.87	9.05	8.79	8.70	8.96	8.31	8.87	10.09	8.23		8.76	8.85	8.70

FINAL - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.66	3.73	4.77	5.80	6.84	7.88	8.90	9.95	11.00	12.14		13.56	2 / 7			
reaction time	0.145	interval		1.07	1.04	1.03	1.04	1.04	1.02	1.05	1.05	1.14	1.42			3.14	3.10	3.24
wind	0.1 m/s	velocity	5.16	8.54	8.79	8.87	8.79	8.79	8.96	8.70	8.70	8.02	9.87	8.11		8.73	8.85	8.46

Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.65	3.73	4.77	5.80	6.81	7.84	8.86	9.89	10.91	11.97		13.37	5 / 3			
reaction time	0.151	interval		1.08	1.04	1.03	1.01	1.03	1.02	1.03	1.02	1.06	1.40			3.15	3.06	3.11
wind	0.6 m/s	velocity	5.18	8.46	8.79	8.87	9.05	8.87	8.96	8.87	8.96	8.62	10.01	8.23		8.70	8.96	8.82

Heat 1 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.64	3.70	4.78	5.82	6.86	7.89	8.94	10.00	11.08	12.16		13.57	7 / 2			
reaction time	0.138	interval		1.06	1.08	1.04	1.04	1.03	1.05	1.06	1.08	1.08	1.41			3.18	3.12	3.22
wind	-0.4 m/s	velocity	5.20	8.62	8.46	8.79	8.79	8.87	8.70	8.62	8.46	8.46	9.94	8.11		8.62	8.79	8.52

Thomas, Mikel (TTO) (1987)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2015 Pan American Games (Toronto, CAN) *(2016.01.29) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	24-Jul-15	time	2.57	3.62	4.63	5.64	6.65	7.66	8.69	9.71	10.75	11.83		13.17	8 / 2			
reaction time	0.160	interval	*7 steps*	1.05	1.01	1.01	1.01	1.01	1.03	1.02	1.04	1.08	1.34	**NR**		3.07	3.05	3.14
wind	0.8 m/s	velocity	5.34	8.70	9.05	9.05	9.05	9.05	8.87	8.96	8.79	8.46	10.46	8.35		8.93	8.99	8.73

Thorne, Craig (CAN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Repechage 1 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	06-Aug-24	time	2.47	3.57	4.63	5.66	6.70	7.75	8.80	9.87	10.94	12.04		13.62	4 / 5			
reaction time	0.167	interval		1.10	1.06	1.03	1.04	1.05	1.05	1.07	1.07	1.10	1.58			3.19	3.14	3.24
wind	0.2 m/s	velocity	5.55	8.31	8.62	8.87	8.79	8.70	8.70	8.54	8.54	8.31	8.87	8.08		8.60	8.73	8.46

Heat 3 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.45	3.54	4.60	5.63	6.67	7.70	8.76	9.80	10.86	11.96		13.60	5 / 7			
reaction time	0.157	interval		1.09	1.06	1.03	1.04	1.03	1.06	1.04	1.06	1.10	1.64			3.18	3.13	3.20
wind	1.1 m/s	velocity	5.60	8.39	8.62	8.87	8.79	8.87	8.62	8.79	8.62	8.31	8.55	8.09		8.62	8.76	8.57

FINAL - 2023 Weltklasse (Zürich, SUI) *Omega Timing (2023) - diamond league race analysis*

date	31-Aug-23	time	2.47	3.55	4.60	5.64	6.68	7.74	8.79	9.87	10.96	12.08		13.70	2 / 7			
reaction time	0.148	interval		1.08	1.05	1.04	1.04	1.06	1.05	1.08	1.09	1.12	1.62			3.17	3.15	3.29
wind	-0.1 m/s	velocity	5.55	8.46	8.70	8.79	8.79	8.62	8.70	8.46	8.39	8.16	8.65	8.03		8.65	8.70	8.33

Thornton, Kirk (USA) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2010 Folksam GP (Sollentuna, SWE) *Blomkvist (2010) - www.sub13.se*

date	01-Jul-10	time	2.51	3.57	4.64	5.69	6.73	7.79	8.85	9.93	11.01	12.12		13.77	3 / 4			
reaction time		interval	*7 steps*	1.06	1.07	1.05	1.04	1.06	1.06	1.08	1.08	1.11	1.65			3.18	3.16	3.27
wind	0.4 m/s	velocity	5.47	8.62	8.54	8.70	8.79	8.62	8.62	8.46	8.46	8.23	8.50	7.99		8.62	8.68	8.39

Tian Yang (CHN) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 3 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	27-Jun-21	time	2.85	4.02	5.19	6.35	7.52	8.69	9.88	11.04	12.24	13.50		15.15	8 / 4			
reaction time	0.273	interval		1.17	1.17	1.16	1.17	1.17	1.19	1.16	1.20	1.26	1.65			3.50	3.53	3.62
wind	-0.2 m/s	velocity	4.81	7.81	7.81	7.88	7.81	7.81	7.68	7.88	7.62	7.25	8.50	7.26		7.83	7.77	7.57

Decathlon - Heat 2 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	11-Jul-19	time	2.85	4.00	5.15	6.29	7.44	8.61	9.77	10.96	12.14	13.40		15.02	2 / 3			
reaction time	0.223	interval		1.15	1.15	1.14	1.15	1.17	1.16	1.19	1.18	1.26	1.62	**PB**		3.44	3.48	3.63
wind	-0.1 m/s	velocity	4.81	7.95	7.95	8.02	7.95	7.81	7.88	7.68	7.75	7.25	8.65	7.32		7.97	7.88	7.55

Tilga, Karel (EST) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 1 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	03-Aug-24	time	2.57	3.74	4.86	5.99	7.10	8.24	9.44	10.59	11.80	12.98		14.66	2 / 4			
reaction time	0.163	interval	7 steps	1.17	1.12	1.13	1.11	1.14	1.20	1.15	1.21	1.18	1.68			3.42	3.45	3.54
wind	0.2 m/s	velocity	5.34	7.81	8.16	8.09	8.23	8.02	7.62	7.95	7.55	7.75	8.35	7.50		8.02	7.95	7.75

Decathlon - Heat 1 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2024) - Athlete First: 2023 year end hurdle report*

date	26-Aug-23	time	2.73	3.88	5.04	6.21	7.32	8.50	9.65	10.83	12.01	13.21		14.68	8 / 3			
reaction time	0.166	interval	7 steps	1.15	1.16	1.17	1.11	1.18	1.15	1.18	1.18	1.20	1.47			3.48	3.44	3.56
wind	0.2 m/s	velocity	5.03	7.95	7.88	7.81	8.23	7.75	7.95	7.75	7.75	7.62	9.54	7.49		7.88	7.97	7.70

Decathlon - Heat 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	05-Aug-21	time	2.91	4.18	5.40	6.72	8.00	9.22	10.47	11.72	13.00	14.35		16.10	7 / 6			
reaction time	0.187	interval	7 steps	1.27	1.22	1.32	1.28	1.22	1.25	1.25	1.28	1.35	1.75			3.81	3.75	3.88
wind	0.1 m/s	velocity	4.71	7.20	7.49	6.92	7.14	7.49	7.31	7.31	7.14	6.77	8.01	6.83		7.20	7.31	7.07

Tinch, Cordell (USA) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)													*Omega Timing (2025) - diamond league race analysis*			
date 03-May-25	time	2.39	3.45	4.43	5.40	6.37	7.33	8.31	9.30	10.31	11.35		12.87	5 / 1			
reaction time 0.162	interval	7 steps	1.06	0.98	0.97	0.97	0.96	0.98	0.99	1.01	1.04	1.52	**PB**		3.01	2.91	3.04
wind 0.6 m/s	velocity	5.74	8.62	9.33	9.42	9.42	9.52	9.33	9.23	9.05	8.79	9.22	8.55		9.11	9.42	9.02
FINAL - 2025 Xiamen Diamond League (Xiamen, CHN)													*Omega Timing (2025) - diamond league race analysis*			
date 26-Apr-25	time	2.41	3.45	4.45	5.44	6.43	7.44	8.45	9.47	10.51	11.56		13.06	2 / 1			
reaction time 0.158	interval	7 steps	1.04	1.00	0.99	0.99	1.01	1.01	1.02	1.04	1.05	1.50			3.03	3.01	3.11
wind 0.3 m/s	velocity	5.69	8.79	9.14	9.23	9.23	9.05	9.05	8.96	8.79	8.70	9.35	8.42		9.05	9.11	8.82
FINAL - 2024 Memorial van damme (Brussels, BEL)													*Omega Timing (2024) - diamond league race analysis*			
date 13-Sep-24	time	2.40	3.47	4.48	5.47	6.47	7.47	8.49	9.54	10.61	11.69		13.27	7 /4			
reaction time 0.147	interval	7 steps	1.07	1.01	0.99	1.00	1.00	1.02	1.05	1.07	1.08	1.58			3.07	3.02	3.20
wind 0.4 m/s	velocity	5.72	8.54	9.05	9.23	9.14	9.14	8.96	8.70	8.54	8.46	8.87	8.29		8.93	9.08	8.57
FINAL - 2024 Weltklasse (Zürich, SUI)													*Omega Timing (2024) - diamond league race analysis*			
date 05-Sep-24	time	2.42	3.48	4.51	5.52	6.52	7.54	8.56	9.60	10.64	11.71		13.31	1 / 7			
reaction time 0.170	interval	7 steps	1.06	1.03	1.01	1.00	1.02	1.02	1.04	1.04	1.07	1.60			3.10	3.04	3.15
wind -0.3 m/s	velocity	5.67	8.62	8.87	9.05	9.14	8.96	8.96	8.79	8.79	8.54	8.76	8.26		8.85	9.02	8.70
FINAL - 2024 Golden Gala • Pietro Mennea (Roma, ITA)													*Omega Timing (2024) - diamond league race analysis*			
date 30-Aug-24	time	2.42	3.47	4.50	5.51	6.53	7.54	8.57	9.61	10.66	11.74		13.34	3 / 7			
reaction time 0.171	interval	7 steps	1.05	1.03	1.01	1.02	1.01	1.03	1.04	1.05	1.08	1.60			3.09	3.06	3.17
wind 0.4 m/s	velocity	5.67	8.70	8.87	9.05	8.96	9.05	8.87	8.79	8.70	8.46	8.76	8.25		8.87	8.96	8.65
FINAL - 2024 Kamila Skolimowska Memorial (Silesia, POL)													*Omega Timing (2024) - diamond league race analysis*			
date 25-Aug-24	time	2.41	3.45	4.49	5.49	6.50	7.50	8.52	9.58	10.63	11.70		13.29	4 / 4			
reaction time 0.173	interval	7 steps	1.04	1.04	1.00	1.01	1.00	1.02	1.06	1.05	1.07	1.59			3.08	3.03	3.18
wind 1.1 m/s	velocity	5.69	8.79	8.79	9.14	9.05	9.14	8.96	8.62	8.70	8.54	8.82	8.28		8.90	9.05	8.62
FINAL - 2024 Athletissima (Lausanne, SUI)													*Omega Timing (2024) - diamond league race analysis*			
date 22-Aug-24	time	2.38	3.43	4.44	5.44	6.45	7.47	8.52	9.57	10.64	11.71		13.34	1 / 6			
reaction time 0.153	interval	7 steps	1.05	1.01	1.00	1.01	1.02	1.05	1.05	1.07	1.07	1.63			3.06	3.08	3.19
wind -0.1 m/s	velocity	5.76	8.70	9.05	9.14	9.05	8.96	8.70	8.70	8.54	8.54	8.60	8.25		8.96	8.90	8.60
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)													*Omega Timing (2024) - diamond league race analysis*			
date 12-Jul-24	time	2.40	3.44	4.44	5.44	6.45	7.45	8.46	9.48	10.52	11.57		13.10	7 / 3			
reaction time 0.161	interval	7 steps	1.04	1.00	1.00	1.01	1.00	1.01	1.02	1.04	1.05	1.53			3.04	3.02	3.11
wind -0.7 m/s	velocity	5.72	8.79	9.14	9.14	9.05	9.14	9.05	8.96	8.79	8.70	9.16	8.40		9.02	9.08	8.82
Heat 1 - 2024 Meeting de Paris (Paris, FRA)													*Omega Timing (2024) - diamond league race analysis*			
date 07-Jul-24	time	2.46	3.53	4.54	5.54	6.54	7.56	8.58	9.62	10.68	11.75		13.33	5 / 5			
reaction time 0.174	interval	7 steps	1.07	1.01	1.00	1.00	1.02	1.02	1.04	1.06	1.07	1.58			3.08	3.04	3.17
wind 0.1 m/s	velocity	5.58	8.54	9.05	9.14	9.14	8.96	8.96	8.79	8.62	8.54	8.87	8.25		8.90	9.02	8.65
FINAL - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis)													*Henson (2024) - Athlete First: 2024 year end hurdle report*			
date 28-Jun-24	time	2.50	3.54	4.52	5.50	6.50	7.50	8.50	9.52	10.56	11.65		13.03	3 / 4			
reaction time	interval	7 steps	1.04	0.98	0.98	1.00	1.00	1.00	1.02	1.04	1.09	1.38			3.00	3.00	3.15
wind 2.0 m/s	velocity	5.49	8.79	9.33	9.33	9.14	9.14	9.14	8.96	8.79	8.39	10.16	8.44		9.14	9.14	8.70
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis)													*Henson (2024) - Athlete First: 2024 year end hurdle report*			
date 27-Jun-24	time	2.50	3.54	4.56	5.57	6.57	7.57	8.57	9.58	10.64	11.71		13.19	6 / 2			
reaction time	interval	7 steps	1.04	1.02	1.01	1.00	1.00	1.00	1.01	1.06	1.07	1.48			3.07	3.00	3.14
wind 0.3 m/s	velocity	5.49	8.79	8.96	9.05	9.14	9.14	9.14	9.05	8.62	8.54	9.47	8.34		8.93	9.14	8.73
Heat 2 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis)													*Henson (2024) - Athlete First: 2024 year end hurdle report*			
date 24-Jun-24	time	2.54	3.56	4.57	5.58	6.60	7.60	8.62	9.63	10.67	11.75		13.33	6 / 2			
reaction time	interval	7 steps	1.02	1.01	1.01	1.02	1.00	1.02	1.01	1.04	1.08	1.58			3.04	3.04	3.13
wind -0.3 m/s	velocity	5.40	8.96	9.05	9.05	8.96	9.14	8.96	9.05	8.79	8.46	8.87	8.25		9.02	9.02	8.76
FINAL - 2024 Prefontaine Classic (Eugene, OR)													*Omega Timing (2024) - diamond league race analysis*			
date 25-May-24	time	2.43	3.51	4.56	5.58	6.59	7.61	8.64	9.67	10.71	11.79		13.38	3 / 9			
reaction time 0.164	interval	7 steps	1.08	1.05	1.02	1.01	1.02	1.03	1.03	1.04	1.08	1.59			3.15	3.06	3.15
wind -0.1 m/s	velocity	5.65	8.46	8.70	8.96	9.05	8.96	8.87	8.87	8.79	8.46	8.82	8.22		8.70	8.96	8.70
FINAL - 2024 Yangtze River Delta Athletics Diamond Gala (Suzhou, CHN) (TV Analysis)													*Omega Timing (2024) - diamond league race analysis*			
date 27-Apr-24	time	2.54	3.60	4.64	5.64	6.66	7.67	8.67	9.71	10.77	11.84		13.26	6 / 4			
reaction time 0.151	interval	7 steps	1.06	1.04	1.00	1.02	1.01	1.00	1.04	1.06	1.07	1.42			3.10	3.03	3.17
wind 0.8 m/s	velocity	5.40	8.62	8.79	9.14	8.96	9.05	9.14	8.79	8.62	8.54	9.87	8.30		8.85	9.05	8.65
FINAL - 2024 Xiamen Diamond League (Xiamen, CHN)													*Omega Timing (2024) - diamond league race analysis*			

date	20-Apr-24	time	2.44	3.48	4.49	5.50	6.50	7.50	8.51	9.53	10.57	11.63		13.16	3 / 2			
reaction time	0.176	interval	7 steps	1.04	1.01	1.01	1.00	1.00	1.01	1.02	1.04	1.06	1.53			3.06	3.01	3.12
wind	-0.3 m/s	velocity	5.62	8.79	9.05	9.05	9.14	9.14	9.05	8.96	8.79	8.62	9.16	8.36		8.96	9.11	8.79

FINAL - 2024 USATF National Indoor Championships (Albuquerque, NM) (Altitude) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	16-Feb-24	time	2.56	3.60	4.64	5.67	6.67							7.58	3 / 6			
reaction time	0.132	interval	7 steps	1.04	1.04	1.03	1.00						0.91			3.11		
		velocity	5.36	8.79	8.79	8.87	9.14						10.68	7.92		8.82		

FINAL - 2024 New Balance Indoor Grand Prix (Boston, MA) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	04-Feb-24	time	2.52	3.54	4.58	5.60	6.62							7.55	6 / 4			
reaction time	0.174	interval	7 steps	1.02	1.04	1.02	1.02						0.93			3.08		
		velocity	5.44	8.96	8.79	8.96	8.96						10.45	7.95		8.90		

FINAL - 2023 Prefontaine Classic (Eugene, OR) *Omega Timing (2023) - diamond league race analysis*

date	17-Sep-23	time	2.36	3.41	4.41	5.41	6.41	7.42	8.43	9.47	10.52	11.60		13.21	2 / 7			
reaction time	0.148	interval	7 steps	1.05	1.00	1.00	1.00	1.01	1.01	1.04	1.05	1.08	1.61			3.05	3.02	3.17
wind	0.9 m/s	velocity	5.81	8.70	9.14	9.14	9.14	9.05	9.05	8.79	8.70	8.46	8.71	8.33		8.99	9.08	8.65

FINAL - 2023 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2023) - diamond league race analysis*

date	02-Sep-23	time	2.41	3.43	4.45	5.47	6.48	7.51	8.54	9.59	10.66	11.74		13.38	8 / 7			
reaction time	0.170	interval	7 steps	1.02	1.02	1.02	1.01	1.03	1.03	1.05	1.07	1.08	1.64			3.06	3.07	3.20
wind	0.0 m/s	velocity	5.69	8.96	8.96	8.96	9.05	8.87	8.87	8.70	8.54	8.46	8.55	8.22		8.96	8.93	8.57

Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.50	3.58	4.60	5.60	6.62	7.65	8.67	9.70	10.76	11.83		13.31	3 / 4			
reaction time	0.168	interval	7 steps	1.08	1.02	1.00	1.02	1.03	1.02	1.03	1.06	1.07	1.48			3.10	3.07	3.16
wind	-0.2 m/s	velocity	5.49	8.46	8.96	9.14	8.96	8.87	8.96	8.87	8.62	8.54	9.47	8.26		8.85	8.93	8.68

Heat 1 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.50	3.55	4.56	5.58	6.60	7.63	8.72	9.78	10.88	11.96		13.49	9 / 4			
reaction time	0.170	interval	7 steps	1.05	1.01	1.02	1.02	1.03	1.09	1.06	1.10	1.08	1.53			3.08	3.14	3.24
wind	-0.3 m/s	velocity	5.49	8.70	9.05	8.96	8.96	8.87	8.39	8.62	8.31	8.46	9.16	8.15		8.90	8.73	8.46

FINAL - 2023 USATF National Championshps (Eugene, OR) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	09-Jul-23	time	2.47	3.49	4.50	5.50	6.48	7.48	8.50	9.52	10.55	11.62		13.08	3 / 2			
reaction time		interval	7 steps	1.02	1.01	1.00	0.98	1.00	1.02	1.02	1.03	1.07	1.46			3.03	3.00	3.12
wind	-0.2 m/s	velocity	5.55	8.96	9.05	9.14	9.33	9.14	8.96	8.96	8.87	8.54	9.60	8.41		9.05	9.14	8.79

FINAL - 2023 NCAA Division II National Championships (Pueblo, CO) (Altitude) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	27-May-23	time	2.50	3.50	4.50	5.48	6.46	7.44	8.41	9.43	10.43	11.46		12.87	5 / 1			
reaction time		interval	7 steps	1.00	1.00	0.98	0.98	0.98	0.97	1.02	1.00	1.03	1.41			2.98	2.93	3.05
wind	6.0 m/s	velocity	5.49	9.14	9.14	9.33	9.33	9.33	9.42	8.96	9.14	8.87	9.94	8.55		9.20	9.36	8.99

FINAL - 2023 Trackwired Arkansas Grand Prix (Fayetteville, AR) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	23-May-23	time	2.46	3.50	4.50	5.50	6.48	7.46	8.43	9.47	10.47	11.49		12.96	5 / 1			
reaction time		interval	7 steps	1.04	1.00	1.00	0.98	0.98	0.97	1.04	1.00	1.02	1.47	**PB**		3.04	2.93	3.06
wind	1.3 m/s	velocity	5.58	8.79	9.14	9.14	9.33	9.33	9.42	8.79	9.14	8.96	9.54	8.49		9.02	9.36	8.96

FINAL - 2023 MIAA Championships (Jefferson City, MO) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	07-May-23	time	2.40	3.40	4.40	5.37	6.34	7.31	8.34	9.34	10.36	11.40		12.97	4 / 1			
reaction time		interval	7 steps	1.00	1.00	0.97	0.97	0.97	1.03	1.00	1.02	1.04	1.57			2.97	2.97	3.06
wind	3.0 m/s	velocity	5.72	9.14	9.14	9.42	9.42	9.42	8.87	9.14	8.96	8.79	8.93	8.48		9.23	9.23	8.96

Tochioka, Takei (JPN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2019 Japanese National High School Championships (Okinawa, JPN) (99cm) *Kota (2019) - 72nd high school champs: JAF scientific committee - biomechanics data*

date	08-Aug-19	time	2.76	3.96	5.13	6.29	7.47	8.67	9.93	11.18	12.45	13.78		15.49	1 / 7			
reaction time		interval		1.20	1.17	1.16	1.18	1.20	1.26	1.25	1.27	1.33	1.71			3.53	3.64	3.85
wind	-3.0 m/s	velocity	4.97	7.62	7.81	7.88	7.75	7.62	7.25	7.31	7.20	6.87	8.20	7.10		7.77	7.53	7.12

Togochi, Hiromasa (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2017 Japanese National High School Championships (Yamagata, JPN) (99cm) *Kota (2017) - 70th high school championships: JAF scientific committee- biomechanics data*

date	02-Aug-17	time	2.77	3.90	5.05	6.18	7.32	8.43	9.56	10.71	11.84	13.03		14.52	9 / 6			
reaction time	0.149	interval		1.13	1.15	1.13	1.14	1.11	1.13	1.15	1.13	1.19	1.49			3.41	3.38	3.47
wind	-0.7 m/s	velocity	4.95	8.09	7.95	8.09	8.02	8.23	8.09	7.95	8.09	7.68	9.41	7.58		8.04	8.11	7.90

Tokuoka, Rika (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 3 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.11) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.64	3.76	4.85	5.93	7.01	8.11	9.22	10.35	11.51	12.67		14.22	8 / 3			
reaction time		interval		1.12	1.09	1.08	1.08	1.10	1.11	1.13	1.16	1.16	1.55			3.29	3.29	3.45
wind	-0.2 m/s	velocity	5.20	8.16	8.39	8.46	8.46	8.31	8.23	8.09	7.88	7.88	9.05	7.74		8.33	8.33	7.95

Heat 2 - 2016 Japanese National Youth Championships (Mizuho, JPN) (91cm) *(2016.11.07) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-Oct-16	time	2.68	3.79	4.91	6.02	7.12	8.22	9.34	10.49	11.61	12.77		14.30	7 / 3			
reaction time		interval		1.11	1.12	1.11	1.10	1.10	1.12	1.15	1.12	1.16	1.53			3.34	3.32	3.43
wind	2.3 m/s	velocity	5.12	8.23	8.16	8.23	8.31	8.31	8.16	7.95	8.16	7.88	9.16	7.69		8.21	8.26	7.99

Tokuoka, Ryo (JPN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2023 Seiko Golden Grand Prix (Yokohama, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	21-May-23	time	2.63	3.70	4.76	5.82	6.87	7.91	8.98	10.05	11.13	12.25		13.99	2 / 9			
reaction time	0.145	interval	7 steps	1.07	1.06	1.06	1.05	1.04	1.07	1.07	1.08	1.12	1.74			3.19	3.16	3.27
wind	0.8 m/s	velocity	5.22	8.54	8.62	8.62	8.70	8.79	8.54	8.54	8.46	8.16	8.06	7.86		8.60	8.68	8.39

FINAL - 2023 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	07-May-23	time	2.65	3.73	4.77	5.81	6.86	7.92	8.98	10.03	11.11	12.20		13.63	3 / 5			
reaction time	0.168	interval	7 steps	1.08	1.04	1.04	1.05	1.06	1.06	1.05	1.08	1.09	1.43			3.16	3.17	3.22
wind	-0.3 m/s	velocity	5.18	8.46	8.79	8.79	8.70	8.62	8.62	8.70	8.46	8.39	9.80	8.07		8.68	8.65	8.52

FINAL - 2023 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	29-Apr-23	time	2.64	3.70	4.73	5.78	6.84	7.88	8.92	9.99	11.05	12.14		13.57	2 / 3			
reaction time	0.169	interval	7 steps	1.06	1.03	1.05	1.06	1.04	1.04	1.07	1.06	1.09	1.43			3.14	3.14	3.22
wind	0.3 m/s	velocity	5.20	8.62	8.87	8.70	8.62	8.79	8.79	8.54	8.62	8.39	9.80	8.11		8.73	8.73	8.52

B FINAL - 2022 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	29-Apr-22	time	2.67	3.75	4.80	5.85	6.91	7.99	9.07	10.18	11.28	12.39		13.86	3 / 1			
reaction time	0.162	interval	7 steps	1.08	1.05	1.05	1.06	1.08	1.08	1.11	1.10	1.11	1.47			3.18	3.22	3.32
wind	-0.7 m/s	velocity	5.14	8.46	8.70	8.70	8.62	8.46	8.46	8.23	8.31	8.23	9.54	7.94		8.62	8.52	8.26

FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	09-May-21	time	2.63	3.69	4.74	5.82	6.87	7.92	9.05	10.15	11.25	12.35		13.77	3 / 8			
reaction time	0.166	interval		1.06	1.05	1.08	1.05	1.05	1.13	1.10	1.10	1.10	1.42	PB		3.19	3.23	3.30
wind	-0.8 m/s	velocity	5.22	8.62	8.70	8.46	8.70	8.70	8.09	8.31	8.31	8.31	9.87	7.99		8.60	8.49	8.31

FINAL - 2021 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	29-Apr-21	time	2.64	3.70	4.75	5.80	6.85	7.88	8.95	10.00	11.09	12.20		13.67	8 / 5			
reaction time		interval		1.06	1.05	1.05	1.05	1.03	1.07	1.05	1.09	1.11	1.47			3.16	3.15	3.25
wind	1.7 m/s	velocity	5.20	8.62	8.70	8.70	8.70	8.87	8.54	8.70	8.39	8.23	9.54	8.05		8.68	8.70	8.44

FINAL - 2020 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	24-Oct-20	time	2.65	3.73	4.80	5.85	6.93	7.99	9.08	10.17	11.26	12.39		13.89	3 / 6			
reaction time		interval		1.08	1.07	1.05	1.08	1.06	1.09	1.09	1.09	1.13	1.50			3.20	3.23	3.31
wind	0.6 m/s	velocity	5.18	8.46	8.54	8.70	8.46	8.62	8.39	8.39	8.39	8.09	9.35	7.92		8.57	8.49	8.28

B FINAL - 2019 Mikio Oda Memorial (Hiroshima, JPN) *Kobayashi (2019) - research on athlete performance and technique- 2019 data book*

date	28-Apr-19	time	2.74	3.86	4.99	6.11	7.20	8.33	9.44	10.60	11.75	12.91		14.44	1 / 6			
reaction time		interval		1.12	1.13	1.12	1.09	1.13	1.11	1.16	1.15	1.16	1.53			3.37	3.33	3.47
wind	1.4 m/s	velocity	5.01	8.16	8.09	8.16	8.39	8.09	8.23	7.88	7.95	7.88	9.16	7.62		8.14	8.23	7.90

Tomioka, Tatsuto (JPN) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2016 Japanese National High School Championships (Okayama, JPN) (99cm) *Kota (2016) - 69th high school championships: JAF scientific committee- biomechanics data*

date	02-Aug-16	time	2.71	3.82	4.94	6.02	7.12	8.21	9.30	10.41	11.54	12.67		14.20	5 / 4			
reaction time	0.138	interval		1.11	1.12	1.08	1.10	1.09	1.09	1.11	1.13	1.13	1.53	PB		3.31	3.28	3.37
wind	1.2 m/s	velocity	5.06	8.23	8.16	8.46	8.31	8.39	8.39	8.23	8.09	8.09	9.16	7.75		8.28	8.36	8.14

Tomita, Kanto (JPN) (2004)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (99cm) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	22-Oct-21	time	2.71	3.82	4.91	6.00	7.10	8.19	9.30	10.41	11.54	12.68		14.20	3 / 6			
reaction time	0.191	interval		1.11	1.09	1.09	1.10	1.09	1.11	1.11	1.13	1.14	1.52			3.29	3.30	3.38
wind	-0.6 m/s	velocity	5.06	8.23	8.39	8.39	8.31	8.39	8.23	8.23	8.09	8.02	9.22	7.75		8.33	8.31	8.11

Tomiyama, Hiroki (JPN) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Race 2 - 2020 World Athletics Trials (Fuji, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	06-Sep-20	time	2.68	3.81	4.93	6.04	7.13	8.24	9.35	10.49	11.62	12.78		14.30	5 / 5			
reaction time		interval	7 steps	1.13	1.12	1.11	1.09	1.11	1.11	1.14	1.13	1.16	1.52			3.36	3.31	3.43
wind	1.3 m/s	velocity	5.12	8.09	8.16	8.23	8.39	8.23	8.23	8.02	8.09	7.88	9.22	7.69		8.16	8.28	7.99

FINAL - 2015 Japanese National High School Championships (Wakayama, JPN) (99cm) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	02-Aug-15	time	2.75	3.88	5.01	6.15	7.29	8.42	9.60	10.76	11.94	13.13		14.69	9 / 8			
reaction time		interval		1.13	1.13	1.14	1.14	1.13	1.18	1.16	1.18	1.19	1.56			3.40	3.45	3.53
wind	1.4 m/s	velocity	4.99	8.09	8.09	8.02	8.02	8.09	7.75	7.88	7.75	7.68	8.99	7.49		8.06	7.95	7.77

Tong Zhangwei (CHN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 Chinese National Sports School Championships (Jinjiang, CHN) (99cm) *Zhang, H (2019) - comparative analysis of characteristics of Chinese elite men's 110m hurdles in different age groups*

date	??	time	2.72	3.83	4.97	6.08	7.19	8.32	9.46	10.57	11.72	12.86		14.38	2 / 6			
reaction time		interval		1.11	1.14	1.11	1.11	1.13	1.14	1.11	1.15	1.14	1.52			3.36	3.38	3.40
wind	??	velocity	5.04	8.23	8.02	8.23	8.23	8.09	8.02	8.23	7.95	8.02	9.22	7.65		8.16	8.11	8.06

Tørring, Jesper (DEN) (1947)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 4 - 1972 Olympic Games (Munich, GER)													*Letzelter (1977) - Hurdensprint: geschwindigkeitsverlauf und spezielle eigenschaften*			
date 03-Sep-72 time	2.6			6.0								14.50	1 / 5			
reaction time interval				3.38										3.38		
wind 0.9 m/s velocity	5.34			8.11								7.59		8.11		

Tosho, Yuho (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Shimane High School Championships (Izumo, JPN)													*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*			
date 28-May-17 time	2.90	4.10	5.30	6.50	7.70	8.93	10.17	11.43	12.67	13.97		15.55	5 / 4			
reaction time interval		1.20	1.20	1.20	1.20	1.23	1.24	1.26	1.24	1.30	1.58			3.60	3.67	3.80
wind 0.3 m/s velocity	4.73	7.62	7.62	7.62	7.62	7.43	7.37	7.25	7.37	7.03	8.87	7.07		7.62	7.47	7.22

Tourret, Philippe (FRA) (1967)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1991 European Cup (Frankfurt, GER)													*Federle (2003) - http://www.fgs.uni-halle.de*			
date 30-Jun-91 time	2.63	3.72	4.77	5.82	6.87	7.93	8.97	10.07	11.09	12.20		13.63	/ 3			
reaction time interval		1.09	1.05	1.05	1.05	1.06	1.04	1.10	1.02	1.11	1.43			3.19	3.15	3.23
wind -0.9 m/s velocity	5.22	8.39	8.70	8.70	8.70	8.62	8.79	8.31	8.96	8.23	9.80	8.07		8.60	8.70	8.49
Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)													*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*			
date 26-Sep-88 time	2.55	3.62	4.70	5.78	6.86	7.97	9.07	10.19	11.31	12.43		13.96	8 / 7			
reaction time 0.155 interval		1.07	1.08	1.08	1.08	1.11	1.10	1.12	1.12	1.12	1.53			3.23	3.29	3.36
wind -0.7 m/s velocity	5.38	8.54	8.46	8.46	8.46	8.23	8.31	8.16	8.16	8.16	9.16	7.88		8.49	8.33	8.16

Townsend, Fred (USA) (1982)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2013 Windsprint (Sundsvall, SWE)													*(2013) - www.ssg.se/windsprint/Splittider/*			
date 28-Jul-13 time	2.62	3.69	4.73	5.78	6.81	7.86	8.93	9.99	11.04	12.13		13.53	5 / 2			
reaction time interval *7 steps*	1.07	1.04	1.05	1.03	1.05	1.07	1.06	1.05	1.09	1.40				3.16	3.15	3.20
wind 1.7 m/s velocity	5.24	8.54	8.79	8.70	8.87	8.70	8.54	8.62	8.70	8.39	10.01	8.13		8.68	8.70	8.57
FINAL - 2012 Windsprint (Sundsvall, SWE)													*Blomkvist (2012) - www.sub13.se*			
date 17-Jun-12 time	2.64	3.68	4.72	5.75	6.77	7.78	8.83	9.86	10.92	11.98		13.39	4 / 1			
reaction time interval		1.04	1.04	1.03	1.02	1.01	1.05	1.03	1.06	1.06	1.41	**PB**		3.11	3.08	3.15
wind 1.1 m/s velocity	5.20	8.79	8.79	8.87	8.96	9.05	8.70	8.87	8.62	8.62	9.94	8.22		8.82	8.90	8.70
FINAL - 2011 Windsprint (Sundsvall, SWE)													*Blomkvist (2011) - www.sub13.se*			
date 31-Jul-11 time	2.62	3.68	4.71	5.75	6.76	7.78	8.83	9.87	10.93	11.99		13.41	/ 1			
reaction time interval		1.06	1.03	1.04	1.01	1.02	1.05	1.04	1.06	1.06	1.42			3.13	3.08	3.16
wind 2.8 m/s velocity	5.24	8.62	8.87	8.79	9.05	8.96	8.70	8.79	8.62	8.62	9.87	8.20		8.76	8.90	8.68
FINAL - 2011 Folksam GP (Göteborg, SWE)													*Blomkvist (2011) - www.sub13.se*			
date 11-Jun-11 time	2.52	3.56	4.60	5.64	6.68	7.72	8.78	9.84	10.90	11.98		13.57	/ 3			
reaction time interval		1.04	1.04	1.04	1.04	1.04	1.06	1.06	1.06	1.08	1.59			3.12	3.14	3.20
wind 0.6 m/s velocity	5.44	8.79	8.79	8.79	8.79	8.79	8.62	8.62	8.62	8.46	8.82	8.11		8.79	8.73	8.57
FINAL - 2010 Windsprint (Sundsvall, SWE)													*Blomkvist (2010) - www.sub13.se*			
date 08-Aug-10 time	2.61	3.68	4.74	5.79	6.82	7.88	8.94	9.99	11.08	12.16		13.64	/ 1			
reaction time interval		1.07	1.06	1.05	1.03	1.06	1.06	1.05	1.09	1.08	1.48			3.18	3.15	3.22
wind 1.1 m/s velocity	5.26	8.54	8.62	8.70	8.87	8.62	8.62	8.70	8.39	8.46	9.47	8.06		8.62	8.70	8.52
FINAL - 2009 Windsprint (Sundsvall, SWE)													*(2009) - www.ssg.se/en/Windsprint/Split-times/*			
date 25-Jul-09 time		3.67			6.79			9.98				13.56	/ 1			
reaction time interval					3.12			3.19			3.58					
wind 1.6 m/s velocity		6.23			8.79			8.60			9.02	8.11				
FINAL - 2008 Windsprint (Sundsvall, SWE)													*(2008) - www.ssg.se/en/Windsprint/Split-times/*			
date 06-Jul-08 time		3.72			6.78			10.04				13.63	4 / 1			
reaction time interval					3.06			3.26			3.59					
wind 0.5 m/s velocity		6.15			8.96			8.41			9.00	8.07				

Toyama, Hiroki (JPN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2016 Hiroshima Perfecture High School Meeting (Hiroshima, JPN)													*(2016.05.30) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 29-May-16 time	2.69	3.83	4.95	6.11	7.25	8.38	9.51	10.65	11.80	12.97		14.42	6 / 1			
reaction time interval *7 steps*	1.14	1.12	1.16	1.14	1.13	1.13	1.14	1.15	1.17	1.45				3.42	3.40	3.46
wind 0.1 m/s velocity	5.10	8.02	8.16	7.88	8.02	8.09	8.09	8.02	7.95	7.81	9.67	7.63		8.02	8.06	7.92

Toyoda, Ken (JPN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN)													*Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*			
date 23-Aug-20 time	2.60	3.68	4.76	5.85	6.98	8.08	9.19	10.33	11.48	12.62		14.15	1 / 7			
reaction time 0.136 interval	7 steps	1.08	1.08	1.09	1.13	1.10	1.11	1.14	1.15	1.14	1.53	**PB**		3.25	3.34	3.43
wind -0.4 m/s velocity	5.28	8.46	8.46	8.39	8.09	8.31	8.23	8.02	7.95	8.02	9.16	7.77		8.44	8.21	7.99

Toyoda, Masaki (JPN) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2015 Japanese National High School Championships (Wakayama, JPN) (99cm) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	02-Aug-15	time	2.72	3.87	5.01	6.13	7.24	8.35	9.49	10.64	11.78	12.93		14.38	8 / 5		
reaction time		interval		1.15	1.14	1.12	1.11	1.11	1.14	1.15	1.14	1.15	1.45			3.41	3.36	3.44
wind	1.4 m/s	velocity	5.04	7.95	8.02	8.16	8.23	8.23	8.02	7.95	8.02	7.95	9.67	7.65		8.04	8.16	7.97

Traber, Gregor (GER) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.54	3.58	4.62	5.66	6.70							7.67	8 / 7		
reaction time	0.140	interval	7 steps	1.04	1.04	1.04	1.04						0.97			3.12		
		velocity	5.40	8.79	8.79	8.79	8.79						10.02	7.82		8.79		

Heat 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.53	3.56	4.62	5.65	6.68	7.72	8.77	9.88	10.97	12.07		13.65	4 / 5		
reaction time	0.136	interval	7 steps	1.03	1.06	1.03	1.03	1.04	1.05	1.11	1.09	1.10	1.58			3.12	3.12	3.30
wind	-0.1 m/s	velocity	5.42	8.87	8.62	8.87	8.87	8.79	8.70	8.23	8.39	8.31	8.87	8.06		8.79	8.79	8.31

FINAL - 2017 Shanghai Diamond League (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	13-May-17	time	2.56	3.60	4.62	5.62	6.66	7.68	8.70	9.76	10.82	11.94		13.41	9 / 7		
reaction time	0.150	interval	7 steps	1.04	1.02	1.00	1.04	1.02	1.02	1.06	1.06	1.12	1.47			3.06	3.08	3.24
wind	0.5 m/s	velocity	5.36	8.79	8.96	9.14	8.79	8.96	8.96	8.62	8.62	8.16	9.54	8.20		8.96	8.90	8.46

FINAL - 2016 London Anniversary Games (London, GBR) (TV Analysis) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	23-Jul-16	time	2.53	3.58	4.60	5.63	6.65	7.68	8.72	9.80	10.86	11.95		13.45	3 / 2		
reaction time	0.150	interval	7 steps	1.05	1.02	1.03	1.02	1.03	1.04	1.08	1.06	1.09	1.50			3.10	3.09	3.23
wind	-1.0 m/s	velocity	5.42	8.70	8.96	8.87	8.96	8.87	8.79	8.46	8.62	8.39	9.35	8.18		8.85	8.87	8.49

FINAL - 2011 German National Indoor Junior Championships (Leverkusen, GER) (99cm) *May (2011) - zwei jugendliche hürdensprinter im vergleich*

date	19-Feb-11	time	2.60	3.66	4.70	5.73	6.76							7.66	4 / 1		
reaction time		interval	7 steps	1.06	1.04	1.03	1.03						0.90			3.13		
		velocity	5.28	8.62	8.79	8.87	8.87						10.80	7.83		8.76		

Trajkovic, Milan (CYP) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 3 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	2.36	3.42	4.43	5.43	6.43	7.46	8.49	9.54	10.62	11.71		13.32	3 / 3		
reaction time	0.128	interval	7 steps	1.06	1.01	1.00	1.00	1.03	1.03	1.05	1.08	1.09	1.61			3.07	3.06	3.22
wind	0.6 m/s	velocity	5.81	8.62	9.05	9.14	9.14	8.87	8.87	8.70	8.46	8.39	8.71	8.26		8.93	8.96	8.52

Heat 3 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.41	3.46	4.48	5.49	6.51	7.52	8.56	9.63	10.69	11.79		13.43	2 / 4		
reaction time	0.139	interval	7 steps	1.05	1.02	1.01	1.02	1.01	1.04	1.07	1.06	1.10	1.64			3.08	3.07	3.23
wind	1.1 m/s	velocity	5.69	8.70	8.96	9.05	8.96	9.05	8.79	8.54	8.62	8.31	8.55	8.19		8.90	8.93	8.49

FINAL - 2024 World Athletics Indoor Championships (Glasgow, GBR) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	02-Mar-24	time	2.60	3.65	4.68	5.70	6.72							7.59	4 / 8		
reaction time	0.163	interval	7 steps	1.05	1.03	1.02	1.02						0.87			3.10		
		velocity	5.28	8.70	8.87	8.96	8.96						11.17	7.91		8.85		

Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.50	3.56	4.58	5.56	6.58	7.60	8.64	9.68	10.78	11.85		13.33	4 / 5		
reaction time	0.137	interval	7 steps	1.06	1.02	0.98	1.02	1.02	1.04	1.04	1.10	1.07	1.48			3.06	3.08	3.21
wind	-0.2 m/s	velocity	5.49	8.62	8.96	9.33	8.96	8.96	8.79	8.79	8.31	8.54	9.47	8.25		8.96	8.90	8.54

Heat 4 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.50	3.55	4.58	5.60	6.62	7.65	8.67	9.70	10.78	11.85		13.33	4 / 2		
reaction time	0.164	interval	7 steps	1.05	1.03	1.02	1.02	1.03	1.02	1.03	1.08	1.07	1.48			3.10	3.07	3.18
wind	-0.6 m/s	velocity	5.49	8.70	8.87	8.96	8.96	8.87	8.96	8.87	8.46	8.54	9.47	8.25		8.85	8.93	8.62

FINAL - 2023 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2023) - diamond league race analysis*

date	16-Jul-23	time	2.40	3.48	4.53	5.58	6.62	7.67	8.74	10.06	12.38	20.77			8 / --		
reaction time	0.159	interval	7 steps	1.08	1.05	1.05	1.04	1.05	1.07	1.32	2.32	8.39		DQ		3.18	3.16	12.03
wind	0.3 m/s	velocity	5.72	8.46	8.70	8.70	8.79	8.70	8.54	6.92	3.94	1.09				8.62	8.68	2.28

Heat 2 - 2023 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2023) - diamond league race analysis*

date	16-Jul-23	time	2.42	3.47	4.50	5.52	6.53	7.55	8.59	9.63	10.68	11.76		13.34	9 / 3		
reaction time	0.160	interval	7 steps	1.05	1.03	1.02	1.01	1.02	1.04	1.04	1.05	1.08	1.58			3.10	3.07	3.17
wind	-0.2 m/s	velocity	5.67	8.70	8.87	8.96	9.05	8.96	8.79	8.79	8.70	8.46	8.87	8.25		8.85	8.93	8.65

FINAL - 2023 FBK Games (Hengelo, NED) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	04-Jun-23	time	2.58	3.63	4.68	5.70	6.72	7.75	8.78	9.83	10.93	12.03		13.44	2 / 5		
reaction time	0.117	interval	7 steps	1.05	1.05	1.02	1.02	1.03	1.03	1.05	1.10	1.10	1.41			3.12	3.08	3.25
wind	0.4 m/s	velocity	5.32	8.70	8.70	8.96	8.96	8.87	8.87	8.70	8.31	8.31	9.94	8.18		8.79	8.90	8.44

Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.56	3.63	4.70	5.70	6.73	7.76	8.83	9.88	10.93	12.03		13.49	5 / 6			
reaction time	0.142	interval	7 steps	1.07	1.07	1.00	1.03	1.03	1.07	1.05	1.05	1.10	1.46			3.14	3.13	3.20
wind	0.3 m/s	velocity	5.36	8.54	8.54	9.14	8.87	8.87	8.54	8.70	8.70	8.31	9.60	8.15		8.73	8.76	8.57

Heat 5 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.53	3.60	4.60	5.66	6.70	7.73	8.76	9.83	10.90	11.98		13.52	4 / 2			
reaction time	0.133	interval	7 steps	1.07	1.00	1.06	1.04	1.03	1.03	1.07	1.07	1.08	1.54			3.13	3.10	3.22
wind	0.4 m/s	velocity	5.42	8.54	9.14	8.62	8.79	8.87	8.87	8.54	8.54	8.46	9.10	8.14		8.76	8.85	8.52

FINAL - 2022 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	18-Jun-22	time	2.50	3.56	4.58	5.58	6.60	7.64	8.68	9.72	10.80	11.86		13.39	8 / 5			
reaction time	0.154	interval	7 steps	1.06	1.02	1.00	1.02	1.04	1.04	1.04	1.08	1.06	1.53			3.08	3.10	3.18
wind	-0.2 m/s	velocity	5.49	8.62	8.96	9.14	8.96	8.79	8.79	8.79	8.46	8.62	9.16	8.22		8.90	8.85	8.62

FINAL - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.52	3.58	4.62	5.62	6.62							7.62	7 / 7			
reaction time	0.207	interval	7 steps	1.06	1.04	1.00	1.00						1.00			3.10		
		velocity	5.44	8.62	8.79	9.14	9.14						9.72	7.87		8.85		

Semi-Final 1 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.47	3.53	4.53	5.55	6.57							7.53	1 / 2			
reaction time	0.145	interval	7 steps	1.06	1.00	1.02	1.02						0.96			3.08		
		velocity	5.55	8.62	9.14	8.96	8.96						10.13	7.97		8.90		

Semi-Final 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	04-Aug-21	time	2.57	3.62	4.64	5.69	6.72	7.77	8.83	9.86	11.01	12.21		14.01	3 / 8			
reaction time	0.147	interval	7 steps	1.05	1.02	1.05	1.03	1.05	1.06	1.03	1.15	1.20	1.80			3.12	3.14	3.38
wind	-0.1 m/s	velocity	5.34	8.70	8.96	8.70	8.87	8.70	8.62	8.87	7.95	7.62	7.79	7.85		8.79	8.73	8.11

Heat 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	03-Aug-21	time	2.61	3.69	4.69	5.72	6.78	7.86	8.89	9.91	11.04	12.13		13.59	2 / 4			
reaction time	0.117	interval	7 steps	1.08	1.00	1.03	1.06	1.08	1.03	1.02	1.13	1.09	1.46			3.11	3.17	
wind	-0.1 m/s	velocity	5.26	8.46	9.14	8.87	8.62	8.46	8.87	8.96	8.09	8.39	9.60	8.09		8.82	8.65	

FINAL - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.57	3.62	4.62	5.64	6.63	7.65	8.81	10.07	11.25	12.39		13.87	8 / 8			
reaction time	0.150	interval	7 steps	1.05	1.00	1.02	0.99	1.02	1.16	1.26	1.18	1.14	1.48			3.07	3.17	3.58
wind	0.6 m/s	velocity	5.34	8.70	9.14	8.96	9.23	8.96	7.88	7.25	7.75	8.02	9.47	7.93		8.93	8.65	7.66

Semi-Final 3 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.58	3.61	4.63	5.62	6.62	7.63	8.65	9.69	10.77	11.85		13.29	7 / 2			
reaction time	0.162	interval	7 steps	1.03	1.02	0.99	1.00	1.01	1.02	1.04	1.08	1.08	1.44			3.04	3.03	3.20
wind	0.6 m/s	velocity	5.32	8.87	8.96	9.23	9.14	9.05	8.96	8.79	8.46	8.46	9.74	8.28		9.02	9.05	8.57

FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Jun-19	time	2.54	3.62	4.64	5.68	6.70	7.74	8.80	9.86	10.90	12.00		13.53	8 / 7			
reaction time	0.098	interval	7 steps	1.08	1.02	1.04	1.02	1.04	1.06	1.06	1.04	1.10	1.53			3.14	3.12	3.20
wind	0.3 m/s	velocity	5.40	8.46	8.96	8.79	8.96	8.79	8.62	8.62	8.79	8.31	9.16	8.13		8.73	8.79	8.57

FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	06-Jun-19	time	2.55	3.63	4.68	5.70	6.73	7.82	8.82	9.92	10.95	12.06		13.50	3 / 5			
reaction time	0.136	interval	7 steps	1.08	1.05	1.02	1.03	1.09	1.00	1.10	1.03	1.11	1.44			3.15	3.12	3.24
wind	0.4 m/s	velocity	5.38	8.46	8.70	8.96	8.87	8.39	9.14	8.31	8.87	8.23	9.74	8.15		8.70	8.79	8.46

FINAL - 2019 Nanjing World Challenge (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	21-May-19	time	2.62	3.67	4.73	5.76	6.79	7.85	8.90	9.96	11.02	12.11		13.56	4 / 6			
reaction time	0.192	interval	7 steps	1.05	1.06	1.03	1.03	1.06	1.05	1.06	1.06	1.09	1.45			3.14	3.14	3.21
wind	0.1 m/s	velocity	5.24	8.70	8.62	8.87	8.87	8.62	8.70	8.62	8.62	8.39	9.67	8.11		8.73	8.73	8.54

FINAL - 2019 Shanghai Diamond League (Shanghai, CHN) *CAA Hurdle Development (2019)*

date	18-May-19	time	2.60	3.68	4.70	5.70	6.72	7.74	8.76	9.80	10.84	11.94		13.41	9 / 7			
reaction time	0.145	interval	7 steps	1.08	1.02	1.00	1.02	1.02	1.02	1.04	1.04	1.10	1.47			3.10	3.06	3.18
wind	0.7 m/s	velocity	5.28	8.46	8.96	9.14	8.96	8.96	8.96	8.79	8.79	8.31	9.54	8.20		8.85	8.96	8.62

FINAL - 2019 PSD Bank Meeting (Düsseldorf, GER) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	20-Feb-19	time	2.40	3.42	4.44	5.44	6.44							7.52	7 / 2			
reaction time	0.153	interval	7 steps	1.02	1.02	1.00	1.00						1.08			3.04		
		velocity	5.72	8.96	8.96	9.14	9.14						9.00	7.98		9.02		

FINAL - 2019 Müller Indoor Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	16-Feb-19	time	2.52	3.55	4.55	5.55	6.56							7.54	6 / 3			
reaction time	0.166	interval	7 steps	1.03	1.00	1.00	1.01						0.98			3.03		
		velocity	5.44	8.87	9.14	9.14	9.05						9.92	7.96		9.05		

FINAL - 2017 Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	01-Sep-17	time	2.52	3.58	4.62	5.64	6.68	7.72	8.76	9.82	10.88	11.96		13.47	2 / 7			
reaction time	0.142	interval	7 steps	1.06	1.04	1.02	1.04	1.04	1.04	1.06	1.06	1.08	1.51			3.12	3.12	3.20
wind	0.5 m/s	velocity	5.44	8.62	8.79	8.96	8.79	8.79	8.79	8.62	8.62	8.46	9.28	8.17		8.79	8.79	8.57

Semi-Final 1 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.42	3.45	4.50	5.53	6.58	7.61	8.61	9.64	10.68	11.75		13.32	5 / 5			
reaction time	0.146	interval	7 steps	1.03	1.05	1.03	1.05	1.03	1.00	1.03	1.04	1.07	1.57			3.11	3.08	3.14
wind	0.2 m/s	velocity	5.67	8.87	8.70	8.87	8.70	8.87	9.14	8.87	8.79	8.54	8.93	8.26		8.82	8.90	8.73

FINAL - 2017 Müller's Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	09-Jul-17	time	2.52	3.58	4.60	5.60	6.62	7.64	8.66	9.70	10.74	11.80		13.25	5 / 2			
reaction time	0.157	interval	7 steps	1.06	1.02	1.00	1.02	1.02	1.02	1.04	1.04	1.06	1.45	**NR PB**		3.08	3.06	3.14
wind	0.0 m/s	velocity	5.44	8.62	8.96	9.14	8.96	8.96	8.96	8.79	8.79	8.62	9.67	8.30		8.90	8.96	8.73

FINAL - 2017 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	01-Jul-17	time	2.50	3.56	4.58	5.60	6.62	7.66	8.70	9.74	10.80	11.86		13.30	2 / 6			
reaction time	0.142	interval	7 steps	1.06	1.02	1.02	1.02	1.04	1.04	1.04	1.06	1.06	1.44			3.10	3.10	3.16
wind	-0.1 m/s	velocity	5.49	8.62	8.96	8.96	8.96	8.79	8.79	8.79	8.62	8.62	9.74	8.27		8.85	8.85	8.68

FINAL - 2017 Golden Spike (Ostrava, CZE) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	28-Jun-17	time	2.48	3.52	4.56	5.58	6.62	7.66	8.66	9.70	10.78	11.82		13.34	8 / 3			
reaction time	0.164	interval	7 steps	1.04	1.04	1.02	1.04	1.04	1.00	1.04	1.08	1.04	1.52			3.10	3.08	3.16
wind	0.6 m/s	velocity	5.53	8.79	8.79	8.96	8.79	8.79	9.14	8.79	8.46	8.79	9.22	8.25		8.85	8.90	8.68

FINAL - 2017 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	08-Jun-17	time	2.52	3.54	4.56	5.58	6.62	7.66	8.70	9.74	10.82	11.90		13.39	9 / 5			
reaction time	0.157	interval	7 steps	1.02	1.02	1.02	1.04	1.04	1.04	1.04	1.08	1.08	1.49			3.06	3.12	3.20
wind	-0.3 m/s	velocity	5.44	8.96	8.96	8.96	8.79	8.79	8.79	8.79	8.46	8.46	9.41	8.22		8.96	8.79	8.57

FINAL - 2017 Seiko Golden Grand Prix (Kawasaki, JPN) *(2017) - tfdata-store.com/2017/05/22/post-599/*

date	21-May-17	time	2.56	3.61	4.64	5.70	6.75	7.76	8.81	9.87	10.96	12.05		13.52	5 / 2			
reaction time	0.155	interval	*7 steps*	1.05	1.03	1.06	1.05	1.01	1.05	1.06	1.09	1.09	1.47			3.14	3.11	3.24
wind	-1.8 m/s	velocity	5.36	8.70	8.87	8.62	8.70	9.05	8.70	8.62	8.39	8.39	9.54	8.14		8.73	8.82	8.46

FINAL - 2016 Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	09-Sep-16	time	2.50	3.53	4.57	5.57	6.59	7.61	8.66	9.74	10.81	11.90		13.44	7 / 6			
reaction time	0.143	interval	7 steps	1.03	1.04	1.00	1.02	1.02	1.05	1.08	1.07	1.09	1.54			3.07	3.09	3.24
wind	0.2 m/s	velocity	5.49	8.87	8.79	9.14	8.96	8.96	8.70	8.46	8.54	8.39	9.10	8.18		8.93	8.87	8.46

FINAL - 2016 Olympic Games (Rio de Janeiro, BRA) (TV Analysis) *Henson (2020) - Athlete First: 2016 year end hurdle report*

date	16-Aug-16	time	2.50	3.56	4.62	5.64	6.66	7.72	8.76	9.82	10.88	11.94		13.41	8 / 7			
reaction time	0.136	interval	7 steps	1.06	1.06	1.02	1.02	1.06	1.04	1.06	1.06	1.06	1.47			3.14	3.12	3.18
wind	0.2 m/s	velocity	5.49	8.62	8.62	8.96	8.96	8.62	8.79	8.62	8.62	8.62	9.54	8.20		8.73	8.79	8.62

Trammell, Terrence (USA) (1978)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

FINAL - 2010 IAAF World Indoor Championships (Doha, QAT) *Kuitunen (2010) - biomencanical analysis of the 14th IAAF World Indoor championships*

date	14-Mar-10	time	2.48	3.50	4.50	5.49	6.48							7.36	4 / 2			
reaction time	0.149	interval		1.02	1.00	0.99	0.99						0.88	**AR**		3.01		
		velocity	5.53	8.96	9.14	9.23	9.23						11.05	8.15		9.11		

FINAL - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.56	3.60	4.61	5.60	6.60	7.62	8.63	9.66	10.71	11.77		13.15	5 / 2			
reaction time	0.141	interval		1.04	1.01	0.99	1.00	1.02	1.01	1.03	1.05	1.06	1.38			3.04	3.03	3.14
wind	0.1 m/s	velocity	5.36	8.79	9.05	9.23	9.14	8.96	9.05	8.87	8.70	8.62	10.16	8.37		9.02	9.05	8.73

Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.54	3.58	4.59	5.61	6.62	7.65	8.68	9.71	10.76	11.83		13.24	6 / 1			
reaction time	0.160	interval		1.04	1.01	1.02	1.01	1.03	1.03	1.03	1.05	1.07	1.41			3.07	3.07	3.15
wind	0.9 m/s	velocity	5.40	8.79	9.05	8.96	9.05	8.87	8.87	8.87	8.70	8.54	9.94	8.31		8.93	8.93	8.70

Heat 5 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.61	3.67	4.71	5.72	6.73	7.80	8.87	9.93	11.01	12.11		13.51	8 / 2			
reaction time	0.202	interval		1.06	1.04	1.01	1.01	1.07	1.07	1.06	1.08	1.10	1.40			3.11	3.15	3.24
wind	0.0 m/s	velocity	5.26	8.62	8.79	9.05	9.05	8.54	8.54	8.62	8.46	8.31	10.01	8.14		8.82	8.70	8.46

FINAL - 2008 USA Olympic Trials (Eugene, OR) *USATF Hurdle Development (2008)*

date	06-Jul-08	time	2.52	3.54	4.53	5.54	6.52	7.52	8.53	9.54	10.56	11.59		13.00	6 / 2			
reaction time	0.157	interval		1.02	0.99	1.01	0.98	1.00	1.01	1.01	1.02	1.03	1.41			3.02	2.99	3.06
wind	3.5 m/s	velocity	5.44	8.96	9.23	9.05	9.33	9.14	9.05	9.05	8.96	8.87	9.94	8.46		9.08	9.17	8.96

FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER) *Graubner (2007) - http://www.fgs.uni-halle.de*

date	23-Sep-07	time	2.53	3.57	4.59	5.58	6.59	7.61	8.63	9.67	10.71	11.75		13.15	3 / 3			
reaction time	0.140	interval		1.04	1.02	0.99	1.01	1.02	1.02	1.04	1.04	1.04	1.40			3.05	3.05	3.12
wind	0.0 m/s	velocity	5.42	8.79	8.96	9.23	9.05	8.96	8.96	8.79	8.79	8.79	10.01	8.37		8.99	8.99	8.79

FINAL - 2007 IAAF World Championships (Osaka, JPN) *Ae (2008) - IAAF biomechanics team - a booklet of biomechanics data*

date	31-Aug-07	time	2.53	3.53	4.52	5.53	6.53	7.52	8.53	9.55	10.57	11.60		12.99	5 / 2			
reaction time	0.205	interval		1.00	0.99	1.01	1.00	0.99	1.01	1.02	1.02	1.03	1.39			3.00	3.00	3.07
wind	1.7 m/s	velocity	5.42	9.14	9.23	9.05	9.14	9.23	9.05	8.96	8.96	8.87	10.09	8.47		9.14	9.14	8.93

Semi-Final 2 - 2007 IAAF World Championships (Osaka, JPN) *Shibayama (2008) - analysis of racing patterns in the men's 110m & women's 100m sprint hurdles*

date	30-Aug-07	time	2.55	3.58	4.60	5.62	6.62	7.64	8.64	9.67	10.72	11.79		13.23	7 / 1			
reaction time	0.223	interval		1.03	1.02	1.02	1.00	1.02	1.00	1.03	1.05	1.07	1.44			3.07	3.02	3.15
wind	0.4 m/s	velocity	5.38	8.87	8.96	8.96	9.14	8.96	9.14	8.87	8.70	8.54	9.74	8.31		8.93	9.08	8.70

Heat 1 - 2007 IAAF World Championships (Osaka, JPN) *Shibayama (2008) - analysis of racing patterns in the men's 110m & women's 100m sprint hurdles*

date	29-Aug-07	time	2.63	3.66	4.73	5.75	6.77	7.79	8.84	9.91	10.96	12.01		13.40	5 / 1			
reaction time	0.223	interval		1.03	1.07	1.02	1.02	1.02	1.05	1.07	1.05	1.05	1.39			3.12	3.09	3.17
wind	0.4 m/s	velocity	5.22	8.87	8.54	8.96	8.96	8.96	8.70	8.54	8.70	8.70	10.09	8.21		8.79	8.87	8.65

FINAL - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.55	3.59	4.59	5.59	6.59	7.59	8.59	9.59	10.61	11.70		13.08	3 / 1			
reaction time		interval		1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.02	1.09	1.38			3.04	3.00	3.11
wind	0.5 m/s	velocity	5.38	8.79	9.14	9.14	9.14	9.14	9.14	9.14	8.96	8.39	10.16	8.41		9.02	9.14	8.82

Semi-Final 2 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.59	3.64	4.65	5.69	6.71	7.72	8.73	9.78	10.82	11.86		13.26	2 / 1			
reaction time		interval		1.05	1.01	1.04	1.02	1.01	1.01	1.05	1.04	1.04	1.40			3.10	3.04	3.13
wind	-0.9 m/s	velocity	5.30	8.70	9.05	8.79	8.96	9.05	9.05	8.70	8.79	8.79	10.01	8.30		8.85	9.02	8.76

Heat 4 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.62	3.72	4.77	5.82	6.89	7.96	9.06	10.13	11.23	12.30		13.78	2 / 3			
reaction time		interval		1.10	1.05	1.05	1.07	1.07	1.10	1.07	1.10	1.07	1.48			3.20	3.24	3.24
wind	-2.8 m/s	velocity	5.24	8.31	8.70	8.70	8.54	8.54	8.31	8.54	8.31	8.54	9.47	7.98		8.57	8.46	8.46

Race 2 - 2006 Athletissima Meeting (Lausanne, SUI) *Li (2013) - technical characteristics of Merritt, the 110m hurdle champion at London Olympics*

date	11-Jul-06	time	2.54	3.55	4.55	5.51	6.48	7.47	8.49	9.51	10.53	11.59		13.02	5 / 3			
reaction time		interval		1.01	1.00	0.96	0.97	0.99	1.02	1.02	1.02	1.06	1.43	**=PB**		2.97	2.98	3.10
wind	1.1 m/s	velocity	5.40	9.05	9.14	9.52	9.42	9.23	8.96	8.96	8.96	8.62	9.80	8.45		9.23	9.20	8.85

FINAL - 2006 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2006)*

date	25-Jun-06	time	2.57	3.62	4.62	5.62	6.64	7.64	8.64	9.68	10.71	11.75		13.14	/ 2			
reaction time		interval		1.05	1.00	1.00	1.02	1.00	1.00	1.04	1.03	1.04	1.39			3.05	3.02	3.11
wind	-0.4 m/s	velocity	5.34	8.70	9.14	9.14	8.96	9.14	9.14	8.79	8.87	8.79	10.09	8.37		8.99	9.08	8.82

FINAL - 2005 USATF National Championships (Carson, CA) *USATF Women's Sprint Development (2005)*

date	24-Jun-05	time	2.54	3.57	4.61	5.61	6.61	7.61	8.63	9.64	10.64	11.69		13.02	6 / 3			
reaction time		interval		1.03	1.04	1.00	1.00	1.00	1.02	1.01	1.00	1.05	1.33	**PB**		3.07	3.02	3.06
wind	0.2 m/s	velocity	5.40	8.87	8.79	9.14	9.14	9.14	8.96	9.05	9.14	8.70	10.54	8.45		8.93	9.08	8.96

FINAL - 2004 Olympic Games (Athens, GRE) *Ruiz (2004) - las carreras con vallas de juegos olimpicos de atenas '04*

date	27-Aug-04	time	2.40	3.42	4.43	5.45	6.45	7.45	8.48	9.50	10.54	11.60		13.18	6 / 2			
reaction time	0.154	interval		1.02	1.01	1.02	1.00	1.00	1.03	1.02	1.04	1.06	1.58			3.05	3.03	3.12
wind	0.3 m/s	velocity	5.72	8.96	9.05	8.96	9.14	9.14	8.87	8.96	8.79	8.62	8.87	8.35		8.99	9.05	8.79

FINAL - 2003 IAAF World Championships (Paris, FRA) *Xu (2004) - analysis on the hurdling techniques of the excellence chinese male 110m hurdle athletes*

date	30-Aug-03	time	2.57	3.61	4.63	5.63	6.63	7.63	8.65	9.67	10.73	11.79		13.20	6 / 2			
reaction time	0.140	interval		1.04	1.02	1.00	1.00	1.00	1.02	1.02	1.06	1.06	1.41			3.06	3.02	3.14
wind	0.3 m/s	velocity	5.34	8.79	8.96	9.14	9.14	9.14	8.96	8.96	8.62	8.62	9.94	8.33		8.96	9.08	8.73

FINAL - 2003 USATF National Championships (Palo Alto, CA) *USATF Women's Sprint Development (2003)*

date	21-Jun-03	time	2.34	3.44	4.44	5.50	6.52	7.52	8.54	9.58	10.64	11.70		13.38	3 / 2			
reaction time		interval		1.10	1.00	1.06	1.02	1.00	1.02	1.04	1.06	1.06	1.68			3.16	3.04	3.16
wind	-2.4 m/s	velocity	5.86	8.31	9.14	8.62	8.96	9.14	8.96	8.79	8.62	8.62	8.35	8.22		8.68	9.02	8.68

FINAL - 2000 ISTAF (Berlin, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	01-Sep-00	time	2.54	3.59	4.62	5.63	6.66	7.68	8.72	9.74	10.78	11.85		13.28	/ 1			
reaction time	0.154	interval		1.05	1.03	1.01	1.03	1.02	1.04	1.02	1.04	1.07	1.43			3.09	3.09	3.13
wind	-0.4 m/s	velocity	5.40	8.70	8.87	9.05	8.87	8.96	8.79	8.96	8.79	8.54	9.80	8.28		8.87	8.87	8.76

Tsuchiya, Toru (JPN) (1995)		**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Heat 3 - 2017 Mito Invitational (Mito, JPN)														*(2017) - tfdata-store.com/2017/05/06/post-423/*			
date	05-May-17	time	2.74	3.90	5.05	6.19	7.36	8.53	9.68	10.83	12.07	13.30		14.83	3 / 7			
reaction time		interval	*7 steps*	1.16	1.15	1.14	1.17	1.17	1.15	1.15	1.24	1.23	1.53			3.45	3.49	3.62

wind	-2.5 m/s	velocity	5.01	7.88	7.95	8.02	7.81	7.81	7.95	7.95	7.37	7.43	9.16	7.42		7.95	7.86	7.57

Tsuneyoshi, Keisuke (JPN) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 1 - 2016 Japanese University Championships (Kumagaya, JPN)													*(2016.09.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 04-Sep-16 time	2.76	3.88	4.97	6.07	7.17	8.27	9.36	10.52	11.63	12.78		14.21	4 / 5			
reaction time 0.173 interval		1.12	1.09	1.10	1.10	1.10	1.09	1.16	1.11	1.15	1.43			3.31	3.29	3.42
wind 0.6 m/s velocity	4.97	8.16	8.39	8.31	8.31	8.31	8.39	7.88	8.23	7.95	9.80	7.74		8.28	8.33	8.02

Tuček, Martin (CZE) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14 time	2.68	3.82	4.94	6.07	7.20	8.31	9.42	10.56	11.70	12.91		14.51	6 / 2			
reaction time 0.148 interval		1.14	1.12	1.13	1.13	1.11	1.11	1.14	1.14	1.21	1.60			3.39	3.35	3.49
wind -2.2 m/s velocity	5.12	8.02	8.16	8.09	8.09	8.23	8.23	8.02	8.02	7.55	8.76	7.58		8.09	8.19	7.86
Heat 2 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14 time	2.73	3.86	4.99	6.13	7.29	8.43	9.60	10.77	11.99	13.20		15.00	4 / 2			
reaction time 0.154 interval		1.13	1.13	1.14	1.16	1.14	1.17	1.17	1.22	1.21	1.80			3.40	3.47	3.60
wind -2.9 m/s velocity	5.03	8.09	8.09	8.02	7.88	8.02	7.81	7.81	7.49	7.55	7.79	7.33		8.06	7.90	7.62

Turner, Andy (GBR) (1980)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2012 Prefontaine Classic (Eugene, OR) (TV Analysis)													*Henson (2020) - Athlete First: 2012 Aries Merritt world record season*			
date 02-Jun-12 time	2.60	3.64	4.68	5.72	6.74	7.76	8.82	9.86	10.92	12.00		13.46	2 / 8			
reaction time 0.149 interval		1.04	1.04	1.04	1.02	1.02	1.06	1.04	1.06	1.08	1.46			3.12	3.10	3.18
wind 2.4 m/s velocity	5.28	8.79	8.79	8.79	8.96	8.96	8.62	8.79	8.62	8.46	9.60	8.17		8.79	8.85	8.62
FINAL - 2011 IAAF World Championships (Daegu, KOR) (TV Analysis)													*Henson (2021) - Athlete First: major championships report*			
date 29-Aug-11 time	2.53	3.58	4.64	5.67	6.71	7.74	8.77	9.82	10.89	11.92		13.44	1 / ~~4~~ 3			
reaction time 0.146 interval		1.05	1.06	1.03	1.04	1.03	1.03	1.05	1.07	1.03	1.52			3.14	3.10	3.15
wind -1.1 m/s velocity	5.42	8.70	8.62	8.87	8.79	8.87	8.87	8.70	8.54	8.87	9.22	8.18		8.73	8.85	8.70
FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER)													*Graubner (2009) - http://www.fgs.uni-halle.de*			
date 14-Sep-08 time	2.65	3.74	4.79	5.83	6.88	7.93	8.98	10.06	11.14	12.24		13.68	2 / 7			
reaction time 0.125 interval		1.09	1.05	1.04	1.05	1.05	1.05	1.08	1.08	1.10	1.44			3.18	3.15	3.26
wind -1.3 m/s velocity	5.18	8.39	8.70	8.79	8.70	8.70	8.70	8.46	8.46	8.31	9.74	8.04		8.62	8.70	8.41
FINAL - 2007 European Cup (Munich, GER)													*Graubner (2007) - http://www.fgs.uni-halle.de*			
date 24-Jun-07 time	2.62	3.66	4.69	5.73	6.76	7.80	8.85	9.91	10.98	12.07		13.48	/ 2			
reaction time 0.156 interval		1.04	1.03	1.04	1.03	1.04	1.05	1.06	1.07	1.09	1.41			3.11	3.12	3.22
wind 0.4 m/s velocity	5.24	8.79	8.87	8.79	8.87	8.79	8.70	8.62	8.54	8.39	9.94	8.16		8.82	8.79	8.52

Uchida, Kaisei (JPN) (2004)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)													*Kishima (2022) - national high school championships biomechanics data collection*			
date 07-Aug-22 time	2.72	3.90	5.07	6.24	7.42	8.58	9.78	10.98	12.18	13.39		14.87	5 / 4			
reaction time 0.159 interval		1.18	1.17	1.17	1.18	1.16	1.20	1.20	1.20	1.21	1.48			3.52	3.54	3.61
wind -3.8 m/s velocity	5.04	7.75	7.81	7.81	7.75	7.88	7.62	7.62	7.62	7.55	9.47	7.40		7.79	7.75	7.60
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (99cm)													*Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*			
date 22-Oct-21 time	2.64	3.76	4.86	5.96	7.07	8.16	9.27	10.39	11.53	12.65		14.12	8 / 4			
reaction time 0.139 interval		1.12	1.10	1.10	1.11	1.09	1.11	1.12	1.14	1.12	1.47			3.32	3.31	3.38
wind -0.6 m/s velocity	5.20	8.16	8.31	8.31	8.23	8.39	8.23	8.16	8.02	8.16	9.54	7.79		8.26	8.28	8.11

Uchino, Rio (JPN) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)													*Shibayama (2021) - national high school and U20 national championhsips*			
date 01-Aug-21 time	2.73	3.85	4.95	6.06	7.17	8.28	9.40	10.51	11.66	12.84		14.37	1 / 8			
reaction time 0.139 interval		1.12	1.10	1.11	1.11	1.11	1.12	1.11	1.15	1.18	1.53	**PB**		3.33	3.34	3.44
wind 1.4 m/s velocity	5.03	8.16	8.31	8.23	8.23	8.23	8.16	8.23	7.95	7.75	9.16	7.65		8.23	8.21	7.97

Ueda, Koki (JPN) (2007)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2024 Shimane High School Championships (Izumo, JPN)													*Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*			
date 26-May-24 time	2.75	3.93	5.13	6.30	7.53	8.78	10.02	11.25	12.47	13.70		15.22	6 / 1			
reaction time interval		1.18	1.20	1.17	1.23	1.25	1.24	1.23	1.22	1.23	1.52			3.55	3.72	3.68
wind 0.3 m/s velocity	4.99	7.75	7.62	7.81	7.43	7.31	7.37	7.43	7.49	7.43	9.22	7.23		7.72	7.37	7.45
FINAL - 2023 Shimane High School Championships (Izumo, JPN)													*Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*			
date 28-May-23 time	2.83	4.12	5.38	6.68	7.98	9.32	10.65	12.03	13.42	14.65		16.53	7 / 4			
reaction time interval		1.29	1.26	1.30	1.30	1.34	1.33	1.38	1.39	1.23	1.88			3.85	3.97	4.00
wind -0.1 m/s velocity	4.85	7.09	7.25	7.03	7.03	6.82	6.87	6.62	6.58	7.43	7.46	6.65		7.12	6.91	6.86

Ueda, Wataru (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2024 Shimane High School Championships (Izumo, JPN)													*Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*			
date 26-May-24 time	2.83	4.02	5.23	6.48	7.70	8.95	10.18	11.45	12.87	14.23		15.89	3 / 3			
reaction time interval		1.19	1.21	1.25	1.22	1.25	1.23	1.27	1.42	1.36	1.66			3.65	3.70	4.05
wind 0.3 m/s velocity	4.85	7.68	7.55	7.31	7.49	7.31	7.43	7.20	6.44	6.72	8.45	6.92		7.51	7.41	6.77

Ueno, Yuta (JPN) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 1 - 2016 Japanese University Championships (Kumagaya, JPN)													*(2016.09.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 04-Sep-16	time	2.71	3.83	4.95	6.05	7.15	8.28	9.40	10.54	11.68	12.84		14.31	8 / 7			
reaction time 0.136	interval		1.12	1.12	1.10	1.10	1.13	1.12	1.14	1.14	1.16	1.47			3.34	3.35	3.44
wind 0.6 m/s	velocity	5.06	8.16	8.16	8.31	8.31	8.09	8.16	8.02	8.02	7.88	9.54	7.69		8.21	8.19	7.97

Uher, Jakub (CZE) (1983)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 3 - 2013 Czech Republic National Championships (Tábor, CZE)												*Feher (2013) - Final report from the men's & women's Czech Republic national championships*				
date 15-Jun-13	time	2.78	3.94	5.07	6.23	7.39	8.53	9.73	10.90	12.11	13.29		14.92	6 / 4			
reaction time 0.170	interval		1.16	1.13	1.16	1.16	1.14	1.20	1.17	1.21	1.18	1.63			3.45	3.50	3.56
wind -0.3 m/s	velocity	4.94	7.88	8.09	7.88	7.88	8.02	7.62	7.81	7.55	7.75	8.60	7.37		7.95	7.83	7.70

Uibo, Maicel (EST) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis)												*Henson (2024) - Athlete First: 2022 year end hurdle report*				
date 24-Jul-22	time	2.74	3.90	5.03	6.13	7.23	8.40	9.50	10.65	11.80	13.00		14.49	2 / 3			
reaction time 0.166	interval	7 steps	1.16	1.13	1.10	1.10	1.17	1.10	1.15	1.15	1.20	1.49			3.39	3.37	3.50
wind 1.5 m/s	velocity	5.01	7.88	8.09	8.31	8.31	7.81	8.31	7.95	7.95	7.62	9.41	7.59		8.09	8.14	7.83
Decathlon - Heat 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)												*Henson (2024) - Athlete First: 2021 year end hurdle report*				
date 05-Aug-21	time	2.70	3.86	5.03	6.20	7.32	8.46	9.68	10.83	12.04	13.26		14.83	5 / 5			
reaction time 0.162	interval	7 steps	1.16	1.17	1.17	1.12	1.14	1.22	1.15	1.21	1.22	1.57			3.50	3.48	3.58
wind 0.0 m/s	velocity	5.08	7.88	7.81	7.81	8.16	8.02	7.49	7.95	7.55	7.49	8.93	7.42		7.83	7.88	7.66

Umemura, Taichi (JPN) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2014 Japanese National High School Championships (Kofu, JPN) (99cm)												*Yanagiya (2014) - research on athlete performance and technique- 2014 data book*				
date 03-Aug-14	time	2.74	3.89	4.98	6.12	7.22	8.36	9.51	10.67	11.85	13.04		14.52	5 / 2			
reaction time	interval		1.15	1.09	1.14	1.10	1.14	1.15	1.16	1.18	1.19	1.48			3.38	3.39	3.53
wind -2.4 m/s	velocity	5.01	7.95	8.39	8.02	8.31	8.02	7.95	7.88	7.75	7.68	9.47	7.58		8.11	8.09	7.77

Ureña, Jorge (ESP) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 2 - 2024 Olympic Games (Paris, FRA)												*Paris 2024 Olympic Games - Results Book (2024)*				
date 03-Aug-24	time	2.48	3.63	4.74	5.84	6.93	8.04	9.14	10.28	11.43	12.58		14.29	3 / 2			
reaction time 0.136	interval		1.15	1.11	1.10	1.09	1.11	1.10	1.14	1.15	1.15	1.71			3.36	3.30	3.44
wind 0.2 m/s	velocity	5.53	7.95	8.23	8.31	8.39	8.23	8.31	8.02	7.95	7.95	8.20	7.70		8.16	8.31	7.97
Decathlon - Heat 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)												*Henson (2024) - Athlete First: 2021 year end hurdle report*				
date 05-Aug-21	time	2.68	3.77	4.90	6.01	7.10	8.21	9.30	10.40	11.53	12.68		14.13	9 / 4			
reaction time 0.132	interval		1.09	1.13	1.11	1.09	1.11	1.09	1.10	1.13	1.15	1.45			3.33	3.29	3.38
wind -1.0 m/s	velocity	5.12	8.39	8.09	8.23	8.39	8.23	8.39	8.31	8.09	7.95	9.67	7.78		8.23	8.33	8.11

Ushiro, Keisuke (JPN) (1986)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 1 - 2023 Japanese Multi-Event National Championsips (Akita, JPN)												*Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season*				
date 11-Jun-23	time	2.83	4.05	5.25	6.48	7.70	8.94	10.20	11.50	12.80	14.13		15.90	9 / 5			
reaction time	interval		1.22	1.20	1.23	1.22	1.24	1.26	1.30	1.30	1.33	1.77			3.65	3.72	3.93
wind -1.6 m/s	velocity	4.85	7.49	7.62	7.43	7.49	7.37	7.25	7.03	7.03	6.87	7.92	6.92		7.51	7.37	6.98
Decathlon - Heat 1 - 2023 Michitaka Kinami Memorial (Osaka, JPN)												*Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season*				
date 08-May-23	time	2.79	4.00	5.19	6.41	7.65	8.87	10.11	11.37	12.66	13.97		15.75	8 / 5			
reaction time 0.180	interval		1.21	1.19	1.22	1.24	1.22	1.24	1.26	1.29	1.31	1.78			3.62	3.70	3.86
wind 0.1 m/s	velocity	4.92	7.55	7.68	7.49	7.37	7.49	7.37	7.25	7.09	6.98	7.88	6.98		7.57	7.41	7.10
Decathlon - FINAL - 2022 Japanese Multi-Event National Championsips (Akita, JPN)												*Takefu (2023) - performance analyisis of decathlon athletes in the 2022 season*				
date 05-Jun-22	time	2.79	3.98	5.19	6.41	7.62	8.86	10.12	11.41	12.67	13.95		15.67	8 / 8			
reaction time	interval		1.19	1.21	1.22	1.21	1.24	1.26	1.29	1.26	1.28	1.72			3.62	3.71	3.83
wind -2.3 m/s	velocity	4.92	7.68	7.55	7.49	7.55	7.37	7.25	7.09	7.25	7.14	8.15	7.02		7.57	7.39	7.16
Decathlon - Heat 1 - 2022 Michitaka Kinami Memorial (Osaka, JPN)												*Takefu (2023) - performance analyisis of decathlon athletes in the 2022 season*				
date 01-May-22	time	2.77	3.96	5.15	6.35	7.57	8.81	10.03	11.28	12.54	13.81		15.50	3 / 4			
reaction time 0.146	interval		1.19	1.19	1.20	1.22	1.24	1.22	1.25	1.26	1.27	1.69			3.58	3.68	3.78
wind 0.0 m/s	velocity	4.95	7.68	7.68	7.62	7.49	7.37	7.49	7.31	7.25	7.20	8.30	7.10		7.66	7.45	7.25
Decathlon - Heat 2 - 2020 Japanese Multi-Event National Championships (Nagano, JPN)												*Matsubayashi (2020) - research athlete performance technique- 2020 databook*				
date 27-Sep-20	time	2.80	3.97	5.12	6.30	7.47	8.63	9.81	11.03	12.25	13.47		15.14	4 / 7			
reaction time	interval		1.17	1.15	1.18	1.17	1.16	1.18	1.22	1.22	1.22	1.67			3.50	3.51	3.66
wind 1.1 m/s	velocity	4.90	7.81	7.95	7.75	7.81	7.88	7.75	7.49	7.49	7.49	8.40	7.27		7.83	7.81	7.49
Decathlon - Heat 1 - 2019 Japanese National Multi-Event Championships (Nagano, JPN)												*Matsubayashi (2019) - research on athlete performance and technique- 2019 data book*				
date 09-Jun-19	time	2.74	3.92	5.11	6.39	7.63	8.83	10.07	11.27	12.47	13.69		15.36	6 / 4			
reaction time	interval		1.18	1.19	1.28	1.24	1.20	1.24	1.20	1.20	1.22	1.67			3.65	3.68	3.62
wind 1.8 m/s	velocity	5.01	7.75	7.68	7.14	7.37	7.62	7.37	7.62	7.62	7.49	8.40	7.16		7.51	7.45	7.57
Decathlon - Heat 2 - 2018 Japanese National Multi-Event Championships (Nagano, JPN)												*Matsubayashi (2018) - research on athlete performance and technique*				

date	17-Jun-18	time	2.71	3.87	5.03	6.21	7.37	8.55	9.74	10.94	12.17	13.42		15.05	4 / 5			
reaction time		interval		1.16	1.16	1.18	1.16	1.18	1.19	1.20	1.23	1.25	1.63			3.50	3.53	3.68
wind	0.5 m/s	velocity	5.06	7.88	7.88	7.75	7.88	7.75	7.68	7.62	7.43	7.31	8.60	7.31		7.83	7.77	7.45

Decathlon - Heat 1 - 2018 Tokyo Combined Event Meeting (Tokyo, JPN) *Matsubayashi (2018) - research on athlete performance and technique*

date	22-Apr-18	time	2.73	3.90	5.05	6.24	7.39	8.58	9.76	10.94	12.12	13.31		14.92	6 / 3			
reaction time		interval		1.17	1.15	1.19	1.15	1.19	1.18	1.18	1.18	1.19	1.61			3.51	3.52	3.55
wind	1.8 m/s	velocity	5.03	7.81	7.95	7.68	7.95	7.68	7.75	7.75	7.75	7.68	8.71	7.37		7.81	7.79	7.72

Decathlon - Heat 1 - 2014 Asian Games (Incheon, KOR) *Takeo (2014) - decathletes sprint ability and relationship of individual performance*

date	01-Oct-14	time	2.78	3.97	5.15	6.31	7.47	8.65	9.85	11.07	12.30	13.54		15.16	/ 4			
reaction time	0.196	interval		1.19	1.18	1.16	1.16	1.18	1.20	1.22	1.23	1.24	1.62			3.53	3.54	3.69
wind	1.7 m/s	velocity	4.94	7.68	7.75	7.88	7.88	7.75	7.62	7.49	7.43	7.37	8.65	7.26		7.77	7.75	7.43

Decathlon - Heat 1 - 2014 Japanese Multi-Event National Championships (Nagano, JPN) *Takeo (2014) - decathletes sprint ability and relationship of individual performance*

date	01-Jun-14	time	2.76	3.92	5.06	6.21	7.38	8.54	9.71	10.91	12.08	13.30		14.90	1 / 6			
reaction time		interval		1.16	1.14	1.15	1.17	1.16	1.17	1.20	1.17	1.22	1.60			3.45	3.50	3.59
wind	0.1 m/s	velocity	4.97	7.88	8.02	7.95	7.81	7.88	7.81	7.62	7.81	7.49	8.76	7.38		7.95	7.83	7.64

Decathlon - Heat 2 - 2014 Nittai University Distance Meeting (Wakayama, JPN) *Takeo (2014) - decathletes sprint ability and relationship of individual performance*

date	27-Apr-14	time	2.79	3.92	5.07	6.24	7.41	8.58	9.78	10.97	12.16	13.38		14.95	5 / 1			
reaction time		interval		1.13	1.15	1.17	1.17	1.17	1.20	1.19	1.19	1.22	1.57			3.45	3.54	3.60
wind	0.0 m/s	velocity	4.92	8.09	7.95	7.81	7.81	7.81	7.62	7.68	7.68	7.49	8.93	7.36		7.95	7.75	7.62

Decathlon - Heat 3 - 2013 Japanese Multi-Event National Championships (Nagano, JPN) *Takeo (2014) - decathletes sprint ability and relationship of individual performance*

date	02-Jun-13	time	2.80	4.00	5.20	6.39	7.61	8.83	10.10	11.38	12.69	13.99		15.66	5 / 3			
reaction time		interval		1.20	1.20	1.19	1.22	1.22	1.27	1.28	1.31	1.30	1.67			3.59	3.71	3.89
wind	0.0 m/s	velocity	4.90	7.62	7.62	7.68	7.49	7.49	7.20	7.14	6.98	7.03	8.40	7.02		7.64	7.39	7.05

Decathlon - Heat 1 - 2013 Wakayama Athletics Meeting (Wakayama, JPN) *Takeo (2014) - decathletes sprint ability and relationship of individual performance*

date	28-Apr-13	time	2.80	3.97	5.12	6.29	7.46	8.64	9.82	11.03	12.21	13.43		15.05	3 / 1			
reaction time		interval		1.17	1.15	1.17	1.17	1.18	1.18	1.21	1.18	1.22	1.62			3.49	3.53	3.61
wind	0.8 m/s	velocity	4.90	7.81	7.95	7.81	7.81	7.75	7.75	7.55	7.75	7.49	8.65	7.31		7.86	7.77	7.60

Decathlon - Heat 1 - 2012 Olympic Games (London, GBR) *Takeo (2014) - decathletes sprint ability and relationship of individual performance*

date	09-Aug-12	time	2.80	3.99	5.20	6.42	7.62	8.85	10.06	11.30	12.56	13.84		15.47	6 / 5			
reaction time	0.186	interval		1.19	1.21	1.22	1.20	1.23	1.21	1.24	1.26	1.28	1.63			3.62	3.64	3.78
wind	-0.9 m/s	velocity	4.90	7.68	7.55	7.49	7.62	7.43	7.55	7.37	7.25	7.14	8.60	7.11		7.57	7.53	7.25

Decathlon - Heat 2 - 2012 Japanese Multi-Event National Championships (Nagano, JPN) *Takeo (2014) - decathletes sprint ability and relationship of individual performance*

date	03-Jun-12	time	2.76	3.93	5.10	6.25	7.41	8.58	9.78	10.98	12.19	13.42		15.01	5 / 2			
reaction time		interval		1.17	1.17	1.15	1.16	1.17	1.20	1.20	1.21	1.23	1.59			3.49	3.53	3.64
wind	-1.7 m/s	velocity	4.97	7.81	7.81	7.95	7.88	7.81	7.62	7.62	7.55	7.43	8.82	7.33		7.86	7.77	7.53

Decathlon - Heat ?? - 2012 Tokyo Athletics Championships (Chofu, JPN) *Takeo (2014) - decathletes sprint ability and relationship of individual performance*

date	22-Apr-12	time	2.79	3.95	5.15	6.31	7.50	8.73	9.95	11.17	12.41	13.64		15.25	???			
reaction time		interval		1.16	1.20	1.16	1.19	1.23	1.22	1.22	1.24	1.23	1.61			3.52	3.64	3.69
wind	-0.1 m/s	velocity	4.92	7.88	7.62	7.88	7.68	7.43	7.49	7.49	7.37	7.43	8.71	7.21		7.79	7.53	7.43

Decathlon - Heat 1 - 2011 IAAF World Championships (Daegu, KOR) *Hisashi (2012) - perfromance analysis of Japanese record holder Keisuke Ushiro*

date	28-Aug-11	time	2.77	3.92	5.09	6.28	7.45	8.66	9.88	11.10	12.34	13.57		15.20	5 / 6			
reaction time	0.167	interval		1.15	1.17	1.19	1.17	1.21	1.22	1.22	1.24	1.23	1.63			3.51	3.60	3.69
wind	-0.1 m/s	velocity	4.95	7.95	7.81	7.68	7.81	7.55	7.49	7.49	7.37	7.43	8.60	7.24		7.81	7.62	7.43

Decathlon - Heat ?? - 2011 Japanese Multi-Event National Championships (Kawasaki, JPN) *Hisashi (2012) - perfromance analysis of Japanese record holder Keisuke Ushiro*

date	05-Jun-11	time	2.75	3.92	5.08	6.25	7.41	8.58	9.75	10.92	12.14	13.33		14.93	???			
reaction time		interval		1.17	1.16	1.17	1.16	1.17	1.17	1.17	1.22	1.19	1.60	PB		3.50	3.50	3.58
wind	-0.1 m/s	velocity	4.99	7.81	7.88	7.81	7.88	7.81	7.81	7.81	7.49	7.68	8.76	7.37		7.83	7.83	7.66

Decathlon - Heat 1 - 2011 Wakayama Athletics Meeting (Wakayama, JPN) *Hisashi (2012) - perfromance analysis of Japanese record holder Keisuke Ushiro*

date	24-Apr-11	time	2.82	3.98	5.17	6.35	7.56	8.77	10.00	11.21	12.43	13.64		15.28	8 / 2			
reaction time		interval		1.16	1.19	1.18	1.21	1.21	1.23	1.21	1.22	1.21	1.64			3.53	3.65	3.64
wind	-0.1 m/s	velocity	4.87	7.88	7.68	7.75	7.55	7.55	7.43	7.55	7.49	7.55	8.55	7.20		7.77	7.51	7.53

Decathlon - Heat 2 - 2009 Japanese National Championships (Hiroshima, JPN) *Hisashi (2010) - the run performance analysis in the decathlon sprint events*

date	26-Jun-09	time	2.59	3.78	4.97	6.16	7.36	8.57	9.79	11.06	12.33	13.52		15.34	5 / 7			
reaction time		interval		1.19	1.19	1.19	1.20	1.21	1.22	1.27	1.27	1.19	1.82	PB		3.57	3.63	3.73
wind	1.6 m/s	velocity	5.30	7.68	7.68	7.68	7.62	7.55	7.49	7.20	7.20	7.68	7.70	7.17		7.68	7.55	7.35

Vahnyakov, Oleksandr (UKR) (1986)	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2007 European Cup (Munich, GER)													*Graubner (2007) - http://www.fgs.uni-halle.de*			
date	24-Jun-07	time	2.80	3.93	5.02	6.08	7.15	8.24	9.35	10.47	11.57	12.69		14.21	/ 8			
reaction time	0.243	interval		1.13	1.09	1.06	1.07	1.09	1.11	1.12	1.10	1.12	1.52			3.28	3.27	3.34

wind	0.4 m/s	velocity	4.90	8.09	8.39	8.62	8.54	8.39	8.23	8.16	8.31	8.16	9.22	7.74		8.36	8.39	8.21

Valle, Emilio (CUB) (1967)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1996 Olympic Games (Atlanta, GA)													*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*			
date 26-Jul-96	time	2.36	3.44	4.46	5.46	6.48	7.49	8.50	9.54	10.58	11.61		13.20	7 / 5			
reaction time 0.179	interval		1.08	1.02	1.00	1.02	1.01	1.01	1.04	1.04	1.03	1.59			3.10	3.04	3.11
wind 0.8 m/s	velocity	5.81	8.46	8.96	9.14	8.96	9.05	9.05	8.79	8.79	8.87	8.82	8.33		8.85	9.02	8.82
FINAL - 1992 Olympic Games (Barcelona, ESP)													*Knight (1992) - 1992 Olympic report: the hurdling events*			
date 03-Aug-92	time	2.60	3.68	4.71	5.74	6.75	7.78	8.82	9.86	10.93	12.02		13.41	2 / 6			
reaction time 0.171	interval		1.08	1.03	1.03	1.01	1.03	1.04	1.04	1.07	1.09	1.39			3.14	3.08	3.20
wind 0.8 m/s	velocity	5.28	8.46	8.87	8.87	9.05	8.87	8.79	8.79	8.54	8.39	10.09	8.20		8.73	8.90	8.57
FINAL - 1989 IAAF World Cup (Barcelona, ESP)													*Gill (1990) - atletismo (I) carreras y marcha*			
date 10-Sep-89	time	2.59	3.65	4.67	5.71	6.70	7.70	8.72	9.73	10.77	11.83		13.21	5 / 3			
reaction time	interval		1.06	1.02	1.04	0.99	1.00	1.02	1.01	1.04	1.06	1.38			3.12	3.01	3.11
wind 2.6 m/s	velocity	5.30	8.62	8.96	8.79	9.23	9.14	8.96	9.05	8.79	8.62	10.16	8.33		8.79	9.11	8.82
FINAL - 1986 IAAF World Junor Championships (Athens, GRE) (1.07m)													*Miskos (1986) - IAAF biomechanical research - Athens 1986 - hurdle races*			
date 19-Jul-86	time	2.62	3.50	4.83	5.91	6.98	8.07	9.19	10.30	11.42	12.54		14.00	/ 3			
reaction time	interval		0.88	1.33	1.08	1.07	1.09	1.12	1.11	1.12	1.12	1.46			3.29	3.28	3.35
wind -0.8 m/s	velocity	5.24	10.39	6.87	8.46	8.54	8.39	8.16	8.23	8.16	8.16	9.60	7.86		8.33	8.36	8.19

Van Der Schaaf, Liam (NED) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 3 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)													*Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*			
date 20-Mar-22	time	2.53	3.60	4.63	5.70	6.73							7.69	1 / 7			
reaction time 0.129	interval	7 steps	1.07	1.03	1.07	1.03						0.96	PB		3.17		
	velocity	5.42	8.54	8.87	8.54	8.87						10.13	7.80		8.65		

van der Westen, Marcel (NED) (1976)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2010 European Team Championships, 1st League (Budapest, HUN)													*Blomkvist (2010) - www.sub13.se*			
date 20-Jun-10	time	2.46	3.53	4.57	5.59	6.64	7.68	8.75	9.81	10.90	11.98		13.61	3 / 2			
reaction time 0.130	interval		1.07	1.04	1.02	1.05	1.04	1.07	1.06	1.09	1.08	1.63			3.13	3.16	3.23
wind 1.1 m/s	velocity	5.58	8.54	8.79	8.96	8.70	8.79	8.54	8.62	8.39	8.46	8.60	8.08		8.76	8.68	8.49
FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER)													*Graubner (2009) - http://www.fgs.uni-halle.de*			
date 14-Sep-08	time	2.64	3.69	4.72	5.76	6.79	7.83	8.87	9.93	11.00	12.09		13.57	1 / 5			
reaction time 0.136	interval		1.05	1.03	1.04	1.03	1.04	1.04	1.06	1.07	1.09	1.48			3.12	3.11	3.22
wind -1.3 m/s	velocity	5.20	8.70	8.87	8.79	8.87	8.79	8.79	8.62	8.54	8.39	9.47	8.11		8.79	8.82	8.52

Vander-Kuyp, Kyle (AUS) (1971)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1996 Olympic Games (Atlanta, GA)													*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*			
date 26-Jul-96	time	2.40	3.46	4.54	5.58	6.64	7.61	8.68	9.64	10.78	11.83		13.40	2 / 7			
reaction time 0.160	interval		1.06	1.08	1.04	1.06	0.97	1.07	0.96	1.14	1.05	1.57			3.18	3.10	3.15
wind 0.8 m/s	velocity	5.72	8.62	8.46	8.79	8.62	9.42	8.54	9.52	8.02	8.70	8.93	8.21		8.62	8.85	8.70

Vašátko, Stanislav (CZE) (1992)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 2 - 2014 Czech Republic National Championships (Ostrava, CZE)													*Feher (2014) - Final report from the Czech Republic national championships*			
date 02-Aug-14	time	2.87	4.08	5.27	6.48	7.70	8.94	10.18	11.44	12.70	13.98		15.64	1 / 5			
reaction time 0.169	interval		1.21	1.19	1.21	1.22	1.24	1.24	1.26	1.26	1.28	1.66			3.61	3.70	3.80
wind 0.8 m/s	velocity	4.78	7.55	7.68	7.55	7.49	7.37	7.37	7.25	7.25	7.14	8.45	7.03		7.60	7.41	7.22

Večera, Jindrich (CZE) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14	time	2.70	3.83	4.94	6.06	7.17	8.28	9.43	10.56	11.73	12.92		14.55	5 / 4			
reaction time 0.171	interval		1.13	1.11	1.12	1.11	1.11	1.15	1.13	1.17	1.19	1.63			3.36	3.37	3.49
wind -2.2 m/s	velocity	5.08	8.09	8.23	8.16	8.23	8.23	7.95	8.09	7.81	7.68	8.60	7.56		8.16	8.14	7.86
Heat 2 - 2014 Czech Republic National U20 Championships (Trinec, CZE) (99cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14	time	2.75	3.85	4.99	6.09	7.19	8.30	9.45	10.59	11.74	12.92		14.55	3 / 1			
reaction time 0.184	interval		1.10	1.14	1.10	1.10	1.11	1.15	1.14	1.15	1.18	1.63			3.34	3.36	3.47
wind -2.9 m/s	velocity	4.99	8.31	8.02	8.31	8.31	8.23	7.95	8.02	7.95	7.75	8.60	7.56		8.21	8.16	7.90

Večera, Vincent (CZE) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm)													*Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*			
date 28-Jun-14	time	2.88	4.15	5.37	6.69	8.00	9.28	10.57	11.87	13.16	14.48		16.25	7 / 7			
reaction time 0.219	interval		1.27	1.22	1.32	1.31	1.28	1.29	1.30	1.29	1.32	1.77			3.81	3.88	3.91
wind -0.3 m/s	velocity	4.76	7.20	7.49	6.92	6.98	7.14	7.09	7.03	7.09	6.92	7.92	6.77		7.20	7.07	7.01

Vega, Javier (ESP) (1975)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 1998 Spanish National Championships (San Sebastián, ESP)													*Ruiz (1998) - campeonato des españa absoluto: análisis de la carreras con villas*			
date 02-Aug-98	time	2.66	3.75	4.84	5.95	7.02	8.14	9.24	10.37	11.50	12.64		14.21	7 / 3			
reaction time	interval		1.09	1.09	1.11	1.07	1.12	1.10	1.13	1.13	1.14	1.57			3.29	3.29	3.40

wind	0.1 m/s	velocity	5.16	8.39	8.39	8.23	8.54	8.16	8.31	8.09	8.09	8.02	8.93	7.74		8.33	8.33	8.06

Vésin, Yannick (FRA) (1954)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat ? - 1986 French National Indoor Championships (Lievin, FRA)													*Aubert (1986) - indoor - video - haies, etude des performances*			
date 25-Jan-86 time	2.64	3.78	4.88	5.95	7.07							8.06	/ 6			
reaction time interval		1.14	1.10	1.07	1.12						0.99			3.31		
velocity	5.20	8.02	8.31	8.54	8.16						9.82	7.44		8.28		

Viala, Didier (FRA)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat ? - 1986 French National Indoor Championships (Lievin, FRA)													*Aubert (1986) - indoor - video - haies, etude des performances*			
date 25-Jan-86 time	2.69	3.82	4.94	6.08	7.22							8.19	/ 6			
reaction time interval		1.13	1.12	1.14	1.14						0.97			3.39		
velocity	5.10	8.09	8.16	8.02	8.02						10.02	7.33		8.09		

Vick, Brahmir (USA) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis)													*Henson (2024) - Athlete First: 2024 year end hurdle report*			
date 27-Jun-24 time	2.57	3.65	4.69	5.74	6.78	7.84	8.90	9.98	11.05	12.18		13.67	1 / 7			
reaction time interval		1.08	1.04	1.05	1.04	1.06	1.06	1.08	1.07	1.13	1.49			3.17	3.16	3.28
wind 0.3 m/s velocity	5.34	8.46	8.79	8.70	8.79	8.62	8.62	8.46	8.54	8.09	9.41	8.05		8.65	8.68	8.36
Heat 3 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis)													*Henson (2024) - Athlete First: 2024 year end hurdle report*			
date 24-Jun-24 time	2.56	3.62	4.66	5.70	6.73	7.77	8.83	9.87	10.96	12.08		13.54	7 / 7			
reaction time interval		1.06	1.04	1.04	1.03	1.04	1.06	1.04	1.09	1.12	1.46	PB		3.14	3.13	3.25
wind 1.8 m/s velocity	5.36	8.62	8.79	8.79	8.87	8.79	8.62	8.79	8.39	8.16	9.60	8.12		8.73	8.76	8.44

Victor, Lindon (GRN) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 1 - 2024 Olympic Games (Paris, FRA)													*Paris 2024 Olympic Games - Results Book (2024)*			
date 03-Aug-24 time	2.49	3.67	4.83	6.00	7.16	8.31	9.47	10.60	11.77	12.93		14.62	4 / 3			
reaction time 0.147 interval 7 steps	1.18	1.16	1.17	1.16	1.15	1.16	1.13	1.17	1.16	1.69				3.51	3.47	3.46
wind 0.2 m/s velocity	5.51	7.75	7.88	7.81	7.88	7.95	7.88	8.09	7.81	7.88	8.30	7.52		7.81	7.90	7.92
Decathlon - Heat 1 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis)													*Henson (2024) - Athlete First: 2023 year end hurdle report*			
date 26-Aug-23 time	2.70	3.83	5.00	6.10	7.26	8.38	9.50	10.65	11.81	13.01		14.47	7 / 1			
reaction time 0.149 interval 7 steps	1.13	1.17	1.10	1.16	1.12	1.12	1.15	1.16	1.20	1.46				3.40	3.40	3.51
wind 0.2 m/s velocity	5.08	8.09	7.81	8.31	7.88	8.16	8.16	7.95	7.88	7.62	9.60	7.60		8.06	8.06	7.81
Decathlon - Heat 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis)													*Henson (2024) - Athlete First: 2022 year end hurdle report*			
date 24-Jul-22 time	2.78	3.90	5.06	6.20	7.36	8.50	9.63	10.83	12.00	13.20		14.76	4 / 4			
reaction time 0.149 interval 7 steps	1.12	1.16	1.14	1.16	1.14	1.13	1.20	1.17	1.20	1.56				3.42	3.43	3.57
wind 1.5 m/s velocity	4.94	8.16	7.88	8.02	7.88	8.02	8.09	7.62	7.81	7.62	8.99	7.45		8.02	7.99	7.68
Decathlon - Heat 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date 05-Aug-21 time	2.77	3.90	5.01	6.15	7.30	8.48	9.67	10.82	12.01	13.26		14.83	5 / 4			
reaction time 0.174 interval 7 steps	1.13	1.11	1.14	1.15	1.18	1.19	1.15	1.19	1.25	1.57				3.38	3.52	3.59
wind 0.1 m/s velocity	4.95	8.09	8.23	8.02	7.95	7.75	7.68	7.95	7.68	7.31	8.93	7.42		8.11	7.79	7.64

Videnov, Zhivko (BUL) (1977)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2002 European Championships (Munich, GER)													*Graubner (2009) - http://www.fgs.uni-halle.de*			
date 10-Aug-02 time	2.63	3.69	4.73	5.75	6.79	7.85	8.90	10.01	11.09	12.25		13.67	/ 8			
reaction time 0.146 interval		1.06	1.04	1.02	1.04	1.06	1.05	1.11	1.08	1.16	1.42			3.12	3.15	3.35
wind 0.4 m/s velocity	5.22	8.62	8.79	8.96	8.79	8.62	8.70	8.23	8.46	7.88	9.87	8.05		8.79	8.70	8.19
Semi-Final 2 - 2002 European Championships (Munich, GER)													*Graubner (2009) - http://www.fgs.uni-halle.de*			
date 10-Aug-02 time	2.64	3.68	4.70	5.74	6.76	7.80	8.82	9.88	10.94	12.04		13.45	/ 3			
reaction time 0.128 interval		1.04	1.02	1.04	1.02	1.04	1.02	1.06	1.06	1.10	1.41			3.10	3.08	3.22
wind 0.8 m/s velocity	5.20	8.79	8.96	8.79	8.96	8.79	8.96	8.62	8.62	8.31	9.94	8.18		8.85	8.90	8.52
Heat 5 - 2002 European Championships (Munich, GER)													*Graubner (2009) - http://www.fgs.uni-halle.de*			
date 09-Aug-02 time	2.69	3.72	4.73	5.77	6.79	7.84	8.88	9.93	11.01	12.11		13.52	/ 1			
reaction time 0.139 interval		1.03	1.01	1.04	1.02	1.05	1.04	1.05	1.08	1.10	1.41			3.08	3.11	3.23
wind -0.5 m/s velocity	5.10	8.87	9.05	8.79	8.96	8.70	8.79	8.70	8.46	8.31	9.94	8.14		8.90	8.82	8.49

Villar, Paulo (COL) (1978)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 20-Aug-09 time	2.55	3.60	4.63	5.65	6.68	7.71	8.75	9.81	10.89	11.97		13.44	5 / 5			
reaction time 0.171 interval		1.05	1.03	1.02	1.03	1.03	1.04	1.06	1.08	1.08	1.47			3.10	3.10	3.22
wind 0.9 m/s velocity	5.38	8.70	8.87	8.96	8.87	8.87	8.79	8.62	8.46	8.46	9.54	8.18		8.85	8.85	8.52
Heat 6 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date 19-Aug-09 time	2.58	3.66	4.71	5.75	6.77	7.81	8.86	9.91	10.97	12.07		13.52	2 / 2			
reaction time 0.162 interval		1.08	1.05	1.04	1.02	1.04	1.05	1.05	1.06	1.10	1.45			3.17	3.11	3.21
wind 0.1 m/s velocity	5.32	8.46	8.70	8.79	8.96	8.79	8.70	8.70	8.62	8.31	9.67	8.14		8.65	8.82	8.54

Vivancos, Felipe (ESP) (1980)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2002 IAAF World Cup (Madrid, ESP)															*Sanchez (2002) - copa del mundo de Madrid '02: análisis de la carreras con villas*			
date	21-Sep-02	time	2.53	3.61	4.65	5.69	6.74	7.81	8.90	9.99	11.08	12.18		13.79	7 / 5			
reaction time	0.124	interval		1.08	1.04	1.04	1.05	1.07	1.09	1.09	1.09	1.10	1.61			3.16	3.21	3.28
wind	-2.2 m/s	velocity	5.42	8.46	8.79	8.79	8.70	8.54	8.39	8.39	8.39	8.31	8.71	7.98		8.68	8.54	8.36

Vondráček, Jan (CZE) (1991)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 2 - 2012 Czech Republic National Indoor Championships (Praha, CZE)															*Feher (2012) - Czech Republic indoor national championships - men's 60m hurdles*			
date	25-Feb-12	time	2.88	4.06	5.27	6.48	7.66							8.68	1 / 6			
reaction time	0.157	interval		1.18	1.21	1.21	1.18						1.02			3.60		
		velocity	4.76	7.75	7.55	7.55	7.75						9.53	6.91		7.62		

Vos, Ingmar (NED) (1986)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 5 - 2009 IAAF World Championships (Berlin, GER)															*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
date	20-Aug-09	time	2.76	3.91	5.04	6.16	7.28	8.40	9.52	10.66	11.80	12.99		14.51	4 / 1			
reaction time	0.178	interval		1.15	1.13	1.12	1.12	1.12	1.12	1.14	1.14	1.19	1.52	**PB**		3.40	3.36	3.47
wind	0.3 m/s	velocity	4.97	7.95	8.09	8.16	8.16	8.16	8.16	8.02	8.02	7.68	9.22	7.58		8.06	8.16	7.90

Vukicevic, Vladimir (NOR) (1991)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2021 Boris Hanžeković Memorial (Zagreb, CRO) (TV Analysis)															*Henson (2021) - Athlete First: 2021 year end hurdle report*			
date	14-Sep-21	time	2.56	3.63	4.66	5.70	6.73	7.76	8.83	9.90	11.00	12.10		13.65	2 / 7			
reaction time	0.136	interval		1.07	1.03	1.04	1.03	1.03	1.07	1.07	1.10	1.10	1.55			3.14	3.13	3.27
wind	0.7 m/s	velocity	5.36	8.54	8.87	8.79	8.87	8.87	8.54	8.54	8.31	8.31	9.05	8.06		8.73	8.76	8.39
FINAL - 2020 Herculis Meeting International d'Athletisme (Monaco, MON) (TV Analysis)															*Henson (2020) - Athlete First: 2020 year end hurdle report*			
date	14-Aug-20	time	2.63	3.70	4.77	5.80	6.87	7.91	9.00	10.07	11.14	12.24		13.75	1 / 6			
reaction time	0.130	interval		1.07	1.07	1.03	1.07	1.04	1.09	1.07	1.07	1.10	1.51			3.17	3.20	3.24
wind	0.8 m/s	velocity	5.22	8.54	8.54	8.87	8.54	8.79	8.39	8.54	8.54	8.31	9.28	8.00		8.65	8.57	8.46
FINAL - 2013 Windsprint (Sundsvall, SWE)															*(2013) - www.ssg.se/windsprint/Splittider/*			
date	28-Jul-13	time	2.62	3.68	4.73	5.80	6.85	7.92	8.99	10.06	11.13	12.23		13.70	4 / 5			
reaction time		interval		1.06	1.05	1.07	1.05	1.07	1.07	1.07	1.07	1.10	1.47			3.18	3.19	3.24
wind	1.7 m/s	velocity	5.24	8.62	8.70	8.54	8.70	8.54	8.54	8.54	8.54	8.31	9.54	8.03		8.62	8.60	8.46
FINAL - 2012 Windsprint (Sundsvall, SWE)															*Blomkvist (2012) - www.sub13.se*			
date	17-Jun-12	time	2.67	3.76	4.83	5.89	6.94	8.00	9.06	10.12	11.19	12.30		13.77	3 / 3			
reaction time		interval		1.09	1.07	1.06	1.05	1.06	1.06	1.06	1.07	1.11	1.47			3.22	3.17	3.24
wind	1.1 m/s	velocity	5.14	8.39	8.54	8.62	8.70	8.62	8.62	8.62	8.54	8.23	9.54	7.99		8.52	8.65	8.46
FINAL - 2011 Windsprint (Sundsvall, SWE)															*Blomkvist (2011) - www.sub13.se*			
date	31-Jul-11	time	2.67	3.74	4.81	5.89	6.98	8.07	9.17	10.28	11.39	12.52		14.04	/ 2			
reaction time		interval		1.07	1.07	1.08	1.09	1.09	1.10	1.11	1.11	1.13	1.52			3.22	3.28	3.35
wind	2.8 m/s	velocity	5.14	8.54	8.54	8.46	8.39	8.39	8.31	8.23	8.23	8.09	9.22	7.83		8.52	8.36	8.19
FINAL - 2011 Landskamp FIN-SWE-NOR (Tampere, FIN)															*Blomkvist (2011) - www.sub13.se*			
date	05-Feb-11	time	2.52	3.68	4.76	5.82	6.92							7.95	3 / 2			
reaction time		interval		1.16	1.08	1.06	1.10						1.03			3.30		
		velocity	5.44	7.88	8.46	8.62	8.31						9.44	7.55		8.31		
Junior Final - 2010 ExxonMobil Bislett Games (Olso, NOR) (99cm)															*Blomkvist (2010) - www.sub13.se*			
date	04-Jun-10	time	2.48	3.52	4.52	5.54	6.56	7.56	8.60	9.64	10.72	11.80		13.42	4 / 2			
reaction time	0.158	interval		1.04	1.00	1.02	1.02	1.00	1.04	1.04	1.08	1.08	1.62	**NJR**		3.06	3.06	3.20
wind	0.3 m/s	velocity	5.53	8.79	9.14	8.96	8.96	9.14	8.79	8.79	8.46	8.46	8.65	8.20		8.96	8.96	8.57

Wade, Larry (USA) (1974)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2003 USATF National Championships (Palo Alto, CA)															*USATF Women's Sprint Development (2003)*			
date	21-Jun-03	time	2.40	3.47	4.52	5.59	6.61	7.61	8.62	9.64	10.69	11.75		13.43	4 / 3			
reaction time		interval		1.07	1.05	1.07	1.02	1.00	1.01	1.02	1.05	1.06	1.68			3.19	3.03	3.13
wind	-2.4 m/s	velocity	5.72	8.54	8.70	8.54	8.96	9.14	9.05	8.96	8.70	8.62	8.35	8.19		8.60	9.05	8.76

Wado, Tatsuya (JPN) (1990)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2020 All Japan Corporate Championships (Kumagaya, JPN)															*Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*			
date	20-Sep-20	time	2.62	3.72	4.81	5.89	6.97	8.05	9.15	10.28	11.40	12.54		14.09	2 / 6			
reaction time	0.134	interval		1.10	1.09	1.08	1.08	1.08	1.10	1.13	1.12	1.14	1.55			3.27	3.26	3.39
wind	0.1 m/s	velocity	5.24	8.31	8.39	8.46	8.46	8.46	8.31	8.09	8.16	8.02	9.05	7.81		8.39	8.41	8.09
FINAL - 2019 Fuse Sprint (Tottori, JPN)															*Kijima (2019) - research on athlete performance and technique- 2019 data book*			
date	02-Jun-19	time	2.58	3.67	4.75	5.82	6.87	7.95	9.03	10.11	11.22	12.33		13.82	9 / 6			
reaction time	0.131	interval	7 steps	1.09	1.08	1.07	1.05	1.08	1.08	1.08	1.11	1.11	1.49			3.24	3.21	3.30
wind	1.9 m/s	velocity	5.32	8.39	8.46	8.54	8.70	8.46	8.46	8.46	8.23	8.23	9.41	7.96		8.46	8.54	8.31
FINAL - 2019 Kinami Memorial (Osaka, JPN)															*Matsubayashi (2019) - research on athlete performance and technique- 2019 data book*			
date	06-May-19	time	2.60	3.67	4.73	5.78	6.84	7.90	8.99	10.08	11.17	12.32		13.79	5 / 5			

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

reaction time		interval	7 steps	1.07	1.06	1.05	1.06	1.06	1.09	1.09	1.09	1.15	1.47			3.18	3.21	3.33
wind	0.3 m/s	velocity	5.28	8.54	8.62	8.70	8.62	8.62	8.39	8.39	8.39	7.95	9.54	7.98		8.62	8.54	8.23

A FINAL - 2019 Mikio Oda Memorial (Hiroshima, JPN) *Kobayashi (2019) - research on athlete performance and technique- 2019 data book*

date	28-Apr-19	time	2.60	3.69	4.75	5.80	6.86	7.93	9.00	10.10	11.22	12.35		13.88	8 / 5			
reaction time		interval	7 steps	1.09	1.06	1.05	1.06	1.07	1.07	1.10	1.12	1.13	1.53			3.20	3.20	3.35
wind	0.6 m/s	velocity	5.28	8.39	8.62	8.70	8.62	8.54	8.54	8.31	8.16	8.09	9.16	7.93		8.57	8.57	8.19

FINAL - 2018 Japanese National Championships (Yamaguchi, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	24-Jun-18	time	2.55	3.64	4.70	5.74	6.83	7.92	9.01	10.13	11.26	12.40		13.91	2 / 8			
reaction time	0.117	interval		1.09	1.06	1.04	1.09	1.09	1.09	1.12	1.13	1.14	1.51			3.19	3.27	3.39
wind	0.7 m/s	velocity	5.38	8.39	8.62	8.79	8.39	8.39	8.39	8.16	8.09	8.02	9.28	7.91		8.60	8.39	8.09

FINAL - 2018 Fuse Sprint (Tottori, JPN) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	03-Jun-18	time	2.60	3.70	4.77	5.83	6.88	7.95	9.04	10.14	11.24	12.37		13.88	/ 5			
reaction time		interval		1.10	1.07	1.06	1.05	1.07	1.09	1.10	1.10	1.13	1.51			3.23	3.21	3.33
wind	0.5 m/s	velocity	5.28	8.31	8.54	8.62	8.70	8.54	8.39	8.31	8.31	8.09	9.28	7.93		8.49	8.54	8.23

Heat 1 - 2017 Japanese National Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/07/13/post-1040/*

date	24-Jun-17	time	2.63	3.74	4.80	5.88	6.95	8.01	9.09	10.18	11.28	12.40		13.91	8 / 6			
reaction time	0.158	interval		1.11	1.06	1.08	1.07	1.06	1.08	1.09	1.10	1.12	1.51			3.25	3.21	3.31
wind	1.3 m/s	velocity	5.22	8.23	8.62	8.46	8.54	8.62	8.46	8.39	8.31	8.16	9.28	7.91		8.44	8.54	8.28

FINAL - 2017 Fuse Sprint (Tottori, JPN) *(2017) - tfdata-store.com/2017/06/04/post-848/*

date	04-Jun-17	time	2.58	3.66	4.70	5.75	6.81	7.87	8.92	9.99	11.08	12.18		13.68	8 / 4			
reaction time		interval		1.08	1.04	1.05	1.06	1.06	1.05	1.07	1.09	1.10	1.50			3.17	3.17	3.26
wind	3.2 m/s	velocity	5.32	8.46	8.79	8.70	8.62	8.62	8.70	8.54	8.39	8.31	9.35	8.04		8.65	8.65	8.41

Heat 5 - 2017 Fuse Sprint (Tottori, JPN) *(2017) - tfdata-store.com/2017/06/04/post-848/*

date	04-Jun-17	time	2.59	3.68	4.73	5.79	6.85	7.91	8.98	10.05	11.15	12.26		13.78	8 / 6			
reaction time		interval		1.09	1.05	1.06	1.06	1.06	1.07	1.07	1.10	1.11	1.52			3.20	3.19	3.28
wind	1.5 m/s	velocity	5.30	8.39	8.70	8.62	8.62	8.62	8.54	8.54	8.31	8.23	9.22	7.98		8.57	8.60	8.36

Open FINAL - 2017 Michitaka Memorial (Osaka, JPN) *(2017) - tfdata-store.com/2017/05/08/post-413/*

date	07-May-17	time	2.61	3.69	4.75	5.82	6.91	7.98	9.07	10.19	11.32	12.45		13.93	3 / 5			
reaction time		interval		1.08	1.06	1.07	1.09	1.07	1.09	1.12	1.13	1.13	1.48			3.21	3.25	3.38
wind	-1.5 m/s	velocity	5.26	8.46	8.62	8.54	8.39	8.54	8.39	8.16	8.09	8.09	9.47	7.90		8.54	8.44	8.11

FINAL - 2017 Mikio Oda Memorial (Hiroshima, JPN) *(2017) - tfdata-store.com/2017/05/01/458/*

date	29-Apr-17	time	2.57	3.67	4.72	5.78	6.85	7.91	9.01	10.07	11.21	12.32		13.82	2 / 6			
reaction time		interval		1.10	1.05	1.06	1.07	1.06	1.10	1.06	1.14	1.11	1.50			3.21	3.23	3.31
wind	1.5 m/s	velocity	5.34	8.31	8.70	8.62	8.54	8.62	8.31	8.62	8.02	8.23	9.35	7.96		8.54	8.49	8.28

FINAL - 2015 Japanese National Championships (Niigata, JPN) *Takashima (2015) - race analysis of 110m & 100m hurdles in Japan- results 2015 competitions*

date	28-Jun-15	time	2.57	3.65	4.71	5.78	6.85	7.93	9.03	10.11	11.23	12.37		13.90	3 / 5			
reaction time	0.121	interval		1.08	1.06	1.07	1.07	1.08	1.10	1.08	1.12	1.14	1.53			3.21	3.25	3.34
wind	-1.4 m/s	velocity	5.34	8.46	8.62	8.54	8.54	8.46	8.31	8.46	8.16	8.02	9.16	7.91		8.54	8.44	8.21

Heat 3 - 2013 Japanese National Championships (Chofu, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	08-Jun-13	time	2.63	3.74	4.82	5.91	7.02	8.11	9.22	10.32	11.45	12.63		14.15	5 / 4			
reaction time		interval		1.11	1.08	1.09	1.11	1.09	1.11	1.10	1.13	1.18	1.52			3.28	3.31	3.41
wind	-0.4 m/s	velocity	5.22	8.23	8.46	8.39	8.23	8.39	8.23	8.31	8.09	7.75	9.22	7.77		8.36	8.28	8.04

FINAL - 2013 Mito Invitational Athletics Meeting (Mito, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	04-May-13	time	2.60	3.93	5.15	6.34	7.46	8.60	9.71	10.83	11.97	13.13		14.68	/ 8			
reaction time		interval		1.33	1.22	1.19	1.12	1.14	1.11	1.12	1.14	1.16	1.55			3.74	3.37	3.42
wind	-1.3 m/s	velocity	5.28	6.87	7.49	7.68	8.16	8.02	8.23	8.16	8.02	7.88	9.05	7.49		7.33	8.14	8.02

Heat 2 - 2013 Mito Invitational Athletics Meeting (Mito, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	04-May-13	time	2.64	3.72	4.84	5.93	7.03	8.11	9.20	10.32	11.46	12.62		14.14	/ 2			
reaction time		interval		1.08	1.12	1.09	1.10	1.08	1.09	1.12	1.14	1.16	1.52			3.29	3.27	3.42
wind	0.8 m/s	velocity	5.20	8.46	8.16	8.39	8.31	8.46	8.39	8.16	8.02	7.88	9.22	7.78		8.33	8.39	8.02

Heat 3 - 2013 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-13	time	2.59	3.66	4.75	5.81	6.87	7.95	9.00	10.09	11.12	12.52		14.26	/ 6			
reaction time		interval		1.07	1.09	1.06	1.06	1.08	1.05	1.09	1.03	1.40	1.74			3.22	3.19	3.52
wind	2.4 m/s	velocity	5.30	8.54	8.39	8.62	8.62	8.46	8.70	8.39	8.87	6.53	8.06	7.71		8.52	8.60	7.79

Semi-Final 1 - 2012 Japanese National Championships (Osaka, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	10-Jun-12	time	2.61	3.70	4.78	5.86	6.93	8.02	9.11	10.23	11.35	12.48		13.98	4 / 8			
reaction time		interval		1.09	1.08	1.08	1.07	1.09	1.09	1.12	1.12	1.13	1.50			3.25	3.25	3.37
wind	2.4 m/s	velocity	5.26	8.39	8.46	8.46	8.54	8.39	8.39	8.16	8.16	8.09	9.35	7.87		8.44	8.44	8.14

Heat 1 - 2012 Japanese National Championships (Osaka, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	09-Jun-12	time	2.59	3.68	4.76	5.82	6.89	7.98	9.07	10.19	11.30	12.45		13.98	5 / 2			
reaction time		interval		1.09	1.08	1.06	1.07	1.09	1.09	1.12	1.11	1.15	1.53			3.23	3.25	3.38
wind	0.8 m/s	velocity	5.30	8.39	8.46	8.62	8.54	8.39	8.39	8.16	8.23	7.95	9.16	7.87		8.49	8.44	8.11

FINAL - 2012 Seiko Golden Grand Prix (Kawasaki, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	06-May-12	time	2.55	3.64	4.71	5.75	6.80	7.86	8.93	10.00	11.09	12.22		13.71	1 / 4			
reaction time		interval		1.09	1.07	1.04	1.05	1.06	1.07	1.07	1.09	1.13	1.49	PB		3.20	3.18	3.29
wind	0.2 m/s	velocity	5.38	8.39	8.54	8.79	8.70	8.62	8.54	8.54	8.39	8.09	9.41	8.02		8.57	8.62	8.33

FINAL - 2012 Mito Invitational Athletics Meeting (Mito, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	04-May-12	time	2.57	3.68	4.75	5.81	6.90	7.96	9.04	10.13	11.26	12.38		13.88	/ 5			
reaction time		interval		1.11	1.07	1.06	1.09	1.06	1.08	1.09	1.13	1.12	1.50			3.24	3.23	3.34
wind	-0.3 m/s	velocity	5.34	8.23	8.54	8.62	8.39	8.62	8.46	8.39	8.09	8.16	9.35	7.93		8.46	8.49	8.21

A FINAL - 2012 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-12	time	2.58	3.65	4.73	5.78	6.84	7.92	8.98	10.04	11.15	12.26		13.70	5 / 4			
reaction time		interval		1.07	1.08	1.05	1.06	1.08	1.06	1.06	1.11	1.11	1.44			3.20	3.20	3.28
wind	2.1 m/s	velocity	5.32	8.54	8.46	8.70	8.62	8.46	8.62	8.62	8.23	8.23	9.74	8.03		8.57	8.57	8.36

FINAL - 2011 Japanese National Championships (Kumagaya, JPN) *Hisashi (2012) - perfromance analysis of Japanese record holder Keisuke Ushiro*

date	11-Jun-11	time	2.59	3.68	4.77	5.85	6.91	7.99	9.09	10.19	11.29	12.44		13.95	/ 4			
reaction time		interval		1.09	1.09	1.08	1.06	1.08	1.10	1.10	1.10	1.15	1.51			3.26	3.24	3.35
wind	-0.1 m/s	velocity	5.30	8.39	8.39	8.46	8.62	8.46	8.31	8.31	8.31	7.95	9.28	7.89		8.41	8.46	8.19

Semi-Final 2 - 2011 Japanese National Championships (Kumagaya, JPN) *Hisashi (2012) - perfromance analysis of Japanese record holder Keisuke Ushiro*

date	11-Jun-11	time	2.59	3.68	4.75	5.86	6.93	8.03	9.14	10.24	11.36	12.51		14.04	/ 3			
reaction time		interval		1.09	1.07	1.11	1.07	1.10	1.11	1.10	1.12	1.15	1.53			3.27	3.28	3.37
wind	-0.1 m/s	velocity	5.30	8.39	8.54	8.23	8.54	8.31	8.23	8.31	8.16	7.95	9.16	7.83		8.39	8.36	8.14

Heat 3 - 2011 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-11	time	2.62	3.70	4.77	5.83	6.95	8.03	9.13	10.22	11.31	12.48		13.97	/ 5			
reaction time		interval		1.08	1.07	1.06	1.12	1.08	1.10	1.09	1.09	1.17	1.49			3.21	3.30	3.35
wind	2.4 m/s	velocity	5.24	8.46	8.54	8.62	8.16	8.46	8.31	8.39	8.39	7.81	9.41	7.87		8.54	8.31	8.19

Walker, Josh (USA) (1982)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 3 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.67	3.79	4.85	5.94	6.99	8.09	9.18	10.26	11.36	12.46		13.97	1 / 5			
reaction time		interval		1.12	1.06	1.09	1.05	1.10	1.09	1.08	1.10	1.10	1.51			3.27	3.24	3.28
wind	-3.2 m/s	velocity	5.14	8.16	8.62	8.39	8.70	8.31	8.39	8.46	8.31	8.31	9.28	7.87		8.39	8.46	8.36

FINAL - 2003 USATF National Championships (Palo Alto, CA) *USATF Women's Sprint Development (2003)*

date	21-Jun-03	time	2.37	3.52	4.57	5.64	6.71	7.76	8.83	9.89	10.96	12.08		13.84	1 / 7			
reaction time		interval		1.15	1.05	1.07	1.07	1.05	1.07	1.06	1.07	1.12	1.76			3.27	3.19	3.25
wind	-2.4 m/s	velocity	5.79	7.95	8.70	8.54	8.54	8.70	8.54	8.62	8.54	8.16	7.97	7.95		8.39	8.60	8.44

Walters, Ruebin (TTO) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2022 New York Grand Prix (New York, NY) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	12-Jun-22	time	2.53	3.60	4.66	5.73	6.77	7.83	8.90	9.95	11.03	12.12		13.67	2 / 7			
reaction time	0.139	interval		1.07	1.06	1.07	1.04	1.06	1.07	1.05	1.08	1.09	1.55			3.20	3.17	3.22
wind	1.6 m/s	velocity	5.42	8.54	8.62	8.54	8.79	8.62	8.54	8.70	8.46	8.39	9.05	8.05		8.57	8.65	8.52

Semi-Final 1 - 2022 World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	20-Mar-22	time	2.50	3.56	4.63	5.67	6.70							7.68	7 / 6			
reaction time	0.135	interval		1.06	1.07	1.04	1.03						0.98			3.17		
		velocity	5.49	8.62	8.54	8.79	8.87						9.92	7.81		8.65		

FINAL - 2022 New Balance Indoor Grand Prix (Staten Island, NY) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	06-Feb-22	time	2.61	3.70	4.76	5.79	6.81							7.76	8 / 7			
reaction time	0.176	interval		1.09	1.06	1.03	1.02						0.95			3.18		
		velocity	5.26	8.39	8.62	8.87	8.96						10.23	7.73		8.62		

FINAL - 2021 American Track League 1 (Fayetteville, AR) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Jan-21	time	2.55	3.63	4.68	5.70	6.72							7.65	5 / 3			
reaction time	0.142	interval		1.08	1.05	1.02	1.02						0.93			3.15		
		velocity	5.38	8.46	8.70	8.96	8.96						10.45	7.84		8.70		

FINAL - 2019 Seiko Golden Grand Prix (Osaka, JPN) *Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*

date	19-May-19	time	2.67	3.77	4.85	5.92	6.97	8.02	9.06	10.13	11.22	12.34		13.84	4 / 9			
reaction time	0.147	interval		1.10	1.08	1.07	1.05	1.05	1.04	1.07	1.09	1.12	1.50			3.25	3.14	3.28
wind	2.9 m/s	velocity	5.14	8.31	8.46	8.54	8.70	8.70	8.79	8.54	8.39	8.16	9.35	7.95		8.44	8.73	8.36

Wang Chi (CHN) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 3 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	11-Jul-19	time	2.82	4.04	5.24	6.44	7.67	8.89	10.12	11.39	12.64	13.91		15.55	6 / 4		
reaction time	0.177	interval		1.22	1.20	1.20	1.23	1.22	1.23	1.27	1.25	1.27	1.64	PB		3.62	3.68	3.79
wind	0.0 m/s	velocity	4.87	7.49	7.62	7.62	7.43	7.49	7.43	7.20	7.31	7.20	8.55	7.07		7.57	7.45	7.23

Wang Jiawei (CHN) (2004)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2021 National Grand Prix (Chengdu, CHN)													*CAA Hurdle Development (2021)*			
date 02-Apr-21 time	2.90	4.12	5.34	6.52	7.72	8.90	10.10	11.32	12.52	13.78		15.43	2 / 6			
reaction time 0.210 interval		1.22	1.22	1.18	1.20	1.18	1.20	1.22	1.20	1.26	1.65			3.62	3.58	3.68
wind -0.1 m/s velocity	4.73	7.49	7.49	7.75	7.62	7.75	7.62	7.49	7.62	7.25	8.50	7.13		7.57	7.66	7.45
Heat 1 - 2021 National Grand Prix (Chengdu, CHN)													*CAA Hurdle Development (2021)*			
date 02-Apr-21 time	2.88	4.12	5.34	6.56	7.78	9.02	10.30	11.56	12.80	14.06		15.75	3 / 3			
reaction time 0.195 interval		1.24	1.22	1.22	1.22	1.24	1.28	1.26	1.24	1.26	1.69			3.68	3.74	3.76
wind 0.5 m/s velocity	4.76	7.37	7.49	7.49	7.49	7.37	7.14	7.25	7.37	7.25	8.30	6.98		7.45	7.33	7.29

Wang Luoxi (CHN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
U20 Heat 1 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm)													*CAA Hurdle Development (2019)*			
date 14-Aug-19 time	2.57	3.67	4.74	5.80	6.87	7.96	9.04	10.14	11.24	12.39		14.04	3 / 4			
reaction time 0.178 interval		1.10	1.07	1.06	1.07	1.09	1.08	1.10	1.10	1.15	1.65			3.23	3.24	3.35
wind 0.5 m/s velocity	5.34	8.31	8.54	8.62	8.54	8.39	8.46	8.31	8.31	7.95	8.50	7.83		8.49	8.46	8.19

Wang Weihao (CHN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
U20 Heat 2 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm)													*CAA Hurdle Development (2019)*			
date 14-Aug-19 time	2.64	3.72	4.80	5.87	6.96	8.09	9.20	10.33	11.45	12.63		14.15	4 / 4			
reaction time 0.174 interval		1.08	1.08	1.07	1.09	1.13	1.11	1.13	1.12	1.18	1.52			3.23	3.33	3.43
wind -0.3 m/s velocity	5.20	8.46	8.46	8.54	8.39	8.09	8.23	8.09	8.16	7.75	9.22	7.77		8.49	8.23	7.99

Wang Yanbo (CHN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 2 - 2021 East China District Meeting (Zhaoqing, CHN)													*CAA Hurdle Development (2021)*			
date 24-Apr-21 time	2.77	3.97	5.13	6.33	7.57	8.84	10.08	11.38	12.66	13.94		15.70	8 / 8			
reaction time 0.164 interval		1.20	1.16	1.20	1.24	1.27	1.24	1.30	1.28	1.28	1.76			3.56	3.75	3.86
wind -1.2 m/s velocity	4.95	7.62	7.88	7.62	7.37	7.20	7.37	7.03	7.14	7.14	7.97	7.01		7.70	7.31	7.10

Wang Yuyan (CHN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2018 Chinese National U18 Championships (Jinzhou, CHN) (99cm) *Zheng (2019) - comparative analysis of characteristics of Chinese elite men's 110m hurdles in different age groups*																
date 17-May-18 time	2.58	3.68	4.75	5.79	6.82	7.89	8.96	10.06	11.13	12.25		13.78	2 / ??			
reaction time interval		1.10	1.07	1.04	1.03	1.07	1.07	1.10	1.07	1.12	1.53			3.21	3.17	3.29
wind ?? velocity	5.32	8.31	8.54	8.79	8.87	8.54	8.54	8.31	8.54	8.16	9.16	7.98		8.54	8.65	8.33

Wang Zhipeng (CHN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 3 - 2021 Chinese National Championships (Chongqing, CHN)													*CAA Hurdle Development (2021)*			
date 27-Jun-21 time	2.77	3.94	5.12	6.30	7.50	8.71	9.94	11.19	12.46	13.75		15.41	3 / 6			
reaction time 0.188 interval 7 steps	1.17	1.18	1.18	1.20	1.21	1.23	1.25	1.27	1.29	1.66				3.53	3.64	3.81
wind -0.2 m/s velocity	4.95	7.81	7.75	7.75	7.62	7.55	7.43	7.31	7.20	7.09	8.45	7.14		7.77	7.53	7.20

Warner, Damion (CAN) (1989)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 3 - 2024 Olympic Games (Paris, FRA)													*Paris 2024 Olympic Games - Results Book (2024)*			
date 03-Aug-24 time	2.44	3.53	4.57	5.63	6.67	7.71	8.76	9.83	10.92	12.00		13.62	3 / 1			
reaction time 0.144 interval 7 steps	1.09	1.04	1.06	1.04	1.04	1.05	1.07	1.09	1.08	1.62				3.19	3.13	3.24
wind 0.7 m/s velocity	5.62	8.39	8.79	8.62	8.79	8.79	8.70	8.54	8.39	8.46	8.65	8.08		8.60	8.76	8.46
Decathlon - Heat 3 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis)													*Henson (2024) - Athlete First: 2023 year end hurdle report*			
date 26-Aug-23 time	2.62	3.68	4.76	5.82	6.85	7.90	8.98	10.03	11.10	12.25		13.67	4 / 1			
reaction time 0.151 interval 7 steps	1.06	1.08	1.06	1.03	1.05	1.08	1.05	1.07	1.15	1.42				3.20	3.16	3.27
wind 0.2 m/s velocity	5.24	8.62	8.46	8.62	8.87	8.70	8.46	8.70	8.54	7.95	9.87	8.05		8.57	8.68	8.39
Decathlon - Heat 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date 05-Aug-21 time	2.55	3.63	4.68	5.69	6.72	7.75	8.85	9.90	10.98	12.08		13.46	7 / 1			
reaction time 0.148 interval 7 steps	1.08	1.05	1.01	1.03	1.03	1.10	1.05	1.08	1.10	1.38	ODB			3.14	3.16	3.23
wind -1.0 m/s velocity	5.38	8.46	8.70	9.05	8.87	8.87	8.31	8.70	8.46	8.31	10.16	8.17		8.73	8.68	8.49
Decathlon - Heat 3 - 2019 IAAF World Championships (Doha, QAT) (TV Analysis)													*Henson (2021) - Athlete First: 2019 year end hurdle report*			
date 03-Oct-19 time	2.48	3.56	4.58	5.62	6.66	7.70	8.76	9.82	10.88	11.96		13.56	5 / 1			
reaction time 0.143 interval 7 steps	1.08	1.02	1.04	1.04	1.04	1.06	1.06	1.06	1.08	1.60				3.14	3.14	3.20
wind 0.8 m/s velocity	5.53	8.46	8.96	8.79	8.79	8.79	8.62	8.62	8.62	8.46	8.76	8.11		8.73	8.73	8.57

Watase, Yuto (JPN) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)													*(2017) - tfdata-store.com/2017/05/13/post-441/*			
date 11-May-17 time	2.65	3.75	4.87	5.97	7.08	8.21	9.33	10.48	11.63	12.81		14.38	2 / 7			
reaction time interval		1.10	1.12	1.10	1.11	1.13	1.12	1.15	1.15	1.18	1.57			3.32	3.36	3.48
wind 1.6 m/s velocity	5.18	8.31	8.16	8.31	8.23	8.09	8.16	7.95	7.95	7.75	8.93	7.65		8.26	8.16	7.88

FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN) *(2017) - tfdata-store.com/2017/04/07/post-249/*

date	06-Apr-17	time	2.67	3.82	4.95	6.08	7.22	8.38	9.56	10.75	11.92	13.15		14.67	8 / 2			
reaction time		interval		1.15	1.13	1.13	1.14	1.16	1.18	1.19	1.17	1.23	1.52			3.41	3.48	3.59
wind	-1.8 m/s	velocity	5.14	7.95	8.09	8.09	8.02	7.88	7.75	7.68	7.81	7.43	9.22	7.50		8.04	7.88	7.64

Wearing, Giovanni (USA) (2004)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 4 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.60	3.63	4.65	5.76								dnf	1 / --			
reaction time		interval		1.03	1.02	1.11										3.16		
wind	1.2 m/s	velocity	5.28	8.87	8.96	8.23										8.68		

Wei Peng (CHN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 3 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	11-Jul-19	time	2.95	4.27	5.60	6.97	8.32	9.71	11.09	12.48	13.88	15.66		18.65	4 / 5			
reaction time	0.189	interval		1.32	1.33	1.37	1.35	1.39	1.38	1.39	1.40	1.78	2.99	PB		4.02	4.12	4.57
wind	0.0 m/s	velocity	4.65	6.92	6.87	6.67	6.77	6.58	6.62	6.58	6.53	5.13	4.69	5.90		6.82	6.66	6.00

Wei Pinyang (CHN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 Chinese National U18 Championships (Jinzhou, CHN) *Zhang (2019) - comparative analysis of characteristics of Chinese elite men's 110m hurdles in different age groups*

date	17-May-18	time	2.69	3.76	4.82	5.86	6.90	7.94	8.99	10.05	11.13	12.23		13.78	7 / ??			
reaction time		interval		1.07	1.06	1.04	1.04	1.04	1.05	1.06	1.08	1.10	1.55			3.17	3.13	3.24
wind	??	velocity	5.10	8.54	8.62	8.79	8.79	8.79	8.70	8.62	8.46	8.31	9.05	7.98		8.65	8.76	8.46

Wen Qingming (CHN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 3 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	27-Jun-21	time	2.85	4.07	5.24	6.42	7.57	8.74	9.91	11.11	12.29	13.53		15.07	7 / 2			
reaction time	0.172	interval		1.22	1.17	1.18	1.15	1.17	1.17	1.20	1.18	1.24	1.54			3.57	3.49	3.62
wind	-0.2 m/s	velocity	4.81	7.49	7.81	7.75	7.95	7.81	7.81	7.62	7.75	7.37	9.10	7.30		7.68	7.86	7.57

Werrmann, Jens (GER) (1985)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2006 German National Championships (Ulm, GER) *Killing (2006) - Werrmann und Dittmer im vergleich*

date	15-Jul-06	time	2.65	3.75	4.80	5.85	6.91	7.98	9.02	10.08	11.15	12.21		13.62	/ 2			
reaction time	0.137	interval		1.10	1.05	1.05	1.06	1.07	1.04	1.06	1.07	1.06	1.41	PB		3.20	3.17	3.19
wind	1.0 m/s	velocity	5.18	8.31	8.70	8.70	8.62	8.54	8.79	8.62	8.54	8.62	9.94	8.08		8.57	8.65	8.60

Heat 1 - 2006 German National Championships (Ulm, GER) *Killing (2006) - Werrmann und Dittmer im vergleich*

date	15-Jul-06	time	2.68	3.78	4.84	5.90	6.95	8.03	9.09	10.16	11.24	12.37		13.78	/ 1			
reaction time	0.146	interval		1.10	1.06	1.06	1.05	1.08	1.06	1.07	1.08	1.13	1.41	PB		3.22	3.19	3.28
wind	-0.3 m/s	velocity	5.12	8.31	8.62	8.62	8.70	8.46	8.62	8.54	8.46	8.09	9.94	7.98		8.52	8.60	8.36

Whitely, Aaron (USA)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2003 USATF National Junior Championships (Palo Alto, CA) (99cm) *USATF Women's Sprint Development (2003)*

date	21-Jun-03	time	2.68	3.77	4.90	5.96	7.07	8.19	9.33	10.46	11.64	12.82		14.48	3 / 6			
reaction time		interval		1.09	1.13	1.06	1.11	1.12	1.14	1.13	1.18	1.18	1.66			3.28	3.37	3.49
wind	-2.4 m/s	velocity	5.12	8.39	8.09	8.62	8.23	8.16	8.02	8.09	7.75	7.75	8.45	7.60		8.36	8.14	7.86

Wiberg, Nicklas (SWE) (1985)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 5 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.84	4.00	5.11	6.20	7.33	8.48	9.64	10.86	12.02	13.22		14.75	7 / 3			
reaction time	0.208	interval		1.16	1.11	1.09	1.13	1.15	1.16	1.22	1.16	1.20	1.53			3.36	3.44	3.58
wind	0.3 m/s	velocity	4.83	7.88	8.23	8.39	8.09	7.95	7.88	7.49	7.88	7.62	9.16	7.46		8.16	7.97	7.66

Widlund, Hampus (SWE) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2013 Windsprint (Sundsvall, SWE) *(2013) - www.ssg.se/windsprint/Splittider/*

date	28-Jul-13	time	2.76	3.89	5.00	6.11	7.23	8.38	9.53	10.65	11.78	12.93		14.46	1 / 7			
reaction time		interval	*7 steps*	1.13	1.11	1.11	1.12	1.15	1.15	1.12	1.13	1.15	1.53			3.35	3.42	3.40
wind	1.7 m/s	velocity	4.97	8.09	8.23	8.23	8.16	7.95	7.95	8.16	8.09	7.95	9.16	7.61		8.19	8.02	8.06

Wiesiołek, Paweł (POL) (1991)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis) *Henson (2024) - Athlete First: 2021 year end hurdle report*

date	05-Aug-21	time	2.77	3.93	5.08	6.28	7.45	8.58	9.72	10.88	12.08	13.28		14.95	6 / 6			
reaction time	0.154	interval	7 steps	1.16	1.15	1.20	1.17	1.13	1.14	1.16	1.20	1.20	1.67			3.51	3.44	3.56
wind	0.0 m/s	velocity	4.95	7.88	7.95	7.62	7.81	8.09	8.02	7.88	7.62	7.62	8.40	7.36		7.81	7.97	7.70

Wignall, Maurice (JAM) (1976)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2010 IAAF World Indoor Championships (Doha, QAT) *Kuitunen (2010) - biomencanical analysis of the 14th IAAF World Indoor championships*

date	14-Mar-10	time	2.60	3.66	4.68	5.70	6.75							7.60	1 / 6			
reaction time	0.135	interval		1.06	1.02	1.02	1.05						0.85			3.10		
		velocity	5.28	8.62	8.96	8.96	8.70						11.44	7.89		8.85		

FINAL - 2010 GE Galan (Stockholm, SWE) *Blomkvist (2010) - www.sub13.se*

date	10-Feb-10	time	2.45	3.52	4.57	5.61	6.67							7.78	/ 5			
reaction time		interval		1.07	1.05	1.04	1.06						1.11			3.16		

		velocity	5.60	8.54	8.70	8.79	8.62					8.76	7.71		8.68			

FINAL - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.61	3.66	4.70	5.72	6.75	7.78	8.81	9.85	10.90	11.98		13.31	8 / 5			
reaction time	0.151	interval		1.05	1.04	1.02	1.03	1.03	1.03	1.04	1.05	1.08	1.33			3.11	3.09	3.17
wind	0.1 m/s	velocity	5.26	8.70	8.79	8.96	8.87	8.87	8.87	8.79	8.70	8.46	10.54	8.26		8.82	8.87	8.65

Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	20-Aug-09	time	2.60	3.67	4.70	5.73	6.77	7.80	8.84	9.90	10.96	12.03		13.43	4 / 2			
reaction time	0.162	interval		1.07	1.03	1.03	1.04	1.03	1.04	1.06	1.06	1.07	1.40			3.13	3.11	3.19
wind	0.1 m/s	velocity	5.28	8.54	8.87	8.87	8.79	8.87	8.79	8.62	8.62	8.54	10.01	8.19		8.76	8.82	8.60

Heat 2 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time	2.63	3.71	4.75	5.79	6.89	7.97	9.01	10.08	11.15	12.23		13.62	3 / 1			
reaction time	0.168	interval		1.08	1.04	1.04	1.10	1.08	1.04	1.07	1.07	1.08	1.39			3.16	3.22	3.22
wind	-0.2 m/s	velocity	5.22	8.46	8.79	8.79	8.31	8.46	8.79	8.54	8.54	8.46	10.09	8.08		8.68	8.52	8.52

FINAL - 2009 ISTAF (Berlin, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Jun-09	time	2.61	3.69	4.71	5.78	6.80	7.85	8.93	9.99	11.08	12.19		13.62	5 / 5			
reaction time	0.189	interval		1.08	1.02	1.07	1.02	1.05	1.08	1.06	1.09	1.11	1.43			3.17	3.15	3.26
wind	0.7 m/s	velocity	5.26	8.46	8.96	8.54	8.96	8.70	8.46	8.62	8.39	8.23	9.80	8.08		8.65	8.70	8.41

FINAL - 2008 Olympic Games (Beijing, CHN) *Tsiokanos (2018) - race pattern of men's 110m hurdles- time analysis of olympic hurdle performance*

date	21-Aug-08	time	2.58	3.64	4.68	5.72	6.77	7.80	8.86	9.90	10.97	12.09		13.46	2 / 6			
reaction time	0.163	interval		1.06	1.04	1.04	1.05	1.03	1.06	1.04	1.07	1.12	1.37			3.14	3.14	3.23
wind	0.1 m/s	velocity	5.32	8.62	8.79	8.79	8.70	8.87	8.62	8.79	8.54	8.16	10.23	8.17		8.73	8.73	8.49

FINAL - 2004 Olympic Games (Athens, GRE) *Ruiz (2004) - las carreras con vallas de juegos olimpicos de atenas '04*

date	27-Aug-04	time	2.47	3.50	4.53	5.55	6.55	7.56	8.60	9.64	10.67	11.73		13.21	5 / 4			
reaction time	0.164	interval		1.03	1.03	1.02	1.00	1.01	1.04	1.04	1.03	1.06	1.48			3.08	3.05	3.13
wind	0.3 m/s	velocity	5.55	8.87	8.87	8.96	9.14	9.05	8.79	8.79	8.87	8.62	9.47	8.33		8.90	8.99	8.76

Williams, Daylin (USA) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.56	3.66	4.70	5.75	6.80	7.88	8.95	10.02	11.10	12.23		13.71	9 / 8			
reaction time		interval	7 steps	1.10	1.04	1.05	1.05	1.08	1.07	1.07	1.08	1.13	1.48			3.19	3.20	3.28
wind	0.8 m/s	velocity	5.36	8.31	8.79	8.70	8.70	8.46	8.54	8.54	8.46	8.09	9.47	8.02		8.60	8.57	8.36

Williams, Harrison (USA) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 3 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	03-Aug-24	time	2.56	3.67	4.80	5.85	6.97	8.08	9.21	10.33	11.46	12.60		14.28	5 / 8			
reaction time	0.155	interval	7 steps	1.11	1.13	1.05	1.12	1.11	1.13	1.12	1.13	1.14	1.68			3.29	3.36	3.39
wind	0.7 m/s	velocity	5.36	8.23	8.09	8.70	8.16	8.23	8.09	8.16	8.09	8.02	8.35	7.70		8.33	8.16	8.09

Decathlon - Heat 3 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2024) - Athlete First: 2023 year end hurdle report*

date	26-Aug-23	time	2.76	3.85	4.96	6.02	7.15	8.18	9.26	10.42	11.60	12.80		14.33	8 / 5			
reaction time	0.182	interval	7 steps	1.09	1.11	1.06	1.13	1.03	1.08	1.16	1.18	1.20	1.53			3.26	3.24	3.54
wind	0.2 m/s	velocity	4.97	8.39	8.23	8.62	8.09	8.87	8.46	7.88	7.75	7.62	9.16	7.68		8.41	8.46	7.75

Williams, Paris (USA) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	27-Jun-24	time	2.61	3.68	4.74	5.79	6.82	7.86	8.91	9.99	11.07	12.31		13.97	2 / 9			
reaction time		interval	7 steps	1.07	1.06	1.05	1.03	1.04	1.05	1.08	1.08	1.24	1.66			3.18	3.12	3.40
wind	0.3 m/s	velocity	5.26	8.54	8.62	8.70	8.87	8.79	8.70	8.46	8.46	7.37	8.45	7.87		8.62	8.79	8.06

Heat 2 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.63	3.70	4.73	5.79	6.81	7.86	8.92	10.00	11.07	12.16		13.60	7 / 6			
reaction time		interval	7 steps	1.07	1.03	1.06	1.02	1.05	1.06	1.08	1.07	1.09	1.44			3.16	3.13	3.24
wind	-0.3 m/s	velocity	5.22	8.54	8.87	8.62	8.96	8.70	8.62	8.46	8.54	8.39	9.74	8.09		8.68	8.76	8.46

Williams, Tyson (USA) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	27-Jun-24	time	2.60	3.67	4.77	5.86	6.93	8.00	9.07	10.16	11.26	12.38		13.88	1 / 8			
reaction time		interval	7 steps	1.07	1.10	1.09	1.07	1.07	1.07	1.09	1.10	1.12	1.50			3.26	3.21	3.31
wind	-0.2 m/s	velocity	5.28	8.54	8.31	8.39	8.54	8.54	8.54	8.39	8.31	8.16	9.35	7.93		8.41	8.54	8.28

Heat 1 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.53	3.65	4.70	5.77	6.82	7.86	8.92	9.96	11.05	12.13		13.58	7 / 7			
reaction time		interval	7 steps	1.12	1.05	1.07	1.05	1.04	1.06	1.04	1.09	1.08	1.45			3.24	3.15	3.21
wind	0.8 m/s	velocity	5.42	8.16	8.70	8.54	8.70	8.79	8.62	8.79	8.39	8.46	9.67	8.10		8.46	8.70	8.54

Willis, Tayleb (AUS) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Repechage 3 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	06-Aug-24	time	2.38	3.46	4.52	5.56	6.61	7.69	8.77	9.86	10.95	12.06		13.67	6 / 5			
reaction time	0.160	interval		1.08	1.06	1.04	1.05	1.08	1.08	1.09	1.09	1.11	1.61			3.18	3.21	3.29
wind	-1.1 m/s	velocity	5.76	8.46	8.62	8.79	8.70	8.46	8.46	8.39	8.39	8.23	8.71	8.05		8.62	8.54	8.33

Heat 5 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.37	3.46	4.53	5.58	6.62	7.69	8.75	9.84	10.94	12.04		13.63	2 / 5			
reaction time	0.153	interval		1.09	1.07	1.05	1.04	1.07	1.06	1.09	1.10	1.10	1.59			3.21	3.17	3.29
wind	0.7 m/s	velocity	5.79	8.39	8.54	8.70	8.79	8.54	8.62	8.39	8.31	8.31	8.82	8.07		8.54	8.65	8.33

Wilson, De'vion (USA) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	28-Jun-24	time	2.56	3.64	4.67	5.71	6.72	7.74	8.76	9.78	10.81	11.86		13.28	9 / 8			
reaction time		interval	7 steps	1.08	1.03	1.04	1.01	1.02	1.02	1.02	1.03	1.05	1.42			3.15	3.05	3.10
wind	2.0 m/s	velocity	5.36	8.46	8.87	8.79	9.05	8.96	8.96	8.96	8.87	8.70	9.87	8.28		8.70	8.99	8.85

Heat 3 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.54	3.63	4.66	5.67	6.70	7.73	8.73	9.78	10.83	11.93		13.34	6 / 3			
reaction time		interval	7 steps	1.09	1.03	1.01	1.03	1.03	1.00	1.05	1.05	1.10	1.41			3.13	3.06	3.20
wind	1.8 m/s	velocity	5.40	8.39	8.87	9.05	8.87	8.87	9.14	8.70	8.70	8.31	9.94	8.25		8.76	8.96	8.57

FINAL - 2024 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	07-Jun-24	time	2.53	3.58	4.60	5.60	6.61	7.61	8.62	9.74	10.84	11.91		13.36	4 / 5			
reaction time		interval	7 steps	1.05	1.02	1.00	1.01	1.00	1.01	1.12	1.10	1.07	1.45			3.07	3.02	3.29
wind	0.1 m/s	velocity	5.42	8.70	8.96	9.14	9.05	9.14	9.05	8.16	8.31	8.54	9.67	8.23		8.93	9.08	8.33

FINAL - 2023 NCAA Championships (Austin, TX) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	09-Jun-23	time	2.50	3.57	4.60	5.64	6.64	7.64	8.65	9.69	10.72	11.78		13.26	2 / 2			
reaction time		interval	7 steps	1.07	1.03	1.04	1.00	1.00	1.01	1.04	1.03	1.06	1.48	PB		3.14	3.01	3.13
wind	1.8 m/s	velocity	5.49	8.54	8.87	8.79	9.14	9.14	9.05	8.79	8.87	8.62	9.47	8.30		8.73	9.11	8.76

Semi-Final 2 - 2022 USATF National Championships (Eugene, OR) *USATF (2022) - Results powered by Karmarush.com*

date	26-Jun-22	time	2.58	3.70	4.77	5.80	6.87	7.94	9.01	10.10	11.17	12.28		13.86	9 / 8			
reaction time		interval		1.12	1.07	1.03	1.07	1.07	1.07	1.09	1.07	1.11	1.58			3.22	3.21	3.27
wind	0.1 m/s	velocity	5.32	8.16	8.54	8.87	8.54	8.54	8.54	8.39	8.54	8.23	8.87	7.94		8.52	8.54	8.39

Wilson, Ryan (USA) (1980)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2013 IAAF World Championships (Moscow, RUS) (TV Analysis) *Henson (2021) - Athlete First: major championships report*

date	12-Aug-13	time	2.52	3.56	4.56	5.54	6.52	7.50	8.50	9.52	10.54	11.62		13.13	9 / 2			
reaction time	0.167	interval	7 steps	1.04	1.00	0.98	0.98	0.98	1.00	1.02	1.02	1.08	1.51			3.02	2.96	3.12
wind	0.3 m/s	velocity	5.44	8.79	9.14	9.33	9.33	9.33	9.14	8.96	8.96	8.46	9.28	8.38		9.08	9.26	8.79

FINAL - 2012 Memorial Van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	07-Sep-12	time	2.52	3.56	4.56	5.56	6.58	7.60	8.64	9.66	10.70	11.76		13.26	8 / 7			
reaction time	0.144	interval	7 steps	1.04	1.00	1.00	1.02	1.02	1.04	1.02	1.04	1.06	1.50			3.04	3.08	3.12
wind	0.3 m/s	velocity	5.44	8.79	9.14	9.14	8.96	8.96	8.79	8.96	8.79	8.62	9.35	8.30		9.02	8.90	8.79

FINAL - 2012 ISTAF (Berlin, GER) (TV Analysis) *Henson (2021) - Athlete First: 2012 Aries Merritt world record season*

date	02-Sep-12	time	2.57	3.63	4.67	5.70	6.70	7.74	8.74	9.77	10.84	11.91		13.45	7 / 2			
reaction time	0.192	interval	7 steps	1.06	1.04	1.03	1.00	1.04	1.00	1.03	1.07	1.07	1.54			3.13	3.04	3.17
wind	1.2 m/s	velocity	5.34	8.62	8.79	8.87	9.14	8.79	9.14	8.87	8.54	8.54	9.10	8.18		8.76	9.02	8.65

FINAL - 2012 AVIVA Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	26-Aug-12	time	2.54	3.60	4.63	5.64	6.64	7.66	8.70	9.73	10.77	11.83		13.34	1 / 4			
reaction time	0.156	interval	7 steps	1.06	1.03	1.01	1.00	1.02	1.04	1.03	1.04	1.06	1.51			3.10	3.06	3.13
wind	-0.9 m/s	velocity	5.40	8.62	8.87	9.05	9.14	8.96	8.79	8.87	8.79	8.62	9.28	8.25		8.85	8.96	8.76

FINAL - 2012 AVIVA London Grand Prix (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	13-Jul-12	time	2.52	3.56	4.60	5.58	6.56	7.56	8.58	9.60	10.64	11.70		13.18	7 / 3			
reaction time	0.153	interval	7 steps	1.04	1.04	0.98	0.98	1.00	1.02	1.02	1.04	1.06	1.48			3.06	3.00	3.12
wind	0.6 m/s	velocity	5.44	8.79	8.79	9.33	9.33	9.14	8.96	8.96	8.79	8.62	9.47	8.35		8.96	9.14	8.79

Heat 2 - 2012 AVIVA London Grand Prix (London, GBR) (TV Analysis) *Henson (2021) - Athlete First: 2012 Aries Merritt world record season*

date	13-Jul-12	time	2.56	3.60	4.60	5.60	6.60	7.62	8.64	9.68	10.72	11.78		13.28	5 / 3			
reaction time	0.157	interval	7 steps	1.04	1.00	1.00	1.00	1.02	1.02	1.04	1.04	1.06	1.50			3.04	3.04	3.14
wind	-0.9 m/s	velocity	5.36	8.79	9.14	9.14	9.14	8.96	8.96	8.79	8.79	8.62	9.35	8.28		9.02	9.02	8.73

FINAL - 2012 USA Olympic Trials (Eugene, OR) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	30-Jun-12	time	2.43	3.45	4.45	5.42	6.40	7.39	8.37	9.47	10.54	11.61		13.24	7 / 7			
reaction time	0.179	interval	7 steps	1.02	1.00	0.97	0.98	0.99	0.98	1.10	1.07	1.07	1.63			2.99	2.95	3.24
wind	1.2 m/s	velocity	5.65	8.96	9.14	9.42	9.33	9.23	9.33	8.31	8.54	8.54	8.60	8.31		9.17	9.29	8.46

FINAL - 2012 Prefontaine Classic (Eugene, OR) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	02-Jun-12	time	2.62	3.66	4.68	5.68	6.68	7.70	8.74	9.76	10.80	11.88		13.29	8 / 6			

reaction time	0.194	interval	*7 steps*	1.04	1.02	1.00	1.00	1.02	1.04	1.02	1.04	1.08	1.41			3.06	3.06	3.14
wind	2.4 m/s	velocity	5.24	8.79	8.96	9.14	9.14	8.96	8.79	8.96	8.79	8.46	9.94	8.28		8.96	8.96	8.73

FINAL - 2009 ISTAF (Berlin, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Jun-09	time	2.59	3.64	4.65	5.66	6.65	7.69	8.71	9.73	10.77	11.83		13.21	6 / 2			
reaction time	0.171	interval		1.05	1.01	1.01	0.99	1.04	1.02	1.02	1.04	1.06	1.38			3.07	3.05	3.12
wind	0.7 m/s	velocity	5.30	8.70	9.05	9.05	9.23	8.79	8.96	8.96	8.79	8.62	10.16	8.33		8.93	8.99	8.79

FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Sep-08	time	2.71	3.78	4.80	5.83	6.85	7.88	8.92	9.98	11.05	12.13		13.54	3 / 3			
reaction time	0.163	interval		1.07	1.02	1.03	1.02	1.03	1.04	1.06	1.07	1.08	1.41			3.12	3.09	3.21
wind	-1.3 m/s	velocity	5.06	8.54	8.96	8.87	8.96	8.87	8.79	8.62	8.54	8.46	9.94	8.12		8.79	8.87	8.54

FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER) *Graubner (2007) - http://www.fgs.uni-halle.de*

date	23-Sep-07	time	2.67	3.71	4.73	5.74	6.75	7.75	8.75	9.77				dnf	6 / --			
reaction time	0.142	interval		1.04	1.02	1.01	1.01	1.00	1.00	1.02						3.07	3.01	
wind	0.0 m/s	velocity	5.14	8.79	8.96	9.05	9.05	9.14	9.14	8.96						8.93	9.11	

FINAL - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.62	3.79	4.80	5.91	7.02	8.41						dnf	1 / --			
reaction time		interval		1.17	1.01	1.11	1.11	1.39								3.29		
wind	0.5 m/s	velocity	5.24	7.81	9.05	8.23	8.23	6.58								8.33		

Semi-Final 2 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.65	3.70	4.74	5.74	6.72	7.74	8.78	9.81	10.86	11.91		13.33	3 / 3			
reaction time		interval		1.05	1.04	1.00	0.98	1.02	1.04	1.03	1.05	1.05	1.42			3.09	3.04	3.13
wind	-0.9 m/s	velocity	5.18	8.70	8.79	9.14	9.33	8.96	8.79	8.87	8.70	8.70	9.87	8.25		8.87	9.02	8.76

Heat 3 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.65	3.70	4.77	5.86	6.89	7.93	8.98	10.04	11.11	12.18		13.64	5 / 2			
reaction time		interval		1.05	1.07	1.09	1.03	1.04	1.05	1.06	1.07	1.07	1.46			3.21	3.12	3.20
wind	-3.2 m/s	velocity	5.18	8.70	8.54	8.39	8.87	8.79	8.70	8.62	8.54	8.54	9.60	8.06		8.54	8.79	8.57

FINAL - 2006 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2006)*

date	25-Jun-06	time	2.62	3.65	4.66	5.66	6.66	7.64	8.64	9.68	10.71	11.76		13.22	/ 3			
reaction time		interval		1.03	1.01	1.00	1.00	0.98	1.00	1.04	1.03	1.05	1.46	PB		3.04	2.98	3.12
wind	-0.4 m/s	velocity	5.24	8.87	9.05	9.14	9.14	9.33	9.14	8.79	8.87	8.70	9.60	8.32		9.02	9.20	8.79

Wilt, Caleb (USA) (1997)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 2 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude)															*CAA Hurdle Development (2020)*			
date	15-Feb-20	time	2.58	3.67	4.75	5.82	6.89							7.85	7 / 6			
reaction time	0.112	interval	7 Steps	1.09	1.08	1.07	1.07						0.96			3.24		
		velocity	5.32	8.39	8.46	8.54	8.54						10.13	7.64		8.46		

Heat 1 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.59	3.65	4.74	5.80	6.87							7.82	2 / 3			
reaction time	0.144	interval	7 Steps	1.06	1.09	1.06	1.07						0.95	=PB		3.21		
		velocity	5.30	8.62	8.39	8.62	8.54						10.23	7.67		8.54		

Wright, Don (AUS) (1959)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Semi-Final 2 - 1983 IAAF World Championships (Helsinki, FIN)															*Knoke (1984) - the hurdles*			
date	12-Aug-83	time	2.66	3.82	4.96	5.98	7.04	8.42	9.57	10.58	11.72	12.88		14.28	3 / 7			
reaction time		interval		1.16	1.14	1.02	1.06	1.38	1.15	1.01	1.14	1.16	1.40			3.32	3.59	3.31
wind	-0.7 m/s	velocity	5.16	7.88	8.02	8.96	8.62	6.62	7.95	9.05	8.02	7.88	10.01	7.70		8.26	7.64	8.28

Heat 4 - 1983 IAAF World Championships (Helsinki, FIN) *Knoke (1984) - the hurdles*

date	11-Aug-83	time	2.55	3.68	4.77	5.75	6.81	7.82	9.00	10.04	11.10	12.19		13.70	/ 2			
reaction time		interval		1.13	1.09	0.98	1.06	1.01	1.18	1.04	1.06	1.09	1.51			3.20	3.25	3.19
wind	2.1 m/s	velocity	5.38	8.09	8.39	9.33	8.62	9.05	7.75	8.79	8.62	8.39	9.28	8.03		8.57	8.44	8.60

Wu Zhenhua (CHN) (1998)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 2 - 2022 Chinese National Grand Prix (Huangshi, CHN)															*Huo (2022) - research on the technical characteristics of elite chinese 110m hurdlers*			
date	15-Jul-22	time	2.63	3.74	4.84	5.94	7.05	8.15	9.27	10.39	11.50	12.63		14.17	/ 4			
reaction time		interval		1.11	1.10	1.10	1.11	1.10	1.12	1.12	1.11	1.13	1.54			3.31	3.33	3.36
wind	-0.2 m/s	velocity	5.22	8.23	8.31	8.31	8.23	8.31	8.16	8.16	8.23	8.09	9.10	7.76		8.28	8.23	8.16

FINAL - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.65	3.75	4.82	5.90	6.99	8.07	9.16	10.26	11.38	12.53		13.98	2 / 7			
reaction time	0.164	interval		1.10	1.07	1.08	1.09	1.08	1.09	1.10	1.12	1.15	1.45	PB		3.25	3.26	3.37
wind	1.6 m/s	velocity	5.18	8.31	8.54	8.46	8.39	8.46	8.39	8.31	8.16	7.95	9.67	7.87		8.44	8.41	8.14

Heat 3 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.69	3.77	4.87	5.94	7.02	8.11	9.19	10.29	11.38	12.51		14.01	3 / 4			

reaction time	0.201	interval		1.08	1.10	1.07	1.08	1.09	1.08	1.10	1.09	1.13	1.50	PB		3.25	3.25	3.32
wind	0.5 m/s	velocity	5.10	8.46	8.31	8.54	8.46	8.39	8.46	8.31	8.39	8.09	9.35	7.85		8.44	8.44	8.26

FINAL - 2021 East China District Meeting (Zhaoqing, CHN) *CAA Hurdle Development (2021)*

date	24-Apr-21	time	2.70	3.79	4.90	5.98	7.06	8.16	9.26	10.35	11.46	12.59		14.04	9 / 4			
reaction time	0.174	interval		1.09	1.11	1.08	1.08	1.10	1.10	1.09	1.11	1.13	1.45	PB		3.28	3.28	3.33
wind	-0.3 m/s	velocity	5.08	8.39	8.23	8.46	8.46	8.31	8.31	8.39	8.23	8.09	9.67	7.83		8.36	8.36	8.23

Heat 1 - 2021 East China District Meeting (Zhaoqing, CHN) *CAA Hurdle Development (2021)*

date	24-Apr-21	time	2.68	3.80	4.88	5.98	7.08	8.20	9.32	10.44	11.59	12.72		14.21	9 / 3			
reaction time	0.156	interval		1.12	1.08	1.10	1.10	1.12	1.12	1.12	1.15	1.13	1.49			3.30	3.34	3.40
wind	-1.1 m/s	velocity	5.12	8.16	8.46	8.31	8.31	8.16	8.16	8.16	7.95	8.09	9.41	7.74		8.31	8.21	8.06

Heat 2 - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.73	3.89	5.03	6.14	7.27	8.39	9.59	10.79	11.97	13.18		14.73	5 / 8			
reaction time	0.150	interval		1.16	1.14	1.11	1.13	1.12	1.20	1.20	1.18	1.21	1.55			3.41	3.45	3.59
wind	-0.5 m/s	velocity	5.03	7.88	8.02	8.23	8.09	8.16	7.62	7.62	7.75	7.55	9.05	7.47		8.04	7.95	7.64

FINAL - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	24-Aug-19	time	2.74	3.87	5.00	6.12	7.23	8.36	9.50	10.73	11.92	13.16		14.83	9 / 8			
reaction time	0.184	interval		1.13	1.13	1.12	1.11	1.13	1.14	1.23	1.19	1.24	1.67			3.38	3.38	3.66
wind	-0.1 m/s	velocity	5.01	8.09	8.09	8.16	8.23	8.09	8.02	7.43	7.68	7.37	8.40	7.42		8.11	8.11	7.49

Heat 1 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.74	3.84	4.95	6.06	7.20	8.31	9.44	10.59	11.73	12.88		14.41	9 / 4			
reaction time	0.175	interval		1.10	1.11	1.11	1.14	1.11	1.13	1.15	1.14	1.15	1.53			3.32	3.38	3.44
wind	-0.2 m/s	velocity	5.01	8.31	8.23	8.23	8.02	8.23	8.09	7.95	8.02	7.95	9.16	7.63		8.26	8.11	7.97

FINAL - 2019 Chinese World Championship Trials (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	02-Aug-19	time	2.70	3.82	4.93	6.02	7.12	8.21	9.32	10.43	11.58	12.75		14.25	7 / 7			
reaction time	0.151	interval		1.12	1.11	1.09	1.10	1.09	1.11	1.11	1.15	1.17	1.50			3.32	3.30	3.43
wind	0.0 m/s	velocity	5.08	8.16	8.23	8.39	8.31	8.39	8.23	8.23	7.95	7.81	9.35	7.72		8.26	8.31	7.99

Heat 2 - 2019 Chinese World Championship Trials (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	02-Aug-19	time	2.74	3.87	4.98	6.10	7.21	8.34	9.48	10.61	11.74	12.91		14.43	8 / 3			
reaction time	0.174	interval		1.13	1.11	1.12	1.11	1.13	1.14	1.13	1.13	1.17	1.52			3.36	3.38	3.43
wind	-0.2 m/s	velocity	5.01	8.09	8.23	8.16	8.23	8.09	8.02	8.09	8.09	7.81	9.22	7.62		8.16	8.11	7.99

Heat 2 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.70	3.81	4.94	6.04	7.20	8.34	9.51	10.68	11.86	13.05		14.69	7 / 6			
reaction time	0.157	interval		1.11	1.13	1.10	1.16	1.14	1.17	1.17	1.18	1.19	1.64			3.34	3.47	3.54
wind	0.4 m/s	velocity	5.08	8.23	8.09	8.31	7.88	8.02	7.81	7.81	7.75	7.68	8.55	7.49		8.21	7.90	7.75

FINAL - 2019 Chinese National Grand Prix 4 (Luoyang, CHN) *CAA Hurdle Development (2019)*

date	30-May-19	time	2.67	3.78	4.87	5.97	7.06	8.17	9.27	10.36	11.46	12.63		14.09	7 / 5			
reaction time	0.145	interval		1.11	1.09	1.10	1.09	1.11	1.10	1.09	1.10	1.17	1.46	PB		3.30	3.30	3.36
wind	0.0 m/s	velocity	5.14	8.23	8.39	8.31	8.39	8.23	8.31	8.39	8.31	7.81	9.60	7.81		8.31	8.31	8.16

FINAL - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.72	3.81	4.92	6.03	7.10	8.19	9.34	10.45	11.57	12.73		14.19	8 / 6			
reaction time	0.178	interval		1.09	1.11	1.11	1.07	1.09	1.15	1.11	1.12	1.16	1.46	PB		3.31	3.31	3.39
wind	-0.3 m/s	velocity	5.04	8.39	8.23	8.23	8.54	8.39	7.95	8.23	8.16	7.88	9.60	7.75		8.28	8.28	8.09

Heat 4 - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.70	3.80	4.90	5.99	7.11	8.22	9.36	10.46	11.60	12.72		14.23	6 / 1			
reaction time	0.174	interval		1.10	1.10	1.09	1.12	1.11	1.14	1.10	1.14	1.12	1.51	PB		3.29	3.37	3.36
wind	-0.8 m/s	velocity	5.08	8.31	8.31	8.39	8.16	8.23	8.02	8.31	8.02	8.16	9.28	7.73		8.33	8.14	8.16

B-FINAL - 2019 Chinese Indoor National Grand Prix 4 (Xi'an, CHN) *CAA Hurdle Development (2019)*

date	4-Mar-19	time	2.66	3.80	4.91	6.03	7.11							8.07	5 / 3			
reaction time		interval		1.14	1.11	1.12	1.08						0.96	PB		3.37		
		velocity	5.16	8.02	8.23	8.16	8.46						10.13	7.43		8.14		

Heat 1 - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	15-Sep-18	time	2.72	3.84	4.96	6.06	7.17	8.31	9.43	10.56	11.68	12.84		14.36	6 / 7			
reaction time		interval		1.12	1.12	1.10	1.11	1.14	1.12	1.13	1.12	1.16	1.52			3.34	3.37	3.41
wind	-0.2 m/s	velocity	5.04	8.16	8.16	8.31	8.23	8.02	8.16	8.09	8.16	7.88	9.22	7.66		8.21	8.14	8.04

Xi Xianxuan (CHN) (2002)			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2018 Chinese National Sports School Championships (Jinjiang, CHN)																		
date	??	time	2.74	3.84	4.90	5.96	7.01	8.05	9.14	10.22	11.33	12.42		13.93	9 / ??			
reaction time		interval		1.10	1.06	1.06	1.05	1.04	1.09	1.08	1.11	1.09	1.51			3.22	3.18	3.28
wind	??	velocity	5.01	8.31	8.62	8.62	8.70	8.79	8.39	8.46	8.23	8.39	9.28	7.90		8.52	8.62	8.36

Zhang Q (2014). *A comparative analysis of characteristics of Chinese elite men's 110m hurdles in different age groups*

Xiang Qingqiang (CHN) (1999)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 1 - 2021 Chinese National Championships (Chongqing, CHN)															*CAA Hurdle Development (2021)*			
date	27-Jun-21	time	2.87	4.15	5.40	6.66	7.89	9.14	10.38	11.66	12.96	14.26		15.98	6 / 6			
reaction time	0.170	interval		1.28	1.25	1.26	1.23	1.25	1.24	1.28	1.30	1.30	1.72			3.79	3.72	3.88
wind	0.5 m/s	velocity	4.78	7.14	7.31	7.25	7.43	7.31	7.37	7.14	7.03	7.03	8.15	6.88		7.23	7.37	7.07
Decathlon - Heat 1 - 2019 Chinese National Grand Prix Final (Daqing, CHN)															*CAA Hurdle Development (2019)*			
date	23-Aug-19	time	2.90	4.12	5.37	6.65	7.96	9.28	10.59	11.89	13.28	14.65		16.43	3 / 6			
reaction time	0.183	interval		1.22	1.25	1.28	1.31	1.32	1.31	1.30	1.39	1.37	1.78			3.75	3.94	4.06
wind	?? m/s	velocity	4.73	7.49	7.31	7.14	6.98	6.92	6.98	7.03	6.58	6.67	7.88	6.70		7.31	6.96	6.75

Xie Wenjun (CHN) (1990)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2024 Chinese National Grand Prix Final (Rizhao, CHN)															*Shandong Athletics Sport Science (2024)*			
date	30-Jun-24	time	2.65	3.74	4.79	5.82	6.87	7.93	8.96	10.02	11.09	12.19		13.67	3 / 8			
reaction time	0.156	interval	7 steps	1.09	1.05	1.03	1.05	1.06	1.03	1.06	1.07	1.10	1.48			3.17	3.14	3.23
wind	0.9 m/s	velocity	5.18	8.39	8.70	8.87	8.70	8.62	8.87	8.62	8.54	8.31	9.47	8.05		8.65	8.73	8.49
FINAL - 2021 Chinese National Games (Xi'an, CHN)															*Huo (2022) - research on the technical characteristics of elite chinese 110m hurdlers*			
date	22-Sep-21	time	2.60	3.67	4.71	5.74	6.76	7.78	8.79	9.82	10.87	11.95		13.37	/ 1			
reaction time	0.167	interval	7 steps	1.07	1.04	1.03	1.02	1.02	1.01	1.03	1.05	1.08	1.42			3.14	3.05	3.16
wind	0.0 m/s	velocity	5.28	8.54	8.79	8.87	8.96	8.96	9.05	8.87	8.70	8.46	9.87	8.23		8.73	8.99	8.68
Semi-Final 3 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)															*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date	04-Aug-21	time	2.64	3.70	4.77	5.81	6.84	7.84	8.89	9.92	11.01	12.09		13.58	8 / 5			
reaction time	0.154	interval		1.06	1.07	1.04	1.03	1.00	1.05	1.03	1.09	1.08	1.49			3.17	3.08	3.20
wind	-0.1 m/s	velocity	5.20	8.62	8.54	8.79	8.87	9.14	8.70	8.87	8.39	8.46	9.41	8.10		8.65	8.90	8.57
Heat 4 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)															*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date	03-Aug-21	time	2.53	3.61	4.64	5.69	6.77	7.78	8.81	9.84	10.92	12.04		13.51	2 / 4			
reaction time	0.147	interval		1.08	1.03	1.05	1.08	1.01	1.03	1.03	1.08	1.12	1.47			3.16	3.12	3.23
wind	-0.2 m/s	velocity	5.42	8.46	8.87	8.70	8.46	9.05	8.87	8.87	8.46	8.16	9.54	8.14		8.68	8.79	8.49
FINAL - 2021 Flavour Hangzhou Athletics Meeting (Hangzhou, CHN)															*CAA Hurdle Development (2021)*			
date	09-Jul-21	time	2.64	3.70	4.74	5.77	6.79	7.82	8.86	9.91	10.98	12.06		13.49	4 / 1			
reaction time	0.154	interval		1.06	1.04	1.03	1.02	1.03	1.04	1.05	1.07	1.08	1.43			3.13	3.09	3.20
wind	0.4 m/s	velocity	5.20	8.62	8.79	8.87	8.96	8.87	8.79	8.70	8.54	8.46	9.80	8.15		8.76	8.87	8.57
FINAL - 2020 Chinese Olympic Trials (Shaoxing, CHN)															*CAA Hurdle Development (2021)*			
date	12-Jun-21	time	2.68	3.77	4.84	5.89	6.96	8.04	9.14	10.27	11.39	12.53		14.06	2 / 6			
reaction time	0.152	interval		1.09	1.07	1.05	1.07	1.08	1.10	1.13	1.12	1.14	1.53			3.21	3.25	3.39
wind	0.9 m/s	velocity	5.12	8.39	8.54	8.70	8.54	8.46	8.31	8.09	8.16	8.02	9.16	7.82		8.54	8.44	8.09
Heat 2 - 2020 Chinese Olympic Trials (Shaoxing, CHN)															*CAA Hurdle Development (2021)*			
date	12-Jun-21	time	2.59	3.69	4.76	5.83	6.90	8.01	9.13	10.28	11.42	12.59		14.25	8 / 4			
reaction time	0.162	interval		1.10	1.07	1.07	1.07	1.11	1.12	1.15	1.14	1.17	1.66			3.24	3.30	3.46
wind	-0.8 m/s	velocity	5.30	8.31	8.54	8.54	8.54	8.23	8.16	7.95	8.02	7.81	8.45	7.72		8.46	8.31	7.92
FINAL - 2020 Chinese National Championships (Shaoxing, CHN)															*CAA Hurdle Development (2020)*			
date	16-Sep-20	time	2.57	3.62	4.65	5.68	6.69	7.71	8.73	9.75	10.78	11.83		13.24	5 / 1			
reaction time	0.162	interval	7 steps	1.05	1.03	1.03	1.01	1.02	1.02	1.02	1.03	1.05	1.41			3.11	3.05	3.10
wind	0.4 m/s	velocity	5.34	8.70	8.87	8.87	9.05	8.96	8.96	8.96	8.87	8.70	9.94	8.31		8.82	8.99	8.85
Heat 2 - 2020 Chinese National Championships (Shaoxing, CHN)															*CAA Hurdle Development (2020)*			
date	16-Sep-20	time	2.60	3.67	4.72	5.77	6.82	7.87	8.94	10.01	11.08	12.18		13.63	2 / 1			
reaction time	0.175	interval	7 steps	1.07	1.05	1.05	1.05	1.05	1.07	1.07	1.07	1.10	1.45			3.17	3.17	3.24
wind	-0.5 m/s	velocity	5.28	8.54	8.70	8.70	8.70	8.70	8.54	8.54	8.54	8.31	9.67	8.07		8.65	8.65	8.46
FINAL - 2020 CAA Shanghai Training Base Permit Meeting (Shanghai, CHN)															*Shanghai Sport Institute (2020) - competition analysis*			
date	19-Jul-20	time	2.69	3.70	4.70	5.71	6.70	7.70	8.72	9.75	10.77	11.82		13.20	/ 1			
reaction time		interval	7 steps	1.01	1.00	1.01	0.99	1.00	1.02	1.03	1.02	1.05	1.38			3.02	3.01	3.10
wind	2.5 m/s	velocity	5.10	9.05	9.14	9.05	9.23	9.14	8.96	8.87	8.96	8.70	10.16	8.33		9.08	9.11	8.85
FINAL - 2020 Millrose Games (New York, NY) (TV Analysis)															*Henson (2020) - Athlete First: 2020 year end hurdle report*			
date	08-Feb-20	time	2.53	3.60	4.64	5.67	6.70							7.69	6 / 2			
reaction time	0.156	interval	7 steps	1.07	1.04	1.03	1.03						0.99			3.14		
		velocity	5.42	8.54	8.79	8.87	8.87						9.82	7.80		8.73		
FINAL - 2020 Mountain T's Invitational (Flagstaff AZ) (Altitude)															*CAA Hurdle Development (2020)*			
date	01-Feb-20	time	2.65	3.70	4.75	5.78	6.82							7.75	4 / 2			
reaction time		interval	7 steps	1.05	1.05	1.03	1.04						0.93			3.13		
		velocity	5.18	8.70	8.70	8.87	8.79						10.45	7.74		8.76		

Heat 3 - 2020 Mountain T's Invitational (Flagstaff AZ) (Altitude) *CAA Hurdle Development (2020)*

date	01-Feb-20	time	2.64	3.74	4.79	5.83	6.87							7.80	4 / 1				
reaction time		interval	7 steps	1.10	1.05	1.04	1.04						0.93			3.19			
		velocity	5.20	8.31	8.70	8.79	8.79						10.45	7.69		8.60			

FINAL - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.59	3.64	4.66	5.68	6.69	7.71	8.73	9.76	10.80	11.86		13.29	2 / 5				
reaction time	0.140	interval	7 steps	1.05	1.02	1.02	1.01	1.02	1.02	1.03	1.04	1.06	1.43			3.09	3.05	3.13	
wind	0.6 m/s	velocity	5.30	8.70	8.96	8.96	9.05	8.96	8.96	8.87	8.79	8.62	9.80	8.28		8.87	8.99	8.76	

Semi-Final 2 - 2019 IAAF World Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	02-Oct-19	time	2.56	3.60	4.63	5.64	6.66	7.67	8.68	9.69	10.73	11.78		13.22	7 / 3				
reaction time	0.137	interval	7 steps	1.04	1.03	1.01	1.02	1.01	1.01	1.01	1.04	1.05	1.44			3.08	3.04	3.10	
wind	0.9 m/s	velocity	5.36	8.79	8.87	9.05	8.96	9.05	9.05	9.05	8.79	8.70	9.74	8.32		8.90	9.02	8.85	

FINAL - 2019 AG Memorial van Damme (Brussels, BEL) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	06-Sep-19	time	2.54	3.60	4.66	5.70	6.72	7.74	8.80	9.84	10.88	11.98		13.49	4 / 5				
reaction time	0.150	interval	7 steps	1.06	1.06	1.04	1.02	1.02	1.06	1.04	1.04	1.10	1.51			3.16	3.10	3.18	
wind	0.0 m/s	velocity	5.40	8.62	8.62	8.79	8.96	8.96	8.62	8.79	8.79	8.31	9.28	8.15		8.68	8.85	8.62	

FINAL - 2019 Meeting de Paris (Paris, FRA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	24-Aug-19	time	2.56	3.60	4.66	5.68	6.70	7.74	8.76	9.80	10.86	11.98		13.46	7 / 7				
reaction time	0.162	interval	7 steps	1.04	1.06	1.02	1.02	1.04	1.02	1.04	1.06	1.12	1.48			3.12	3.08	3.22	
wind	0.8 m/s	velocity	5.36	8.79	8.62	8.96	8.96	8.79	8.96	8.79	8.62	8.16	9.47	8.17		8.79	8.90	8.52	

FINAL - 2019 Müller Grand Prix (Birmingham, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	18-Aug-19	time	2.58	3.63	4.66	5.68	6.70	7.72	8.73	9.77	10.81	11.90		13.43	7 / 3				
reaction time	0.140	interval	7 steps	1.05	1.03	1.02	1.02	1.02	1.01	1.04	1.04	1.09	1.53			3.10	3.05	3.17	
wind	-0.2 m/s	velocity	5.32	8.70	8.87	8.96	8.96	8.96	9.05	8.79	8.79	8.39	9.16	8.19		8.85	8.99	8.65	

FINAL - 2019 Chinese World Championship Trials (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	02-Aug-19	time	2.61	3.64	4.67	5.70	6.72	7.74	8.77	9.80	10.87	11.97		13.43	4 / 1				
reaction time	0.153	interval	7 steps	1.03	1.03	1.03	1.02	1.02	1.03	1.03	1.07	1.10	1.46			3.09	3.07	3.20	
wind	0.0 m/s	velocity	5.26	8.87	8.87	8.87	8.96	8.96	8.87	8.87	8.54	8.31	9.60	8.19		8.87	8.93	8.57	

Heat 1 - 2019 Chinese World Championship Trials (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	02-Aug-19	time	2.63	3.72	4.80	5.88	6.97	8.06	9.12	10.21	11.31	12.42		13.94	6 / 1				
reaction time	0.175	interval	7 steps	1.09	1.08	1.08	1.09	1.09	1.06	1.09	1.10	1.11	1.52			3.25	3.24	3.30	
wind	-0.3 m/s	velocity	5.22	8.39	8.46	8.46	8.39	8.39	8.62	8.39	8.31	8.23	9.22	7.89		8.44	8.46	8.31	

FINAL - 2019 Müller Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	21-Jul-19	time	2.46	3.53	4.55	5.57	6.58	7.59	8.63	9.66	10.69	11.72		13.28	5 / 1				
reaction time	0.135	interval	7 steps	1.07	1.02	1.02	1.01	1.01	1.04	1.03	1.03	1.03	1.56			3.11	3.06	3.09	
wind	0.4 m/s	velocity	5.58	8.54	8.96	8.96	9.05	9.05	8.79	8.87	8.87	8.87	8.99	8.28		8.82	8.96	8.87	

FINAL - 2019 Athletissima (Lausanne, SUI) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	05-Jul-19	time	2.52	3.56	4.60	5.60	6.60	7.64	8.68	9.72	10.76	11.84		13.29	3 / 5				
reaction time	0.135	interval	7 steps	1.04	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.08	1.45			3.08	3.08	3.16	
wind	1.0 m/s	velocity	5.44	8.79	8.79	9.14	9.14	8.79	8.79	8.79	8.79	8.46	9.67	8.28		8.90	8.90	8.68	

FINAL - 2019 Prefontaine Classic (Stanford, CA) (TV Analysis) *Henson (2020) - Athlete First: 2019 year end hurdle report*

date	30-Jun-19	time	2.56	3.60	4.63	5.66	6.70	7.73	8.76	9.80	10.83	11.88		13.36	7 / 6				
reaction time	0.175	interval	7 steps	1.04	1.03	1.03	1.04	1.03	1.03	1.04	1.03	1.05	1.48			3.10	3.10	3.12	
wind	0.3 m/s	velocity	5.36	8.79	8.87	8.87	8.79	8.87	8.87	8.79	8.87	8.70	9.47	8.23		8.85	8.85	8.79	

FINAL - 2019 Shanghai Diamond League (Shanghai, CHN) *CAA Hurdle Development (2019)*

date	18-May-19	time	2.58	3.62	4.62	5.64	6.62	7.64	8.64	9.68	10.70	11.78		13.17	3 / 2				
reaction time	0.145	interval	7 steps	1.04	1.00	1.02	0.98	1.02	1.00	1.04	1.02	1.08	1.39	PB		3.06	3.00	3.14	
wind	0.7 m/s	velocity	5.32	8.79	9.14	8.96	9.33	8.96	9.14	8.79	8.96	8.46	10.09	8.35		8.96	9.14	8.73	

FINAL - 2019 Asian Athletics Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	24-Apr-19	time	2.55	3.58	4.63	5.63	6.64	7.65	8.65	9.67	10.72	11.79		13.21	7 / 1				
reaction time	0.151	interval	7 steps	1.03	1.05	1.00	1.01	1.01	1.00	1.02	1.05	1.07	1.42	CR / PB		3.08	3.02	3.14	
wind	1.7 m/s	velocity	5.38	8.87	8.70	9.14	9.05	9.05	9.14	8.96	8.70	8.54	9.87	8.33		8.90	9.08	8.73	

Heat 3 - 2019 Asian Athletics Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	23-Apr-19	time	2.61	3.67	4.71	5.77	6.79	7.82	8.86	9.91	10.95	12.01		13.47	3 / 1				
reaction time	0.159	interval	7 steps	1.06	1.04	1.06	1.02	1.03	1.04	1.05	1.04	1.06	1.46			3.16	3.09	3.15	
wind	1.6 m/s	velocity	5.26	8.62	8.79	8.62	8.96	8.87	8.79	8.70	8.79	8.62	9.60	8.17		8.68	8.87	8.70	

FINAL - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	16-Sep-18	time	2.59	3.64	4.67	5.71	6.72	7.76	8.77	9.83	10.88	11.96		13.40	6 / 1				
reaction time		interval	7 steps	1.05	1.03	1.04	1.01	1.04	1.01	1.06	1.05	1.08	1.44			3.12	3.06	3.19	

wind	-0.3 m/s	velocity	5.30	8.70	8.87	8.79	9.05	8.79	9.05	8.62	8.70	8.46	9.74	8.21		8.79	8.96	8.60

Heat 1 - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	15-Sep-18	time	2.63	3.69	4.74	5.77	6.82	7.87	8.93	10.02	11.11	12.21		13.76	5 / 1			
reaction time		interval	*7 steps*	1.06	1.05	1.03	1.05	1.05	1.06	1.09	1.09	1.10	1.55			3.14	3.16	3.28
wind	-0.2 m/s	velocity	5.22	8.62	8.70	8.87	8.70	8.70	8.62	8.39	8.39	8.31	9.05	7.99		8.73	8.68	8.36

FINAL - 2018 Asian Games (Jakarta, INA) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	28-Aug-18	time	2.58	3.63	4.66	5.69	6.71	7.73	8.76	9.81	10.85	11.93		13.34	6 / 1			
reaction time	0.142	interval	*7 steps*	1.05	1.03	1.03	1.02	1.02	1.03	1.05	1.04	1.08	1.41			3.11	3.07	3.17
wind	0.0 m/s	velocity	5.32	8.70	8.87	8.87	8.96	8.96	8.87	8.70	8.79	8.46	9.94	8.25		8.82	8.93	8.65

FINAL - 2017 Chinese National Games (Tianjin, CHN) *Henson (2017) - coaching observations*

date	03-Sep-17	time	2.68	3.75	4.79	5.80	6.82	7.86	8.89	9.92	10.99	12.07		13.52	6 / 1			
reaction time		interval		1.07	1.04	1.01	1.02	1.04	1.03	1.03	1.07	1.08	1.45			3.12	3.09	3.18
wind	0.3 m/s	velocity	5.12	8.54	8.79	9.05	8.96	8.79	8.87	8.87	8.54	8.46	9.67	8.14		8.79	8.87	8.62

Semi-Final 3 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 110m Hurdles*

date	06-Aug-17	time	2.50	3.60	4.63	5.65	6.67	7.70	8.71	9.74	10.78	11.85		13.36	4 / 3			
reaction time	0.171	interval		1.10	1.03	1.02	1.02	1.03	1.01	1.03	1.04	1.07	1.51			3.15	3.06	3.14
wind	0.3 m/s	velocity	5.49	8.31	8.87	8.96	8.96	8.87	9.05	8.87	8.79	8.54	9.28	8.23		8.70	8.96	8.73

FINAL - 2017 Müller's Anniversary Games (London, GBR) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	09-Jul-17	time	2.60	3.66	4.74	5.78	6.82	7.90	8.98	10.08	11.26	12.46		14.34	2 / 9			
reaction time	0.157	interval		1.06	1.08	1.04	1.04	1.08	1.08	1.10	1.18	1.20	1.88			3.18	3.20	3.48
wind	0.0 m/s	velocity	5.28	8.62	8.46	8.79	8.79	8.46	8.46	8.31	7.75	7.62	7.46	7.67		8.62	8.57	7.88

FINAL - 2017 Seiko Golden Grand Prix (Kawasaki, JPN) *(2017) - tfdata-store.com/2017/05/22/post-599/*

date	21-May-17	time	2.61	3.66	4.71	5.75	6.79	7.82	8.86	9.92	10.98	12.06		13.51	3 / 1			
reaction time	0.153	interval		1.05	1.05	1.04	1.04	1.03	1.04	1.06	1.06	1.08	1.45			3.14	3.11	3.20
wind	-1.8 m/s	velocity	5.26	8.70	8.70	8.79	8.79	8.87	8.79	8.62	8.62	8.46	9.67	8.14		8.73	8.82	8.57

FINAL - 2017 Shanghai Diamond League (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2017 year end hurdle report*

date	13-May-17	time	2.56	3.62	4.66	5.66	6.68	7.70	8.72	9.74	10.78	11.86		13.31	2 / 3			
reaction time	0.156	interval		1.06	1.04	1.00	1.02	1.02	1.02	1.02	1.04	1.08	1.45			3.10	3.06	3.14
wind	0.5 m/s	velocity	5.36	8.62	8.79	9.14	8.96	8.96	8.96	8.96	8.79	8.46	9.67	8.26		8.85	8.96	8.73

FINAL - 2016 Shanghai Golden Grand Prix (Shanghai, CHN) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	14-May-16	time	2.52	3.58	4.62	5.64	6.66	7.68	8.70	9.74	10.78	11.84		13.34	8 / 3			
reaction time	0.155	interval		1.06	1.04	1.02	1.02	1.02	1.02	1.04	1.04	1.06	1.50			3.12	3.06	3.14
wind	1.2 m/s	velocity	5.44	8.62	8.79	8.96	8.96	8.96	8.96	8.79	8.79	8.62	9.35	8.25		8.79	8.96	8.73

FINAL - 2016 Seiko Golden Grand Prix (Kawasaki, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	08-May-16	time	2.58	3.63	4.66	5.68	6.70	7.72	8.76	9.79	10.85	11.93		13.36	5 / 1			
reaction time	0.160	interval		1.05	1.03	1.02	1.02	1.02	1.04	1.03	1.06	1.08	1.43			3.10	3.08	3.17
wind	-0.6 m/s	velocity	5.32	8.70	8.87	8.96	8.96	8.96	8.79	8.87	8.62	8.46	9.80	8.23		8.85	8.90	8.65

FINAL - 2015 Golden Grand Prix (Shanghai, CHN) *Wang (2016) - analysis of technical characteristes and performace prediction of rising star Xie Wenjun in 110m Hurdles*

date	17-May-15	time	2.55	3.58	4.61	5.64	6.65	7.67	8.69	9.74	10.82	11.92		13.36	/ 6			
reaction time	0.165	interval		1.03	1.03	1.03	1.01	1.02	1.02	1.05	1.08	1.10	1.44			3.09	3.05	3.23
wind	0.4 m/s	velocity	5.38	8.87	8.87	8.87	9.05	8.96	8.96	8.70	8.46	8.31	9.74	8.23		8.87	8.99	8.49

Semi-Final 2 - 2015 IAAF World Championships (Beijing, CHN) *Xu (2015) - the 15th world track and field special report: Men's and women's hurdle project*

date	27-Aug-15	time			4.70				8.83			11.99		13.39	7 / 6			
reaction time	0.163	interval							4.13			3.16	1.40				8.83	3.16
wind	-0.2 m/s	velocity			6.81				8.85			8.68	10.01	8.22			3.11	8.68

FINAL - 2014 Asian Games (Incheon, KOR) *Wang (2016) - comparative analysis of the grey relational grade of segment times and final results of the 110m hurdles*

date	30-Sep-14	time	2.60	3.66	4.70	5.74	6.76	7.80	8.82	9.85	10.90	11.96		13.36	/ 1			
reaction time	0.176	interval		1.06	1.04	1.04	1.02	1.04	1.02	1.03	1.05	1.06	1.40			3.14	3.08	3.14
wind	0.4 m/s	velocity	5.28	8.62	8.79	8.79	8.96	8.79	8.96	8.87	8.70	8.62	10.01	8.23		8.73	8.90	8.73

FINAL - 2014 Golden Grand Prix (Shanghai, CHN) *Wang (2016) - comparative analysis of the grey relational grade of segment times and final results of the 110m hurdles*

date	18-May-14	time	2.54	3.60	4.62	5.62	6.62	7.64	8.66	9.70	10.74	11.82		13.23	/ 1			
reaction time	0.136	interval		1.06	1.02	1.00	1.00	1.02	1.02	1.04	1.04	1.08	1.41	**PB**		3.08	3.04	3.16
wind	-0.5 m/s	velocity	5.40	8.62	8.96	9.14	9.14	8.96	8.96	8.79	8.79	8.46	9.94	8.31		8.90	9.02	8.68

FINAL - 2013 Golden Grand Prix (Shanghai, CHN) *Wang (2016) - comparative analysis of the grey relational grade of segment times and final results of the 110m hurdles*

date	18-May-13	time	2.54	3.60	4.63	5.64	6.68	7.70	8.74	9.77	10.81	11.87		13.28	/ 3			
reaction time	0.137	interval		1.06	1.03	1.01	1.04	1.02	1.04	1.03	1.04	1.06	1.41	**PB**		3.10	3.10	3.13
wind	-0.5 m/s	velocity	5.40	8.62	8.87	9.05	8.79	8.96	8.79	8.87	8.79	8.62	9.94	8.28		8.85	8.85	8.76

FINAL - 2013 Chinese National Grand Prix (Zhaoqing, CHN) *Wang (2016) - comparative analysis of the grey relational grade of segment times and final results of the 110m hurdles*

date	28-Apr-12	time	2.60	3.66	4.69	5.75	6.79	7.83	8.87	9.91	10.95	12.03		13.44	/ 1			
reaction time		interval		1.06	1.03	1.06	1.04	1.04	1.04	1.04	1.04	1.08	1.41			3.15	3.12	3.16
wind	0.1 m/s	velocity	5.28	8.62	8.87	8.62	8.79	8.79	8.79	8.79	8.79	8.46	9.94	8.18		8.70	8.79	8.68

Semi-Final 2 - 2012 Olympic Games (London, GBR) *Wang (2016) - comparative analysis of the grey relational grade of segment times and final results of the 110m hurdles*

date	08-Aug-12	time	2.60	3.68	4.72	5.73	6.74	7.78	8.80	9.84	10.89	11.96		13.34	9 / 3			
reaction time	0.158	interval		1.08	1.04	1.01	1.01	1.04	1.02	1.04	1.05	1.07	1.38	PB		3.13	3.07	3.16
wind	0.1 m/s	velocity	5.28	8.46	8.79	9.05	9.05	8.79	8.96	8.79	8.70	8.54	10.16	8.25		8.76	8.93	8.68

Heat 5 - 2012 Olympic Games (London, GBR) *Wang (2016) - comparative analysis of the grey relational grade of segment times and final results of the 110m hurdles*

date	07-Aug-12	time	2.55	3.61	4.65	5.70	6.75	7.79	8.85	9.89	10.95	12.03		13.43	2 / 3			
reaction time	0.143	interval		1.06	1.04	1.05	1.05	1.04	1.06	1.04	1.06	1.08	1.40			3.15	3.15	3.18
wind	0.7 m/s	velocity	5.38	8.62	8.79	8.70	8.70	8.79	8.62	8.79	8.62	8.46	10.01	8.19		8.70	8.70	8.62

FINAL - 2012 Chinese National Grand Prix Final (Fuzhou, CHN) *Wang (2016) - comparative analysis of the grey relational grade of segment times and final results of the 110m hurdles*

date	24-Jun-12	time	2.64	3.70	4.76	5.78	6.80	7.84	8.88	9.92	10.98	12.06		13.42	/ 1			
reaction time		interval		1.06	1.06	1.02	1.02	1.04	1.04	1.04	1.06	1.08	1.36	PB		3.14	3.10	3.18
wind	0.5 m/s	velocity	5.20	8.62	8.62	8.96	8.96	8.79	8.79	8.79	8.62	8.46	10.31	8.20		8.73	8.85	8.62

FINAL - 2012 Chinese National Grand Prix (Zibo, CHN) *Wang (2016) - comparative analysis of the grey relational grade of segment times and final results of the 110m hurdles*

date	27-May-12	time	2.64	3.72	4.76	5.82	6.86	7.88	8.92	9.95	11.00	12.08		13.48	/ 1			
reaction time		interval		1.08	1.04	1.06	1.04	1.02	1.04	1.03	1.05	1.08	1.40			3.18	3.10	3.16
wind	0.1 m/s	velocity	5.20	8.46	8.79	8.62	8.79	8.96	8.79	8.87	8.70	8.46	10.01	8.16		8.62	8.85	8.68

FINAL - 2012 Golden Grand Prix (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2012 Aries Merritt world record season*

date	19-May-12	time	2.54	3.64	4.68	5.74	6.78	7.82	8.88	9.96	11.06	12.14		13.64	8 / 8			
reaction time	0.179	interval		1.10	1.04	1.06	1.04	1.04	1.06	1.08	1.10	1.08	1.50			3.20	3.14	3.26
wind	0.4 m/s	velocity	5.40	8.31	8.79	8.62	8.79	8.79	8.62	8.46	8.31	8.46	9.35	8.06		8.57	8.73	8.41

FINAL - 2012 Chinese National Grand Prix (Wuhan, CHN) *Wang (2016) - comparative analysis of the grey relational grade of segment times and final results of the 110m hurdles*

date	29-Apr-12	time	2.64	3.72	4.76	5.82	6.86	7.88	8.92	9.95	11.00	12.08		13.48	/ 1			
reaction time		interval		1.08	1.04	1.06	1.04	1.02	1.04	1.03	1.05	1.08	1.40			3.18	3.10	3.16
wind	1.1 m/s	velocity	5.20	8.46	8.79	8.62	8.79	8.96	8.79	8.87	8.70	8.46	10.01	8.16		8.62	8.85	8.68

FINAL - 2010 Shanghai Diamond League (Shanghai, CHN) *He (2014) - kinematic analysis of Xie Wenjun's hurdle technique*

date	23-May-10	time	2.64	3.54	4.54	5.44	6.64	7.74	8.84	9.84	10.84	11.84		13.58	/ 4			
reaction time	0.165	interval		0.90	1.00	0.90	1.20	1.10	1.10	1.00	1.00	1.00	1.74			2.80	3.40	3.00
wind	-0.4 m/s	velocity	5.20	10.16	9.14	10.16	7.62	8.31	8.31	9.14	9.14	9.14	8.06	8.10		9.79	8.06	9.14

FINAL - 2008 Golden Grand Prix (Shanghai, CHN) *Wang (2016) - comparative analysis of the grey relational grade of segment times and final results of the 110m hurdles*

date	20-Sep-08	time	2.66	3.70	4.74	5.78	6.80	7.84	8.90	9.94	11.04	12.08		13.47	/ 2			
reaction time	0.223	interval		1.04	1.04	1.04	1.02	1.04	1.06	1.04	1.10	1.04	1.39	PB		3.12	3.12	3.18
wind	0.2 m/s	velocity	5.16	8.79	8.79	8.79	8.96	8.79	8.62	8.79	8.31	8.79	10.09	8.17		8.79	8.79	8.62

FINAL - 2008 Good Luck Beijing 2008 Chinese Open (Beijing, CHN) *Wang (2016) - comparative analysis of grey relational grade of segment times & final results of 110m hurdles*

date	23-May-08	time	2.62	3.68	4.74	5.80	6.82	7.86	8.92	9.98	11.04	12.12		13.51	/ 4			
reaction time	0.162	interval		1.06	1.06	1.06	1.02	1.04	1.06	1.06	1.06	1.08	1.39	PB		3.18	3.12	3.20
wind	0.0 m/s	velocity	5.24	8.62	8.62	8.62	8.96	8.79	8.62	8.62	8.62	8.46	10.09	8.14		8.62	8.79	8.57

Xu Jialin (CHN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

U20 Heat 2 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.69	3.81	4.91	6.04	7.17	8.29	9.44	10.59	11.80	12.98		14.63	8 / 6			
reaction time	0.166	interval		1.12	1.10	1.13	1.13	1.12	1.15	1.15	1.21	1.18	1.65			3.35	3.40	3.54
wind	-0.3 m/s	velocity	5.10	8.16	8.31	8.09	8.09	8.16	7.95	7.95	7.55	7.75	8.50	7.52		8.19	8.06	7.75

Xu Xin (MAC) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

U20 Heat 3 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.69	3.87	5.02	6.22	7.44	8.61	9.83	11.06	12.31	13.56		15.26	3 / 7			
reaction time	0.138	interval		1.18	1.15	1.20	1.22	1.17	1.22	1.23	1.25	1.25	1.70			3.53	3.61	3.73
wind	0.6 m/s	velocity	5.10	7.75	7.95	7.62	7.49	7.81	7.49	7.43	7.31	7.31	8.25	7.21		7.77	7.60	7.35

Xu Zhuoyi (CHN) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN) *Omega Timing (2025) - diamond league race analysis*

date	03-May-25	time	2.46	3.54	4.58	5.59	6.60	7.61	8.62	9.63	10.67	11.72		13.29	7 / 4			
reaction time	0.165	interval	7 steps	1.08	1.04	1.01	1.01	1.01	1.01	1.01	1.04	1.05	1.57			3.13	3.03	3.10
wind	0.6 m/s	velocity	5.58	8.46	8.79	9.05	9.05	9.05	9.05	9.05	8.79	8.70	8.93	8.28		8.76	9.05	8.85

FINAL - 2025 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2025) - diamond league race analysis*

date	26-Apr-25	time	2.48	3.57	4.61	5.63	6.64	7.65	8.66	9.69	10.74	11.80		13.37	9 / 7			
reaction time	0.153	interval	7 steps	1.09	1.04	1.02	1.01	1.01	1.01	1.03	1.05	1.06	1.57			3.15	3.03	3.14
wind	0.3 m/s	velocity	5.53	8.39	8.79	8.96	9.05	9.05	9.05	8.87	8.70	8.62	8.93	8.23		8.70	9.05	8.73

Race 5 - 2025 Chinese National Grand Prix (Nanjing, CHN) *Hubei Athletics Sport Science (2025)*

date	23-Feb-25	time	2.63	3.68	4.69	5.71	6.72							7.59	/ 3				
reaction time	0.156	interval	7 steps	1.05	1.01	1.02	1.01						0.87	=PB			3.08		
		velocity	5.22	8.70	9.05	8.96	9.05						11.17	7.91			8.90		

FINAL - 2024 Chinese National Championships (Quzhou, CHN) *Shandong Athletics Sport Science (2024)*

date	16-Sep-24	time	2.58	3.63	4.65	5.67	6.69	7.71	8.73	9.77	10.81	11.88		13.31	6 / 1				
reaction time	0.171	interval	7 steps	1.05	1.02	1.02	1.02	1.02	1.02	1.04	1.04	1.07	1.43				3.09	3.06	3.15
wind	0.2 m/s	velocity	5.32	8.70	8.96	8.96	8.96	8.96	8.96	8.79	8.79	8.54	9.80	8.26			8.87	8.96	8.70

Semi-Final 3 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	2.44	3.54	4.58	5.62	6.69	7.74	8.79	9.82	10.85	11.90		13.48	4 / 7				
reaction time	0.166	interval	7 steps	1.10	1.04	1.04	1.07	1.05	1.05	1.03	1.03	1.05	1.58				3.18	3.17	3.11
wind	0.6 m/s	velocity	5.62	8.31	8.79	8.79	8.54	8.70	8.70	8.87	8.87	8.70	8.87	8.16			8.62	8.65	8.82

Heat 3 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.46	3.55	4.59	5.62	6.63	7.65	8.67	9.68	10.73	11.79		13.40	7 / 1				
reaction time	0.159	interval	7 steps	1.09	1.04	1.03	1.01	1.02	1.02	1.01	1.05	1.06	1.61				3.16	3.05	3.12
wind	1.1 m/s	velocity	5.58	8.39	8.79	8.87	9.05	8.96	8.96	9.05	8.70	8.62	8.71	8.21			8.68	8.99	8.79

FINAL - 2024 Chinese National Grand Prix Final (Rizhao, CHN) *Shandong Athletics Sport Science (2024)*

date	30-Jun-24	time	2.64	3.72	4.74	5.75	6.77	7.80	8.84	9.89	10.94	12.04		13.47	6 / 2				
reaction time	0.147	interval	7 steps	1.08	1.02	1.01	1.02	1.03	1.04	1.05	1.05	1.10	1.43				3.11	3.09	3.20
wind	0.9 m/s	velocity	5.20	8.46	8.96	9.05	8.96	8.87	8.79	8.70	8.70	8.31	9.80	8.17			8.82	8.87	8.57

FINAL - 2024 Fuse Sprint (Tottori, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	02-Jun-24	time	2.61	3.65	4.70	5.72	6.72	7.74	8.75	9.76	10.79	11.83		13.22	7 / 1				
reaction time	0.163	interval	7 steps	1.04	1.05	1.02	1.00	1.02	1.01	1.01	1.03	1.04	1.39	=PB			3.11	3.03	3.08
wind	1.3 m/s	velocity	5.26	8.79	8.70	8.96	9.14	8.96	9.05	9.05	8.87	8.79	10.09	8.32			8.82	9.05	8.90

FINAL - 2024 Yangtze River Delta Athletics Diamond Gala (Suzhou, CHN) (TV Analysis) *Omega Timing (2024) - diamond league race analysis*

date	27-Apr-24	time	2.67	3.74	4.80	5.84	6.86	7.91	8.89	9.91	10.96	12.01		13.43	2 / 6				
reaction time	0.155	interval	7 steps	1.07	1.06	1.04	1.02	1.05	0.98	1.02	1.05	1.05	1.42				3.17	3.05	3.12
wind	0.8 m/s	velocity	5.14	8.54	8.62	8.79	8.96	8.70	9.33	8.96	8.70	8.70	9.87	8.19			8.65	8.99	8.79

FINAL - 2023 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2023) - diamond league race analysis*

date	02-Sep-23	time	2.49	3.56	4.63	5.68	6.72	7.75	8.80	9.85	10.92	11.98		13.56	9 / 10				
reaction time	0.166	interval	7 steps	1.07	1.07	1.05	1.04	1.03	1.05	1.05	1.07	1.06	1.58				3.19	3.12	3.18
wind	0.0 m/s	velocity	5.51	8.54	8.54	8.70	8.79	8.87	8.70	8.70	8.54	8.62	8.87	8.11			8.60	8.79	8.62

Heat 1 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.68	3.80	4.89	5.97	7.06	8.15	9.26	10.38	11.54	12.71		14.23	6 / 3				
reaction time	0.156	interval	7 steps	1.12	1.09	1.08	1.09	1.09	1.11	1.12	1.16	1.17	1.52				3.29	3.29	3.45
wind	-1.0 m/s	velocity	5.12	8.16	8.39	8.46	8.39	8.39	8.23	8.16	7.88	7.81	9.22	7.73			8.33	8.33	7.95

Heat 1 - 2020 Chinese Olympic Trials (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	12-Jun-21	time	2.64	3.73	4.85	5.94	7.04	8.14	9.26	10.38	11.52	12.70		14.33	5 / 6				
reaction time	0.173	interval	7 steps	1.09	1.12	1.09	1.10	1.10	1.12	1.12	1.14	1.18	1.63				3.30	3.32	3.44
wind	-0.4 m/s	velocity	5.20	8.39	8.16	8.39	8.31	8.31	8.16	8.16	8.02	7.75	8.60	7.68			8.31	8.26	7.97

Heat 1 - 2021 East China District Meeting (Zhaoqing, CHN) *CAA Hurdle Development (2021)*

date	24-Apr-21	time	2.74	3.88	5.02	6.15	7.25	8.38	9.50	10.62	11.75	12.91		14.42	8 / 5				
reaction time	0.179	interval	7 steps	1.14	1.14	1.13	1.10	1.13	1.12	1.12	1.13	1.16	1.51				3.41	3.35	3.41
wind	-1.1 m/s	velocity	5.01	8.02	8.02	8.09	8.31	8.09	8.16	8.16	8.09	7.88	9.28	7.63			8.04	8.19	8.04

FINAL - 2021 Yangtze River Delta Athletics Meeting (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	08-Apr-21	time	2.72	3.84	4.96	6.04	7.12	8.24	9.32	10.44	11.56	12.68		14.17	5 / 4				
reaction time		interval	7 steps	1.12	1.12	1.08	1.08	1.12	1.08	1.12	1.12	1.12	1.49	PB			3.32	3.28	3.36
wind	-0.1 m/s	velocity	5.04	8.16	8.16	8.46	8.46	8.16	8.46	8.16	8.16	8.16	9.41	7.76			8.26	8.36	8.16

FINAL - 2021 National Indoor Grand Prix (Jinan, CHN) *CAA Hurdle Development (2021)*

date	18-Mar-21	time	2.76	3.90	5.03	6.15	7.29							8.30	2 / 6				
reaction time	0.171	interval	7 steps	1.14	1.13	1.12	1.14						1.01				3.39		
		velocity	4.97	8.02	8.09	8.16	8.02						9.62	7.23			8.09		

B FINAL - 2021 National Indoor Grand Prix (Chengdu, CHN) *CAA Hurdle Development (2021)*

date	13-Mar-21	time	2.66	3.77	4.88	5.98	7.06							7.97	3 / 2				
reaction time	0.173	interval	7 steps	1.11	1.11	1.10	1.08						0.91	PB			3.32		
		velocity	5.16	8.23	8.23	8.31	8.46						10.68	7.53			8.26		

Yada, Gen (JPN) (1994)		**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Semi-Final 1 - 2016 Japanese University Championships (Kumagaya, JPN)								*(2016.09.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*									
date	04-Sep-16	time	2.70	3.85	4.95	6.03	7.12	8.21	9.31	10.40	11.50	12.63		14.01	5 / 1				
reaction time	0.135	interval		1.15	1.10	1.08	1.09	1.09	1.10	1.09	1.10	1.13	1.38				3.33	3.28	3.32

wind	0.6 m/s	velocity	5.08	7.95	8.31	8.46	8.39	8.39	8.31	8.39	8.31	8.09	10.16	7.85		8.23	8.36	8.26

Yahata, Kenji (JPN) (1980)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 4 - 2009 Japanese National Championships (Hiroshima, JPN)													*Akirabun (2010) - analysis of speed and stride on straight track events in the 2009 season*			
date 26-Jun-09 time	2.44	3.52	4.60	5.66	6.73	7.81	8.91	10.01	11.11	12.23		13.91	3 / 1			
reaction time interval		1.08	1.08	1.06	1.07	1.08	1.10	1.10	1.10	1.12	1.68			3.22	3.25	3.32
wind 0.3 m/s velocity	5.62	8.46	8.46	8.62	8.54	8.46	8.31	8.31	8.31	8.16	8.35	7.91		8.52	8.44	8.26
FINAL - 2009 Mikio Oda Memorial (Hiroshima, JPN)													*Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*			
date 29-Apr-09 time	2.63	3.71	4.78	5.83	6.88	7.94	8.99	10.08	11.17	12.29		13.77	/ 4			
reaction time interval		1.08	1.07	1.05	1.05	1.06	1.05	1.09	1.09	1.12	1.48			3.20	3.16	3.30
wind 1.9 m/s velocity	5.22	8.46	8.54	8.70	8.70	8.62	8.70	8.39	8.39	8.16	9.47	7.99		8.57	8.68	8.31
Heat 1 - 2008 Nambu Chuhei Memorial (Harodate, JPN)													*Akirabun (2009) - race analysis of 2008 men's and women's 100m and 110m & 100m hurdles*			
date 06-Jul-08 time	2.56	3.67	4.76	5.84	6.93	8.09	9.31	10.51	11.70	12.89		14.67	???			
reaction time interval		1.11	1.09	1.08	1.09	1.16	1.22	1.20	1.19	1.19	1.78			3.28	3.47	3.58
wind 0.2 m/s velocity	5.36	8.23	8.39	8.46	8.39	7.88	7.49	7.62	7.68	7.68	7.88	7.50		8.36	7.90	7.66

Yamada, Masahiro (JPN) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2022 Japanese U20 National Championsips (Osaka, JPN) (99cm)													*Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*			
date 12-Jun-22 time	2.67	3.77	4.87	5.93	6.98	8.04	9.10	10.17	11.25	12.35		13.82	8 / 5			
reaction time 0.155 interval		1.10	1.10	1.06	1.05	1.06	1.06	1.07	1.08	1.10	1.47	PB		3.26	3.17	3.25
wind 1.1 m/s velocity	5.14	8.31	8.31	8.62	8.70	8.62	8.62	8.54	8.46	8.31	9.54	7.96		8.41	8.65	8.44

Yamada, Nash (JPN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN) (99cm)													*Kota (2017) - 70th high school championships: JAF scientific committee- biomechanics data*			
date 02-Aug-17 time	2.71	3.86	5.11	6.31	7.46	8.58	9.72	10.87	12.03	13.22		14.79	3 / 8			
reaction time 0.153 interval		1.15	1.25	1.20	1.15	1.12	1.14	1.15	1.16	1.19	1.57			3.60	3.41	3.50
wind -0.7 m/s velocity	5.06	7.95	7.31	7.62	7.95	8.16	8.02	7.95	7.88	7.68	8.93	7.44		7.62	8.04	7.83

Yamamoto, Kenta (JPN) (1995)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 2 - 2017 Japanese National Championships (Osaka, JPN)													*(2017) - tfdata-store.com/2017/07/13/post-1040/*			
date 24-Jun-17 time	2.68	3.75	4.83	5.91	6.97	8.04	9.13	10.23	11.32	12.43		13.84	3 / 5			
reaction time 0.161 interval		1.07	1.08	1.08	1.06	1.07	1.09	1.10	1.09	1.11	1.41	PB		3.23	3.22	3.30
wind 0.0 m/s velocity	5.12	8.54	8.46	8.46	8.62	8.54	8.39	8.31	8.39	8.23	9.94	7.95		8.49	8.52	8.31
FINAL - 2016 Tokai Student Autumn Championships (Gifu, JPN)													*(2016.10.10) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 09-Oct-16 time	2.72	3.82	4.91	6.01	7.11	8.21	9.30	10.39	11.54	12.68		14.11	5 / 1			
reaction time interval		1.10	1.09	1.10	1.10	1.10	1.09	1.09	1.15	1.14	1.43			3.29	3.29	3.38
wind 1.3 m/s velocity	5.04	8.31	8.39	8.31	8.31	8.31	8.39	8.39	7.95	8.02	9.80	7.80		8.33	8.33	8.11
FINAL - 2016 West Japan University Championships (Kyoto, JPN)													*(2016.07.02) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*			
date 01-Jul-16 time	2.66	3.78	4.86	5.97	7.07	8.17	9.26	10.38	11.50	12.63		14.08	6 / 2			
reaction time interval		1.12	1.08	1.11	1.10	1.10	1.09	1.12	1.12	1.13	1.45			3.31	3.29	3.37
wind -2.1 m/s velocity	5.16	8.16	8.46	8.23	8.31	8.31	8.39	8.16	8.16	8.09	9.67	7.81		8.28	8.33	8.14

Yamamoto, Shunsuke (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2021 Shimane High School Championships (Izumo, JPN)													*Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis*			
date 30-May-21 time	2.75	3.95	5.12	6.30	7.45	8.60	9.80	10.97	12.17	13.37		14.95	6 / 1			
reaction time interval		1.20	1.17	1.18	1.15	1.15	1.20	1.17	1.20	1.20	1.58			3.55	3.50	3.57
wind 1.7 m/s velocity	4.99	7.62	7.81	7.75	7.95	7.95	7.62	7.81	7.62	7.62	8.87	7.36		7.72	7.83	7.68
FINAL - 2020 Shimane High School Championships (Izumo, JPN)													*Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis*			
date 11-Jul-20 time	2.83	4.03	5.23	6.45	7.70	8.93	10.18	11.47	12.75	14.02		15.66	1 / 2			
reaction time interval		1.20	1.20	1.22	1.25	1.23	1.25	1.29	1.28	1.27	1.64			3.62	3.73	3.84
wind -0.1 m/s velocity	4.85	7.62	7.62	7.49	7.31	7.43	7.31	7.09	7.14	7.20	8.55	7.02		7.57	7.35	7.14

Yamamura, Keita (JPN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN) (99cm)													*Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection*			
date 06-Aug-18 time	2.69	3.82	4.95	6.05	7.15	8.26	9.38	10.50	11.65	12.80		14.32	9 / 6			
reaction time interval		1.13	1.13	1.10	1.10	1.11	1.12	1.12	1.15	1.15	1.52			3.36	3.33	3.42
wind 1.6 m/s velocity	5.10	8.09	8.09	8.31	8.31	8.23	8.16	8.16	7.95	7.95	9.22	7.68		8.16	8.23	8.02

Yamanaka, Kyousuke (JPN) (2005)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2024 Japanese National U20 Championsips (Niigata, JPN) (99.1cm)													*Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*			
date 30-Jun-24 time	2.68	3.73	4.75	5.78	6.83	7.86	8.88	9.93	11.01	12.06		13.52	4 / 2			
reaction time 0.127 interval		1.05	1.02	1.03	1.05	1.03	1.02	1.05	1.08	1.05	1.46			3.10	3.10	3.18
wind 0.1 m/s velocity	5.12	8.70	8.96	8.87	8.70	8.87	8.96	8.70	8.46	8.70	9.60	8.14		8.85	8.85	8.62
FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN)													*Takashima (2023) - national high school sports festival - biomechanics data*			
date 06-Aug-23 time	2.72	3.79	4.88	5.97	7.05	8.15	9.23	10.33	11.44	12.55		14.01	4 / 1			
reaction time 0.187 interval		1.07	1.09	1.09	1.08	1.10	1.08	1.10	1.11	1.11	1.46			3.25	3.26	3.32
wind 0.8 m/s velocity	5.04	8.54	8.39	8.39	8.46	8.31	8.46	8.31	8.23	8.23	9.60	7.85		8.44	8.41	8.26

Yamashita, Tomoki (JPN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
U20 FINAL - 2018 National Sports Festival (Fukui, JPN) (99cm)													*Joshi (2018) - research on athlete performance and technique- 2018 data book*			
date 07-Oct-18 time	2.65	3.75	4.81	5.85	6.91	7.97	9.04	10.12	11.20	12.28		13.71	4 / 4			
reaction time 0.134 interval		1.10	1.06	1.04	1.06	1.06	1.07	1.08	1.08	1.08	1.43			3.20	3.19	3.24
wind 1.5 m/s velocity	5.18	8.31	8.62	8.79	8.62	8.62	8.54	8.46	8.46	8.46	9.80	8.02		8.57	8.60	8.46

Yamauti, Masanari (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2021 Japanese U16 National Championships (Matsuyama, JPN) (99cm)													*Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*			
date 24-Oct-21 time	2.74	3.90	5.06	6.21	7.37	8.50	9.69	10.85	12.03	13.22		14.83	/ 5			
reaction time interval		1.16	1.16	1.15	1.16	1.13	1.19	1.16	1.18	1.19	1.61			3.47	3.48	3.53
wind 1.0 m/s velocity	5.01	7.88	7.88	7.95	7.88	8.09	7.68	7.88	7.75	7.68	8.71	7.42		7.90	7.88	7.77

Yan Chenyu (CHN) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 2 - 2022 Chinese National Grand Prix (Huangshi, CHN)													*Huo (2022) - research on the technical characteristics of elite chinese 110m hurdlers*			
date 15-Jul-22 time	2.66	3.79	4.91	6.01	7.11	8.21	9.34	10.45	11.56	12.68		14.17	/ 3			
reaction time interval		1.13	1.12	1.10	1.10	1.10	1.13	1.11	1.11	1.12	1.49	PB		3.35	3.33	3.34
wind -0.2 m/s velocity	5.16	8.09	8.16	8.31	8.31	8.31	8.09	8.23	8.23	8.16	9.41	7.76		8.19	8.23	8.21
Heat 2 - 2021 Chinese National Championships (Chongqing, CHN)													*CAA Hurdle Development (2021)*			
date 25-Jun-21 time	2.72	3.85	4.97	6.11	7.27	8.38	9.58	10.77	11.96	13.17		14.74	2 / 6			
reaction time 0.182 interval		1.13	1.12	1.14	1.16	1.11	1.20	1.19	1.19	1.21	1.57			3.39	3.47	3.59
wind -1.2 m/s velocity	5.04	8.09	8.16	8.02	7.88	8.23	7.62	7.68	7.68	7.55	8.93	7.46		8.09	7.90	7.64
FINAL - 2021 National Grand Prix (Chengdu, CHN)													*CAA Hurdle Development (2021)*			
date 02-Apr-21 time	2.74	3.88	5.00	6.14	7.27	8.40	9.54	10.68	11.81	12.94		14.50	8 / 5			
reaction time 0.192 interval		1.14	1.12	1.14	1.13	1.13	1.14	1.14	1.13	1.13	1.56			3.40	3.40	3.40
wind -0.1 m/s velocity	5.01	8.02	8.16	8.02	8.09	8.09	8.02	8.02	8.09	8.09	8.99	7.59		8.06	8.06	8.06
Heat 1 - 2021 National Grand Prix (Chengdu, CHN)													*CAA Hurdle Development (2021)*			
date 02-Apr-21 time	2.74	3.94	5.10	6.26	7.40	8.56	9.70	10.84	12.02	13.20		14.79	5 / 2			
reaction time 0.216 interval		1.20	1.16	1.16	1.14	1.16	1.14	1.14	1.18	1.18	1.59			3.52	3.44	3.50
wind 0.5 m/s velocity	5.01	7.62	7.88	7.88	8.02	7.88	8.02	8.02	7.75	7.75	8.82	7.44		7.79	7.97	7.83

Yan Yuwei (CHN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
U18 FINAL - 2019 Chinese National Youth Games (Taiyuan, CHN) (91cm)													*CAA Hurdle Development (2019)*			
date 14-Aug-19 time	2.75	3.93	5.12	6.29	7.47	8.64	9.84	11.03	12.24	13.46		15.15	3 / 7			
reaction time 0.172 interval		1.18	1.19	1.17	1.18	1.17	1.20	1.19	1.21	1.22	1.69			3.54	3.55	3.62
wind -0.1 m/s velocity	4.99	7.75	7.68	7.81	7.75	7.81	7.62	7.68	7.55	7.49	8.30	7.26		7.75	7.72	7.57

Yang Haoran (CHN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2021 Chinese National Championships (Chongqing, CHN)													*CAA Hurdle Development (2021)*			
date 25-Jun-21 time	2.71	3.83	4.94	6.06	7.20	8.35	9.50	10.67	11.83	12.99		14.54	7 / 8			
reaction time 0.142 interval		1.12	1.11	1.12	1.14	1.15	1.15	1.17	1.16	1.16	1.55			3.35	3.44	3.49
wind -1.0 m/s velocity	5.06	8.16	8.23	8.16	8.02	7.95	7.95	7.81	7.88	7.88	9.05	7.57		8.19	7.97	7.86
FINAL - 2021 National Grand Prix (Chengdu, CHN)													*CAA Hurdle Development (2021)*			
date 02-Apr-21 time	2.69	3.82	4.97	6.10	7.25	8.38	9.52	10.66	11.82	12.96		14.44	6 / 4			
reaction time 0.145 interval		1.13	1.15	1.13	1.15	1.13	1.14	1.14	1.16	1.14	1.48	PB		3.41	3.42	3.44
wind -0.1 m/s velocity	5.10	8.09	7.95	8.09	7.95	8.09	8.02	8.02	7.88	8.02	9.47	7.62		8.04	8.02	7.97
Heat 2 - 2021 National Grand Prix (Chengdu, CHN)													*CAA Hurdle Development (2021)*			
date 02-Apr-21 time	2.70	3.82	4.94	6.10	7.22	8.32	9.48	10.60	11.78	12.96		14.54	5 / 3			
reaction time 0.162 interval		1.12	1.12	1.16	1.12	1.10	1.16	1.12	1.18	1.18	1.58	PB		3.40	3.38	3.48
wind 0.3 m/s velocity	5.08	8.16	8.16	7.88	8.16	8.31	7.88	8.16	7.75	7.75	8.87	7.81		8.06	8.11	7.88
B FINAL - 2021 National Indoor Grand Prix (Chengdu, CHN)													*CAA Hurdle Development (2021)*			
date 13-Mar-21 time	2.68	3.80	4.94	6.04	7.14							8.05	6 / 3			
reaction time 0.154 interval		1.12	1.14	1.10	1.10						0.91	PB		3.36		
velocity	5.12	8.16	8.02	8.31	8.31						10.68	7.45		8.16		

Yang Jiajun (CHN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Heat 1 - 2021 Chinese National Championships (Chongqing, CHN)													*CAA Hurdle Development (2021)*			
date 25-Jun-21 time	2.71	3.85	4.97	6.06	7.16	8.26	9.37	10.52	11.67	12.84		14.40	9 / 6			
reaction time 0.170 interval		1.14	1.12	1.09	1.10	1.10	1.11	1.15	1.15	1.17	1.56	=PB		3.35	3.31	3.47
wind -1.0 m/s velocity	5.06	8.02	8.16	8.39	8.31	8.31	8.23	7.95	7.95	7.81	8.99	7.64		8.19	8.28	7.90
FINAL - 2021 Philippe Cup Athletics Invitational (Wuhan, CHN)													*CAA Hurdle Development (2021)*			
date 19-May-21 time	2.72	3.83	4.94	6.06	7.16	8.26	9.39	10.56	11.71	12.88		14.40	8 / 4			
reaction time 0.126 interval		1.11	1.11	1.12	1.10	1.10	1.13	1.17	1.15	1.17	1.52	PB		3.34	3.33	3.49
wind 1.9 m/s velocity	5.04	8.23	8.23	8.16	8.31	8.31	8.09	7.81	7.95	7.81	9.22	7.64		8.21	8.23	7.86
Heat 2 - 2021 East China District Meeting (Zhaoqing, CHN)													*CAA Hurdle Development (2021)*			

date	24-Apr-21	time	2.76	3.93	5.04	6.17	7.30	8.46	9.61	10.78	11.96	13.15		14.72	6 / 6		
reaction time	0.171	interval		1.17	1.11	1.13	1.13	1.16	1.15	1.17	1.18	1.19	1.57	PB		3.41	3.44	3.54
wind	-1.2 m/s	velocity	4.97	7.81	8.23	8.09	8.09	7.88	7.95	7.81	7.75	7.68	8.93	7.47		8.04	7.97	7.75

U18 FINAL - 2019 Chinese National Youth Games (Taiyuan, CHN) (91cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.62	3.69	4.69	5.70	6.71	7.69	8.71	9.73	10.78	11.81		13.30	6 / 1		
reaction time	0.152	interval		1.07	1.00	1.01	1.01	0.98	1.02	1.02	1.05	1.03	1.49			3.08	3.01	3.10
wind	-0.1 m/s	velocity	5.24	8.54	9.14	9.05	9.05	9.33	8.96	8.96	8.70	8.87	9.41	8.27		8.90	9.11	8.85

Yang Jianxing (CHN) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.70	3.85	4.97	6.10	7.22	8.37	9.53	10.69	11.89	13.15		14.79	3 / 6		
reaction time	0.174	interval		1.15	1.12	1.13	1.12	1.15	1.16	1.16	1.20	1.26	1.64			3.40	3.43	3.62
wind	-0.2 m/s	velocity	5.08	7.95	8.16	8.09	8.16	7.95	7.88	7.88	7.62	7.25	8.55	7.44		8.06	7.99	7.57

Heat 1 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.69	3.82	4.94	6.07	7.16	8.31	9.44	10.57	11.73	12.88		14.43	3 / 6		
reaction time	0.141	interval		1.13	1.12	1.13	1.09	1.15	1.13	1.13	1.16	1.15	1.55			3.38	3.37	3.44
wind	0.1 m/s	velocity	5.10	8.09	8.16	8.09	8.39	7.95	8.09	8.09	7.88	7.95	9.05	7.62		8.11	8.14	7.97

A-FINAL - 2019 Chinese Indoor National Grand Prix 2 (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	24-Feb-19	time	2.68	3.82	4.94	6.04	7.16							8.10	2 / 4	0.00		
reaction time		interval		1.14	1.12	1.10	1.12						0.94			3.36		
		velocity	5.12	8.02	8.16	8.31	8.16						10.34	7.41		8.16		

Heat 2 - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	15-Sep-18	time	2.67	3.77	4.87	5.98	7.07	8.16	9.29	10.44	11.61	12.80		14.34	6 / 6		
reaction time		interval		1.10	1.10	1.11	1.09	1.09	1.13	1.15	1.17	1.19	1.54			3.31	3.31	3.51
wind	0.7 m/s	velocity	5.14	8.31	8.31	8.23	8.39	8.39	8.09	7.95	7.81	7.68	9.10	7.67		8.28	8.28	7.81

Yang Libo (CHN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 Chinese National Sports School Championships (Jinjiang, CHN) *Zhang Qi (2019) - comparative analysis of characteristics of Chinese elite men's 110m hurdles in different age groups*

date	??	time	2.81	3.93	5.03	6.14	7.22	8.32	9.42	10.55	11.69	12.85		14.39	3 / ??		
reaction time		interval		1.12	1.10	1.11	1.08	1.10	1.10	1.13	1.14	1.16	1.54			3.33	3.28	3.43
wind	??	velocity	4.88	8.16	8.31	8.23	8.46	8.31	8.31	8.09	8.02	7.88	9.10	7.64		8.23	8.36	7.99

Yang Quanlei (CHN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Chinese National Championships (Quzhou, CHN) *Shandong Athletics Sport Science (2024)*

date	16-Sep-24	time	2.62	3.72	4.77	5.81	6.84	7.89	8.96	10.04	11.13	12.22		13.67	2 / 7		
reaction time	0.153	interval		1.10	1.05	1.04	1.03	1.05	1.07	1.08	1.09	1.09	1.45			3.19	3.15	3.26
wind	0.2 m/s	velocity	5.24	8.31	8.70	8.79	8.87	8.70	8.54	8.46	8.39	8.39	9.67	8.05		8.60	8.70	8.41

Heat 1 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.68	3.78	4.88	5.96	7.05	8.14	9.22	10.33	11.45	12.57		14.05	5 / 2		
reaction time	0.164	interval		1.10	1.10	1.08	1.09	1.09	1.08	1.11	1.12	1.12	1.48			3.28	3.26	3.35
wind	-1.0 m/s	velocity	5.12	8.31	8.31	8.46	8.39	8.39	8.46	8.23	8.16	8.16	9.47	7.83		8.36	8.41	8.19

FINAL - 2020 Chinese Olympic Trials (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	12-Jun-21	time	2.72	3.79	4.88	5.97	7.05	8.17	9.24	10.36	11.51	12.65		14.16	6 / 7		
reaction time	0.172	interval		1.07	1.09	1.09	1.08	1.12	1.07	1.12	1.15	1.14	1.51			3.25	3.27	3.41
wind	0.9 m/s	velocity	5.04	8.54	8.39	8.39	8.46	8.16	8.54	8.16	7.95	8.02	9.28	7.77		8.44	8.39	8.04

Heat 2 - 2020 Chinese Olympic Trials (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	12-Jun-21	time	2.55	3.63	4.71	5.77	6.85	7.92	9.01	10.09	11.19	12.29		13.87	5 / 1		
reaction time	0.161	interval		1.08	1.08	1.06	1.08	1.07	1.09	1.08	1.10	1.10	1.58	PB		3.22	3.24	3.28
wind	-0.8 m/s	velocity	5.38	8.46	8.46	8.62	8.46	8.54	8.39	8.46	8.31	8.31	8.87	7.93		8.52	8.46	8.36

FINAL - 2021 East China District Meeting (Zhaoqing, CHN) *CAA Hurdle Development (2021)*

date	24-Apr-21	time	2.64	3.74	4.80	5.88	6.95	8.02	9.11	10.20	11.31	12.43		13.89	6 / 1		
reaction time	0.185	interval		1.10	1.06	1.08	1.07	1.07	1.09	1.09	1.11	1.12	1.46	PB		3.24	3.23	3.32
wind	-0.3 m/s	velocity	5.20	8.31	8.62	8.46	8.54	8.54	8.39	8.39	8.23	8.16	9.60	7.92		8.46	8.49	8.26

Heat 1 - 2021 East China District Meeting (Zhaoqing, CHN) *CAA Hurdle Development (2021)*

date	24-Apr-21	time	2.66	3.76	4.85	5.94	7.02	8.10	9.20	10.28	11.39	12.51		14.00	4 / 1		
reaction time	0.164	interval		1.10	1.09	1.09	1.08	1.08	1.10	1.08	1.11	1.12	1.49			3.28	3.26	3.31
wind	-1.1 m/s	velocity	5.16	8.31	8.39	8.39	8.46	8.46	8.31	8.46	8.23	8.16	9.41	7.86		8.36	8.41	8.28

FINAL - 2021 Yangtze River Delta Athletics Meeting (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	08-Apr-21	time	2.64	3.76	4.84	5.92	7.00	8.08	9.18	10.26	11.36	12.44		13.90	4 / 2		
reaction time		interval		1.12	1.08	1.08	1.08	1.08	1.10	1.08	1.10	1.08	1.46	PB		3.28	3.26	3.26
wind	-0.1 m/s	velocity	5.20	8.16	8.46	8.46	8.46	8.46	8.31	8.46	8.31	8.46	9.60	7.91		8.36	8.41	8.41

FINAL - 2021 National Indoor Grand Prix (Jinan, CHN) *CAA Hurdle Development (2021)*

date	18-Mar-21	time	2.63	3.74	4.82	5.90	6.96						7.86	5 / 3			
reaction time	0.173	interval		1.11	1.08	1.08	1.06					0.90	PB		3.27		
		velocity	5.22	8.23	8.46	8.46	8.62					10.80	7.63		8.39		

B FINAL - 2021 National Indoor Grand Prix (Chengdu, CHN) *CAA Hurdle Development (2021)*

date	13-Mar-21	time	2.66	3.77	4.89	5.98	7.06						7.97	2 / 1			
reaction time	0.186	interval		1.11	1.12	1.09	1.08					0.91	PB		3.32		
		velocity	5.16	8.23	8.16	8.39	8.46					10.68	7.53		8.26		

Heat 1 - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.70	3.79	4.89	6.00	7.08	8.18	9.29	10.43	11.56	12.68		14.17	5 / 4			
reaction time	0.175	interval		1.09	1.10	1.11	1.08	1.10	1.11	1.14	1.13	1.12	1.49			3.30	3.29	3.39
wind	0.3 m/s	velocity	5.08	8.39	8.31	8.23	8.46	8.31	8.23	8.02	8.09	8.16	9.41	7.76		8.31	8.33	8.09

Heat 2 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.74	3.89	5.03	6.19	7.35	8.52	9.72	10.93	12.16	13.38		14.97	8 / 7			
reaction time	0.193	interval		1.15	1.14	1.16	1.16	1.17	1.20	1.21	1.23	1.22	1.59			3.45	3.53	3.66
wind	-0.2 m/s	velocity	5.01	7.95	8.02	7.88	7.88	7.81	7.62	7.55	7.43	7.49	8.82	7.35		7.95	7.77	7.49

B-FINAL - 2019 Chinese Indoor National Grand Prix 3 (Xi'an, CHN) *CAA Hurdle Development (2019)*

date	28-Feb-19	time	2.67	3.81	4.91	6.01	7.15						8.10	2 / 4			
reaction time		interval		1.14	1.10	1.10	1.14					0.95			3.34		
		velocity	5.14	8.02	8.31	8.31	8.02					10.23	7.41		8.21		

FINAL - 2018 Chinese National U20 Championships (Nanchang, CHN) (99.1cm) *Zhang (2019) - comparative analysis characteristics Chinese elite 110m hurdles in different age*

date	13-May-18	time	2.70	3.82	4.90	5.98	7.06	8.15	9.22	10.32	11.44	12.57		14.13	8 / 6			
reaction time		interval		1.12	1.08	1.08	1.08	1.09	1.07	1.10	1.12	1.13	1.56			3.28	3.24	3.35
wind	1.0 m/s	velocity	5.08	8.16	8.46	8.46	8.46	8.39	8.54	8.31	8.16	8.09	8.99	7.78		8.36	8.46	8.19

Yang Wei-Ting (TPE) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 Asian Games (Jakarta, INA) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	28-Aug-18	time	2.62	3.68	4.72	5.76	6.82	7.87	8.95	10.05	11.13	12.29		13.75	8 / 8			
reaction time	0.136	interval		1.06	1.04	1.04	1.06	1.05	1.08	1.10	1.08	1.16	1.46			3.14	3.19	3.34
wind	0.0 m/s	velocity	5.24	8.62	8.79	8.79	8.62	8.70	8.46	8.31	8.46	7.88	9.60	8.00		8.73	8.60	8.21

FINAL - 2017 Seiko Golden Grand Prix (Kawasaki, JPN) *(2017) - tfdata-store.com/2017/05/22/post-599/*

date	21-May-17	time	2.67	3.75	4.83	5.89	6.94	7.99	9.06	10.13	11.20	12.31		13.79	8 / 8			
reaction time	0.145	interval		1.08	1.08	1.06	1.05	1.05	1.07	1.07	1.07	1.11	1.48			3.22	3.17	3.25
wind	-1.8 m/s	velocity	5.14	8.46	8.46	8.62	8.70	8.70	8.54	8.54	8.54	8.23	9.47	7.98		8.52	8.65	8.44

Yang Yuxuan (CHN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2022 Chinese National Grand Prix (Huangshi, CHN) *Huo (2022) - research on the technical characteristics of elite chinese 110m hurdlers*

date	15-Jul-22	time	2.69	3.81	4.91	6.00	7.07	8.17	9.28	10.39	11.51	12.67		14.19	/ 2			
reaction time		interval		1.12	1.10	1.09	1.07	1.10	1.11	1.11	1.12	1.16	1.52			3.31	3.28	3.39
wind	0.2 m/s	velocity	5.10	8.16	8.31	8.39	8.54	8.31	8.23	8.23	8.16	7.88	9.22	7.75		8.28	8.36	8.09

Heat 1 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.72	3.83	4.94	6.05	7.14	8.24	9.36	10.49	11.64	12.80		14.29	3 / 4			
reaction time	0.146	interval		1.11	1.11	1.11	1.09	1.10	1.12	1.13	1.15	1.16	1.49			3.33	3.31	3.44
wind	-1.0 m/s	velocity	5.04	8.23	8.23	8.23	8.39	8.31	8.16	8.09	7.95	7.88	9.41	7.70		8.23	8.28	7.97

Heat 1 - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.72	3.88	4.98	6.10	7.20	8.32	9.45	10.59	11.75	12.91		14.43	4 / 9			
reaction time	0.138	interval		1.16	1.10	1.12	1.10	1.12	1.13	1.14	1.16	1.16	1.52			3.38	3.35	3.46
wind	0.3 m/s	velocity	5.04	7.88	8.31	8.16	8.31	8.16	8.09	8.02	7.88	7.88	9.22	7.62		8.11	8.19	7.92

Heat 2 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.70	3.82	4.90	6.00	7.11	8.22	9.34	10.46	11.59	12.74		14.23	8 / 5			
reaction time	0.158	interval		1.12	1.08	1.10	1.11	1.11	1.12	1.12	1.13	1.15	1.49	PB		3.30	3.34	3.40
wind	0.4 m/s	velocity	5.08	8.16	8.46	8.31	8.23	8.23	8.16	8.16	8.09	7.95	9.41	7.73		8.31	8.21	8.06

FINAL - 2019 Chinese National Grand Prix 3 (Jinhau, CHN) *CAA Hurdle Development (2019)*

date	23-May-19	time	2.70	3.82	4.90	5.98	7.06	8.12	9.22	10.30	11.38	12.50		13.94	8 / 5			
reaction time	0.166	interval		1.12	1.08	1.08	1.08	1.06	1.10	1.08	1.08	1.12	1.44			3.28	3.24	3.28
wind	2.5 m/s	velocity	5.08	8.16	8.46	8.46	8.46	8.62	8.31	8.46	8.46	8.16	9.74	7.89		8.36	8.46	8.36

FINAL - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	09-Apr-19	time	2.76	3.88	4.98	6.08	7.18	8.26	9.38	10.52	11.66	12.82		14.36	3 / 6			
reaction time	0.180	interval		1.12	1.10	1.10	1.10	1.08	1.12	1.14	1.14	1.16	1.54			3.32	3.30	3.44
wind	0.2 m/s	velocity	4.97	8.16	8.31	8.31	8.31	8.46	8.16	8.02	8.02	7.88	9.10	7.66		8.26	8.31	7.97

Heat 3 - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	08-Apr-19	time	2.76	3.88	4.99	6.13	7.25	8.36	9.46	10.58	11.70	12.83		14.34	8 / 2			

reaction time	0.165	interval		1.12	1.11	1.14	1.12	1.11	1.10	1.12	1.12	1.13	1.51	PB		3.37	3.33	3.37
wind	0.0 m/s	velocity	4.97	8.16	8.23	8.02	8.16	8.23	8.31	8.16	8.16	8.09	9.28	7.67		8.14	8.23	8.14

B-FINAL - 2019 Chinese Indoor National Grand Prix 2 (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	24-Feb-19	time	2.73	3.85	4.99	6.09	7.20							8.12	5 / 2			
reaction time		interval		1.12	1.14	1.10	1.11						0.92	PB		3.36		
		velocity	5.03	8.16	8.02	8.31	8.23						10.57	7.39		8.16		

B-FINAL - 2019 Chinese Indoor National Grand Prix 1 (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	20-Feb-19	time	2.75	3.85	4.95	6.02	7.12							8.19	2 / 4			
reaction time		interval		1.10	1.10	1.07	1.10						1.07			3.27		
		velocity	4.99	8.31	8.31	8.54	8.31						9.08	7.33		8.39		

FINAL - 2018 Chinese National Sports School Championships (Jinjiang, CHN) *Zhang Qi (2019) - comparative analysis of characteristics of Chinese elite men's 110m hurdles in different age groups*

date	??	time	2.72	3.79	4.86	5.90	6.94	8.00	9.06	10.13	11.23	12.33		13.85	4 / 2			
reaction time		interval		1.07	1.07	1.04	1.04	1.06	1.06	1.07	1.10	1.10	1.52			3.18	3.16	3.27
wind	??	velocity	5.04	8.54	8.54	8.79	8.79	8.62	8.62	8.54	8.31	8.31	9.22	7.94		8.62	8.68	8.39

FINAL - 2018 Chinese National U18 Championships (Jinzhou, CHN) *Zhang Qi (2019) - comparative analysis of characteristics of Chinese elite men's 110m hurdles in different age groups*

date	17-May-18	time	2.64	3.72	4.81	5.85	6.92	7.98	9.04	10.13	11.23	12.34		13.83	4 / 5			
reaction time		interval		1.08	1.09	1.04	1.07	1.06	1.06	1.09	1.10	1.11	1.49			3.21	3.19	3.30
wind	??	velocity	5.20	8.46	8.39	8.79	8.54	8.62	8.62	8.39	8.31	8.23	9.41	7.95		8.54	8.60	8.31

Yang Zihao (CHN) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 1 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	27-Jun-21	time	2.72	3.89	5.04	6.17	7.32	8.44	9.56	10.73	11.91	13.08		14.63	8 / 2			
reaction time	0.172	interval		1.17	1.15	1.13	1.15	1.12	1.12	1.17	1.18	1.17	1.55			3.45	3.39	3.52
wind	0.5 m/s	velocity	5.04	7.81	7.95	8.09	7.95	8.16	8.16	7.81	7.75	7.81	9.05	7.52		7.95	8.09	7.79

Decathlon - Heat 1 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.82	4.00	5.16	6.32	7.49	8.69	9.89	11.13	12.33	13.61		15.25	7 / 2			
reaction time	0.187	interval		1.18	1.16	1.16	1.17	1.20	1.20	1.24	1.20	1.28	1.64			3.50	3.57	3.72
wind	?? m/s	velocity	4.87	7.75	7.88	7.88	7.81	7.62	7.62	7.37	7.62	7.14	8.55	7.21		7.83	7.68	7.37

Decathlon - Heat 2 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	11-Jul-19	time	2.75	3.90	5.05	6.19	7.32	8.49	9.69	10.84	12.04	13.21		14.78	5 / 2			
reaction time	0.171	interval		1.15	1.15	1.14	1.13	1.17	1.20	1.15	1.20	1.17	1.57	PB		3.44	3.50	3.52
wind	-0.1 m/s	velocity	4.99	7.95	7.95	8.02	8.09	7.81	7.62	7.95	7.62	7.81	8.93	7.44		7.97	7.83	7.79

Yano, Hisho (JPN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2023 Shimane High School Championships (Izumo, JPN) *Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*

date	28-May-23	time	2.93	4.27	5.58	6.88	8.22	9.57	10.90	12.23	13.58	14.93		16.65	6 / 5			
reaction time		interval		1.34	1.31	1.30	1.34	1.35	1.33	1.33	1.35	1.35	1.72			3.95	4.02	4.03
wind	-0.1 m/s	velocity	4.68	6.82	6.98	7.03	6.82	6.77	6.87	6.87	6.77	6.77	8.15	6.61		6.94	6.82	6.80

Yarbrough, John (USA) (1985)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.69	3.75	4.80	5.84	6.87	7.92	8.98	10.02	11.08	12.16		13.61	7 / 7			
reaction time		interval		1.06	1.05	1.04	1.03	1.05	1.06	1.04	1.06	1.08	1.45			3.15	3.14	3.18
wind	-0.9 m/s	velocity	5.10	8.62	8.70	8.79	8.87	8.70	8.62	8.79	8.62	8.46	9.67	8.08		8.70	8.73	8.62

Heat 2 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.70	3.77	4.84	5.86	6.89	7.94	9.03	10.09	11.18	12.26		13.69	4 / 3			
reaction time		interval		1.07	1.07	1.02	1.03	1.05	1.09	1.06	1.09	1.08	1.43			3.16	3.17	3.23
wind	-1.9 m/s	velocity	5.08	8.54	8.54	8.96	8.87	8.70	8.39	8.62	8.39	8.46	9.80	8.04		8.68	8.65	8.49

Yarbrough, Linnie (USA) (1982)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	24-Jun-07	time	2.70	3.75	4.79	5.82	6.86	7.89	8.94	9.99	11.06	12.11		13.55	6 / 6			
reaction time		interval		1.05	1.04	1.03	1.04	1.03	1.05	1.05	1.07	1.05	1.44			3.12	3.12	3.17
wind	-0.9 m/s	velocity	5.08	8.70	8.79	8.87	8.79	8.87	8.70	8.70	8.54	8.70	9.74	8.12		8.79	8.79	8.65

Heat 4 - 2007 USATF National Championships (Indianapolis, IN) *USATF Men's Hurdle Development (2007)*

date	23-Jun-07	time	2.64	3.70	4.74	5.79	6.87	7.92	8.98	10.04	11.11	12.18		13.61	5 / 2			
reaction time		interval		1.06	1.04	1.05	1.08	1.05	1.06	1.06	1.07	1.07	1.43			3.15	3.19	3.20
wind	-2.8 m/s	velocity	5.20	8.62	8.79	8.70	8.46	8.70	8.62	8.62	8.54	8.54	9.80	8.08		8.70	8.60	8.57

Yashiro, Koki (JPN) (1998)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2016 Aichi Perfecture High School Meeting (Nagoya, JPN) *(2016.05.29) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	20-May-16	time	2.73	3.89	5.04	6.20	7.34	8.47	9.60	10.76	11.91	13.11		14.58	6 / 1			
reaction time		interval		1.16	1.15	1.16	1.14	1.13	1.13	1.16	1.15	1.20	1.47			3.47	3.40	3.51
wind	-0.7 m/s	velocity	5.03	7.88	7.95	7.88	8.02	8.09	8.09	7.88	7.95	7.62	9.54	7.54		7.90	8.06	7.81

Yazawa, Wataru (JPN) (1991)			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2021 Michitaka Kinami Memorial (Osaka, JPN)															*Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*			
date	01-Jun-21	time	2.68	3.80	4.89	5.96	7.03	8.11	9.19	10.29	11.40	12.55		14.09	3 / 7			
reaction time	0.176	interval	7 steps	1.12	1.09	1.07	1.07	1.08	1.08	1.10	1.11	1.15	1.54			3.28	3.23	3.36
wind	0.3 m/s	velocity	5.12	8.16	8.39	8.54	8.54	8.46	8.46	8.31	8.23	7.95	9.10	7.81		8.36	8.49	8.16
Race 2 - 2020 World Athletics Trials (Fuji, JPN)															*Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*			
date	06-Sep-20	time	2.83	4.00	5.18	6.38	7.56	8.74	9.93	11.12	12.36	13.61		15.21	2 / 6			
reaction time		interval	7 steps	1.17	1.18	1.20	1.18	1.18	1.19	1.19	1.24	1.25	1.60			3.55	3.55	3.68
wind	1.3 m/s	velocity	4.85	7.81	7.75	7.62	7.75	7.75	7.68	7.68	7.37	7.31	8.76	7.23		7.72	7.72	7.45
FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN)															*Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*			
date	23-Aug-20	time	2.67	3.80	4.90	6.00	7.10	8.19	9.29	10.42	11.56	12.72		14.29	8 / 8			
reaction time	0.158	interval	7 steps	1.13	1.10	1.10	1.10	1.09	1.10	1.13	1.14	1.16	1.57			3.33	3.29	3.43
wind	-0.4 m/s	velocity	5.14	8.09	8.31	8.31	8.31	8.39	8.31	8.09	8.02	7.88	8.93	7.70		8.23	8.33	7.99
FINAL - 2019 Japanese World Championships Trials (Fujiyoshida, JPN)															*Shibayama (2019) - race analysis of men's 110m hurdles in the 2019 season*			
date	01-Sep-19	time	2.62	3.70	4.73	5.76	6.81	7.85	8.90	9.96	11.04	12.12		13.51	7 / 4			
reaction time		interval	7 steps	1.08	1.03	1.03	1.05	1.04	1.05	1.06	1.08	1.08	1.39			3.14	3.14	3.22
wind	1.4 m/s	velocity	5.24	8.46	8.87	8.87	8.70	8.79	8.70	8.62	8.46	8.46	10.09	8.14		8.73	8.73	8.52
FINAL - 2019 Japanese National Championships (Fukuoka, JPN)															*Yamanaka (2019) - research on athlete performance and technique- 2019 data book*			
date	30-Jun-19	time	2.64	3.71	4.77	5.83	6.87	7.92	9.00	10.07	11.18	12.29		13.76	9 / 4			
reaction time	0.138	interval	7 steps	1.07	1.06	1.06	1.04	1.05	1.08	1.07	1.11	1.11	1.47			3.19	3.17	3.29
wind	-0.6 m/s	velocity	5.20	8.54	8.62	8.62	8.79	8.70	8.46	8.54	8.23	8.23	9.54	7.99		8.60	8.65	8.33
FINAL - 2019 Fuse Sprint (Tottori, JPN)															*Kijima (2019) - research on athlete performance and technique- 2019 data book*			
date	02-Jun-19	time	2.61	3.69	4.78	5.83	6.86	7.91	8.95	10.01	11.08	12.16		13.60	4 / 3			
reaction time	0.128	interval	7 steps	1.08	1.09	1.05	1.03	1.05	1.04	1.06	1.07	1.08	1.44			3.22	3.12	3.21
wind	1.9 m/s	velocity	5.26	8.46	8.39	8.70	8.87	8.70	8.79	8.62	8.54	8.46	9.74	8.09		8.52	8.79	8.54
FINAL - 2019 Kinami Memorial (Osaka, JPN)															*Matsubayashi (2019) - research on athlete performance and technique- 2019 data book*			
date	06-May-19	time	2.64	3.73	4.80	5.86	6.92	7.97	9.04	10.11	11.19	12.27		13.71	8 / 4			
reaction time		interval	7 steps	1.09	1.07	1.06	1.06	1.05	1.07	1.07	1.08	1.08	1.44			3.22	3.18	3.23
wind	0.3 m/s	velocity	5.20	8.39	8.54	8.62	8.62	8.70	8.54	8.54	8.46	8.46	9.74	8.02		8.52	8.62	8.49
A FINAL - 2019 Mikio Oda Memorial (Hiroshima, JPN)															*Kobayashi (2019) - research on athlete performance and technique- 2019 data book*			
date	28-Apr-19	time	2.70	3.80	4.86	5.92	6.97	8.03	9.10	10.19	11.29	12.41		13.83	7 / 4			
reaction time		interval	7 steps	1.10	1.06	1.06	1.05	1.06	1.07	1.09	1.10	1.12	1.42			3.22	3.18	3.31
wind	0.6 m/s	velocity	5.08	8.31	8.62	8.62	8.70	8.62	8.54	8.39	8.31	8.16	9.87	7.95		8.52	8.62	8.28
FINAL - 2017 All Star Night (Hiratsuka, JPN)															*(2017) - tfdata-store.com/2017/07/26/post-1072/*			
date	22-Jul-17	time	2.59	3.66	4.71	5.74	6.78	7.82	8.87	9.93	11.00	12.07		13.49	6 / 1			
reaction time	0.146	interval	7 steps	1.07	1.05	1.03	1.04	1.04	1.05	1.06	1.07	1.07	1.42			3.15	3.13	3.20
wind	1.8 m/s	velocity	5.30	8.54	8.70	8.87	8.79	8.79	8.70	8.62	8.54	8.54	9.87	8.15		8.70	8.76	8.57
FINAL - 2017 Japanese National Championships (Osaka, JPN)															*(2017) - tfdata-store.com/2017/07/13/post-1040/*			
date	25-Jun-17	time	2.61	3.69	4.74	5.78	6.83	7.88	8.93	9.99	11.07	12.17		13.61	8 / 2			
reaction time	0.144	interval	7 steps	1.08	1.05	1.04	1.05	1.05	1.05	1.06	1.08	1.10	1.44			3.17	3.15	3.24
wind	-0.2 m/s	velocity	5.26	8.46	8.70	8.79	8.70	8.70	8.70	8.62	8.46	8.31	9.74	8.08		8.65	8.70	8.46
Semi-Final 1 - 2017 Japanese National Championships (Osaka, JPN)															*(2017) - tfdata-store.com/2017/07/13/post-1040/*			
date	24-Jun-17	time	2.61	3.68	4.73	5.78	6.82	7.88	8.95	10.03	11.12	12.23		13.66	6 / 3			
reaction time	0.146	interval	7 steps	1.07	1.05	1.05	1.04	1.06	1.07	1.08	1.09	1.11	1.43			3.17	3.17	3.28
wind	0.6 m/s	velocity	5.26	8.54	8.70	8.70	8.79	8.62	8.54	8.46	8.39	8.23	9.80	8.05		8.65	8.65	8.36
Heat 4 - 2017 Japanese National Championships (Osaka, JPN)															*(2017) - tfdata-store.com/2017/07/13/post-1040/*			
date	24-Jun-17	time	2.61	3.69	4.76	5.80	6.85	7.90	8.96	10.03	11.12	12.23		13.65	8 / 3			
reaction time	0.143	interval	7 steps	1.08	1.07	1.04	1.05	1.05	1.06	1.07	1.09	1.11	1.42			3.19	3.16	3.27
wind	0.0 m/s	velocity	5.26	8.46	8.54	8.79	8.70	8.70	8.62	8.54	8.39	8.23	9.87	8.06		8.60	8.68	8.39
Heat 5 - 2017 Fuse Sprint (Tottori, JPN)															*(2017) - tfdata-store.com/2017/06/04/post-848/*			
date	04-Jun-17	time	2.60	3.68	4.74	5.78	6.82	7.87	8.93	9.99	11.07	12.16		13.60	6 / 2			
reaction time		interval	7 steps	1.08	1.06	1.04	1.04	1.05	1.06	1.06	1.08	1.09	1.44			3.18	3.15	3.23
wind	1.5 m/s	velocity	5.28	8.46	8.62	8.79	8.79	8.70	8.62	8.62	8.46	8.39	9.74	8.09		8.62	8.70	8.49
FINAL - 2017 Seiko Golden Grand Prix (Kawasaki, JPN)															*(2017) - tfdata-store.com/2017/05/22/post-599/*			
date	21-May-17	time	2.64	3.72	4.78	5.84	6.89	7.95	9.02	10.07	11.15	12.24		13.69	6 / 4			
reaction time	0.151	interval	7 steps	1.08	1.06	1.06	1.05	1.06	1.07	1.05	1.08	1.09	1.45			3.20	3.18	3.22
wind	-1.8 m/s	velocity	5.20	8.46	8.62	8.62	8.70	8.62	8.54	8.70	8.46	8.39	9.67	8.04		8.57	8.62	8.52
Open FINAL - 2017 Michitaka Memorial (Osaka, JPN)															*(2017) - tfdata-store.com/2017/05/08/post-413/*			
date	07-May-17	time	2.62	3.70	4.77	5.83	6.89	7.97	9.04	10.11	11.21	12.33		13.77	6 / 3			

reaction time		interval	*7 steps*	1.08	1.07	1.06	1.06	1.08	1.07	1.07	1.10	1.12	1.44			3.21	3.21	3.29
wind	-1.5 m/s	velocity	5.24	8.46	8.54	8.62	8.62	8.46	8.54	8.54	8.31	8.16	9.74	7.99		8.54	8.54	8.33

FINAL - 2017 Michitaka Memorial (Osaka, JPN) *(2017) - tfdata-store.com/2017/05/08/post-413/*

date	07-May-17	time	2.64	3.72	4.79	5.85	6.91	7.98	9.04	10.11	11.20	12.30		13.71	5 / 4			
reaction time		interval	*7 steps*	1.08	1.07	1.06	1.06	1.07	1.06	1.07	1.09	1.10	1.41			3.21	3.19	3.26
wind	-0.8 m/s	velocity	5.20	8.46	8.54	8.62	8.62	8.54	8.62	8.54	8.39	8.31	9.94	8.02		8.54	8.60	8.41

FINAL - 2017 Mikio Oda Memorial (Hiroshima, JPN) *(2017) - tfdata-store.com/2017/05/01/458/*

date	29-Apr-17	time	2.66	3.75	4.82	5.88	6.93	8.01	9.07	10.13	11.21	12.30		13.74	3 / 5			
reaction time		interval	*7 steps*	1.09	1.07	1.06	1.05	1.08	1.06	1.06	1.08	1.09	1.44			3.22	3.19	3.23
wind	1.5 m/s	velocity	5.16	8.39	8.54	8.62	8.70	8.46	8.62	8.62	8.46	8.39	9.74	8.01		8.52	8.60	8.49

FINAL - 2016 National Sports Festival (Kitakami, JPN) *(2016.10.11) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	10-Oct-16	time	2.64	3.72	4.78	5.82	6.87	7.92	8.97	10.03	11.10	12.18		13.62	4 / 1			
reaction time	0.146	interval	*7 steps*	1.08	1.06	1.04	1.05	1.05	1.05	1.06	1.07	1.08	1.44			3.18	3.15	3.21
wind	0.3 m/s	velocity	5.20	8.46	8.62	8.79	8.70	8.70	8.70	8.62	8.54	8.46	9.74	8.08		8.62	8.70	8.54

FINAL - 2016 Japanese National Corporate Championships (Osaka, JPN) *(2016.09.28) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	25-Sep-16	time	2.63	3.71	4.78	5.84	6.88	7.93	8.99	10.04	11.12	12.20		13.65	4 / 1			
reaction time	0.153	interval	*7 steps*	1.08	1.07	1.06	1.04	1.05	1.06	1.05	1.08	1.08	1.45			3.21	3.15	3.21
wind	0.7 m/s	velocity	5.22	8.46	8.54	8.62	8.79	8.70	8.62	8.70	8.46	8.46	9.67	8.06		8.54	8.70	8.54

FINAL - 2016 Japanese National Championships (Nagoya, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	26-Jun-16	time	2.62	3.69	4.73	5.77	6.81	7.85	8.88	9.93	10.98	12.06		13.48	7 / 1			
reaction time	0.138	interval		1.07	1.04	1.04	1.04	1.04	1.03	1.05	1.05	1.08	1.42			3.15	3.11	3.18
wind	2.4 m/s	velocity	5.24	8.54	8.79	8.79	8.79	8.79	8.87	8.70	8.70	8.46	9.87	8.16		8.70	8.82	8.62

FINAL - 2016 Fuse Sprint (Tottori, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	05-Jun-16	time	2.61	3.67	4.72	5.76	6.79	7.84	8.88	9.93	11.00	12.07		13.47	5 / 1			
reaction time		interval	*7 steps*	1.06	1.05	1.04	1.03	1.05	1.04	1.05	1.07	1.07	1.40	**PB**		3.15	3.12	3.19
wind	1.4 m/s	velocity	5.26	8.62	8.70	8.79	8.87	8.70	8.79	8.70	8.54	8.54	10.01	8.17		8.70	8.79	8.60

Heat 3 - 2016 Fuse Sprint (Tottori, JPN) *(2016.06.05) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	05-Jun-16	time	2.64	3.71	4.75	5.80	6.85	7.89	8.94	10.00	11.06	12.14		13.54	6 / 1			
reaction time		interval	*7 steps*	1.07	1.04	1.05	1.05	1.04	1.05	1.06	1.06	1.08	1.40	**PB**		3.16	3.14	3.20
wind	1.6 m/s	velocity	5.20	8.54	8.79	8.70	8.70	8.79	8.70	8.62	8.62	8.46	10.01	8.12		8.68	8.73	8.57

FINAL - 2016 East Japan Corporate Championships (Kumagaya, JPN) *(2016.05.21) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	21-May-16	time	2.66	3.74	4.79	5.85	6.90	7.96	9.03	10.09	11.16	12.24		13.64	5 / 1			
reaction time		interval	*7 steps*	1.08	1.05	1.06	1.05	1.06	1.07	1.06	1.07	1.08	1.40			3.19	3.18	3.21
wind	-0.7 m/s	velocity	5.16	8.46	8.70	8.62	8.70	8.62	8.54	8.62	8.54	8.46	10.01	8.06		8.60	8.62	8.54

FINAL - 2016 Kinan Memorial (Osaka, JPN) *(2016.05.17) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	08-May-16	time	2.66	3.74	4.80	5.85	6.91	7.97	9.02	10.08	11.14	12.22		13.62	6 / 1			
reaction time		interval	*7 steps*	1.08	1.06	1.05	1.06	1.06	1.05	1.06	1.06	1.08	1.40			3.19	3.17	3.20
wind	-0.2 m/s	velocity	5.16	8.46	8.62	8.70	8.62	8.62	8.70	8.62	8.62	8.46	10.01	8.08		8.60	8.65	8.57

FINAL - 2016 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	29-Apr-16	time	2.69	3.78	4.84	5.89	6.94	8.00	9.06	10.13	11.22	12.33		13.78	/ 1			
reaction time		interval		1.09	1.06	1.05	1.05	1.06	1.06	1.07	1.09	1.11	1.45			3.20	3.17	3.27
wind	-0.5 m/s	velocity	5.10	8.39	8.62	8.70	8.70	8.62	8.62	8.54	8.39	8.23	9.67	7.98		8.57	8.65	8.39

FINAL - 2014 Japanese National Championships (Fukushima, JPN) *(2017.02.22) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	08-Jun-14	time	2.60	3.69	4.74	5.78	6.81	7.87	8.93	10.00	11.07	12.15		13.59	4 / 2			
reaction time	0.137	interval	*7 steps*	1.09	1.05	1.04	1.03	1.06	1.06	1.07	1.07	1.08	1.44	**=PB**		3.18	3.15	3.22
wind	0.4 m/s	velocity	5.28	8.39	8.70	8.79	8.87	8.62	8.62	8.54	8.54	8.46	9.74	8.09		8.62	8.70	8.52

Semi-Final 2 - 2014 Japanese National Championships (Fukushima, JPN) *(2017.02.26) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	08-Jun-14	time	2.63	3.71	4.75	5.79	6.84	7.89	8.94	10.01	11.08	12.17		13.60	6 / 1			
reaction time	0.147	interval	*7 steps*	1.08	1.04	1.04	1.05	1.05	1.05	1.07	1.07	1.09	1.43			3.16	3.15	3.23
wind	-0.5 m/s	velocity	5.22	8.46	8.79	8.79	8.70	8.70	8.70	8.54	8.54	8.39	9.80	8.09		8.68	8.70	8.49

FINAL - 2013 Japanese Corporate Championships (Hiratsuka, JPN) *(2016.11.18) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

date	19-Oct-13	time	2.72	3.80	4.85	5.89	6.93	7.95	9.00	10.06	11.12	12.21		13.60	4 / 1			
reaction time		interval		1.08	1.05	1.04	1.04	1.02	1.05	1.06	1.06	1.09	1.39			3.17	3.11	3.21
wind	6.7 m/s	velocity	5.04	8.46	8.70	8.79	8.79	8.96	8.70	8.62	8.62	8.39	10.09	8.09		8.65	8.82	8.54

FINAL - 2013 Japanese National Championships (Chofu, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	09-Jun-13	time	2.60	3.69	4.76	5.81	6.86	7.89	8.95	10.01	11.07	12.18		13.59	7 / 1			
reaction time		interval	7 steps	1.09	1.07	1.05	1.05	1.03	1.06	1.06	1.06	1.11	1.41	**PB**		3.21	3.14	3.23
wind	1.3 m/s	velocity	5.28	8.39	8.54	8.70	8.70	8.87	8.62	8.62	8.62	8.23	9.94	8.09		8.54	8.73	8.49

Semi-Final 2 - 2013 Japanese National Championships (Chofu, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	09-Jun-13	time	2.62	3.71	4.75	5.82	6.86	7.91	8.97	10.03	11.11	12.21		13.63	6 / 1			
reaction time		interval	7 steps	1.09	1.04	1.07	1.04	1.05	1.06	1.06	1.08	1.10	1.42			3.20	3.15	3.24
wind	1.2 m/s	velocity	5.24	8.39	8.79	8.54	8.79	8.70	8.62	8.62	8.46	8.31	9.87	8.07		8.57	8.70	8.46

Heat 4 - 2013 Japanese National Championships (Chofu, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	08-Jun-13	time	2.61	3.70	4.75	5.79	6.83	7.88	8.95	10.03	11.12	12.21		13.62	6 / 1			
reaction time		interval	7 steps	1.09	1.05	1.04	1.04	1.05	1.07	1.08	1.09	1.09	1.41	PB		3.18	3.16	3.26
wind	0.1 m/s	velocity	5.26	8.39	8.70	8.79	8.79	8.70	8.54	8.46	8.39	8.39	9.94	8.08		8.62	8.68	8.41

FINAL - 2013 Mito Invitational Athletics Meeting (Mito, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	04-May-13	time	2.67	3.80	4.90	5.99	7.06	8.13	9.22	10.32	11.42	12.53		13.97	/ 1			
reaction time		interval		1.13	1.10	1.09	1.07	1.07	1.09	1.10	1.10	1.11	1.44			3.32	3.23	3.31
wind	-1.3 m/s	velocity	5.14	8.09	8.31	8.39	8.54	8.54	8.39	8.31	8.31	8.23	9.74	7.87		8.26	8.49	8.28

Heat 1 - 2013 Mito Invitational Athletics Meeting (Mito, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	04-May-13	time	2.63	3.73	4.79	5.85	6.91	7.97	9.05	10.12	11.22	12.32		13.74	/ 1			
reaction time		interval		1.10	1.06	1.06	1.06	1.06	1.08	1.07	1.10	1.10	1.42			3.22	3.20	3.27
wind	0.8 m/s	velocity	5.22	8.31	8.62	8.62	8.62	8.62	8.46	8.54	8.31	8.31	9.87	8.01		8.52	8.57	8.39

FINAL - 2013 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-13	time	2.64	3.74	4.82	5.90	6.98	8.03	9.11	10.18	11.27	12.40		13.86	/ 4			
reaction time		interval		1.10	1.08	1.08	1.08	1.05	1.08	1.07	1.09	1.13	1.46			3.26	3.21	3.29
wind	0.7 m/s	velocity	5.20	8.31	8.46	8.46	8.46	8.70	8.46	8.54	8.39	8.09	9.60	7.94		8.41	8.54	8.33

Heat 1 - 2013 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-13	time	2.63	3.73	4.79	5.86	6.91	8.00	9.08	10.18	11.28	12.42		13.85	/ 4			
reaction time		interval		1.10	1.06	1.07	1.05	1.09	1.08	1.10	1.10	1.14	1.43			3.23	3.22	3.34
wind	1.5 m/s	velocity	5.22	8.31	8.62	8.54	8.70	8.39	8.46	8.31	8.31	8.02	9.80	7.94		8.49	8.52	8.21

Semi-Final 2 - 2012 Japanese National Championships (Osaka, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	10-Jun-12	time	2.61	3.67	4.72	5.78	6.85	7.90	8.99	10.08	11.18	12.32		13.75	5 / 1			
reaction time		interval		1.06	1.05	1.06	1.07	1.05	1.09	1.09	1.10	1.14	1.43			3.17	3.21	3.33
wind	0.5 m/s	velocity	5.26	8.62	8.70	8.62	8.54	8.70	8.39	8.39	8.31	8.02	9.80	8.00		8.65	8.54	8.23

Heat 2 - 2012 Japanese National Championships (Osaka, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	09-Jun-12	time	2.62	3.71	4.77	5.84	6.91	7.99	9.10	10.21	11.32	12.46		13.94	5 / 2			
reaction time		interval		1.09	1.06	1.07	1.07	1.08	1.11	1.11	1.11	1.14	1.48			3.22	3.26	3.36
wind	-1.1 m/s	velocity	5.24	8.39	8.62	8.54	8.54	8.46	8.23	8.23	8.23	8.02	9.47	7.89		8.52	8.41	8.16

A FINAL - 2012 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-12	time	2.59	3.65	4.71	5.78	6.85	7.93	8.99	10.06	11.15	12.27		13.69	6 / 3			
reaction time		interval		1.06	1.06	1.07	1.07	1.08	1.06	1.07	1.09	1.12	1.42			3.19	3.21	3.28
wind	2.1 m/s	velocity	5.30	8.62	8.62	8.54	8.54	8.46	8.62	8.54	8.39	8.16	9.87	8.04		8.60	8.54	8.36

FINAL - 2011 Asian Championships (Kobe, JPN) *Hisashi (2012) - perfromance analysis of Japanese record holder Keisuke Ushiro*

date	10-Jul-11	time	2.62	3.72	4.80	5.91	7.01	8.11	9.23	10.37	11.51	12.69		14.21	/ 4			
reaction time		interval		1.10	1.08	1.11	1.10	1.10	1.12	1.14	1.14	1.18	1.52			3.29	3.32	3.46
wind	-2.1 m/s	velocity	5.24	8.31	8.46	8.23	8.31	8.31	8.16	8.02	8.02	7.75	9.22	7.74		8.33	8.26	7.92

FINAL - 2011 Japanese National Championships (Kumagaya, JPN) *Hisashi (2012) - perfromance analysis of Japanese record holder Keisuke Ushiro*

date	11-Jun-11	time	2.64	3.72	4.80	5.87	6.94	8.01	9.11	10.20	11.30	12.42		13.86	/ 1			
reaction time		interval		1.08	1.08	1.07	1.07	1.07	1.10	1.09	1.10	1.12	1.44	PB		3.23	3.24	3.31
wind	-0.1 m/s	velocity	5.20	8.46	8.46	8.54	8.54	8.54	8.31	8.39	8.31	8.16	9.74	7.94		8.49	8.46	8.28

Semi-Final 2 - 2011 Japanese National Championships (Kumagaya, JPN) *Hisashi (2012) - perfromance analysis of Japanese record holder Keisuke Ushiro*

date	11-Jun-11	time	2.59	3.70	4.79	5.87	6.95	8.03	9.12	10.23	11.34	12.48		13.95	/ 1			
reaction time		interval		1.11	1.09	1.08	1.08	1.08	1.09	1.11	1.11	1.14	1.47			3.28	3.25	3.36
wind	-0.1 m/s	velocity	5.30	8.23	8.39	8.46	8.46	8.46	8.39	8.23	8.23	8.02	9.54	7.89		8.36	8.44	8.16

Heat 2 - 2011 Japanese National Championships (Kumagaya, JPN) *Hisashi (2012) - perfromance analysis of Japanese record holder Keisuke Ushiro*

date	10-Jun-11	time	2.61	3.68	4.74	5.81	6.87	7.95	9.05	10.16	11.29	12.43		13.89	/ 1			
reaction time		interval		1.07	1.06	1.07	1.06	1.08	1.10	1.11	1.13	1.14	1.46	PB		3.20	3.24	3.38
wind	0.1 m/s	velocity	5.26	8.54	8.62	8.54	8.62	8.46	8.31	8.23	8.09	8.02	9.60	7.92		8.57	8.46	8.11

FINAL - 2011 Mikio Oda Memorial (Hiroshima, JPN) *Kota (2013) - race analysis of leading Japanese men's 110m hurdlers - from 2011-13*

date	29-Apr-11	time	2.62	3.71	4.78	5.84	6.90	7.96	9.04	10.14	11.25	12.36		13.79	/ 6			
reaction time		interval		1.09	1.07	1.06	1.06	1.06	1.08	1.10	1.11	1.11	1.43			3.22	3.20	3.32
wind	2.4 m/s	velocity	5.24	8.39	8.54	8.62	8.62	8.62	8.46	8.31	8.23	8.23	9.80	7.98		8.52	8.57	8.26

Yefremov, David (KAZ) (1999)		**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Heat 2 - 2024 Olympic Games (Paris, FRA)														*Paris 2024 Olympic Games - Results Book (2024)*			
date	04-Aug-24	time	2.44	3.54	4.63	5.69	6.75	7.82	8.91	10.00	11.11	12.23		13.88	4 / 7			

reaction time	0.170	interval	7 steps	1.10	1.09	1.06	1.06	1.07	1.09	1.09	1.11	1.12	1.65			3.25	3.22	3.32
wind	1.2 m/s	velocity	5.62	8.31	8.39	8.62	8.62	8.54	8.39	8.39	8.23	8.16	8.50	7.93		8.44	8.52	8.26

Ylöstalo, Mikael (FIN) (1963)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Semi-Final 2 - 1988 Olympic Games (Seoul, KOR) — *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.61	3.70	4.78	5.86	6.98	8.06	9.18	10.28	11.39	12.51		14.09	2 / 8			
reaction time	0.146	interval		1.09	1.08	1.08	1.12	1.08	1.12	1.10	1.11	1.12	1.58			3.25	3.32	3.33
wind	-0.7 m/s	velocity	5.26	8.39	8.46	8.46	8.16	8.46	8.16	8.31	8.23	8.16	8.87	7.81		8.44	8.26	8.23

Yi Yulong (CHN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 Chinese National U18 Championships (Jinzhou, CHN) — *Zhang (2019) - comparative analysis of characteristics of Chinese elite men's 110m hurdles in different age groups*

date	17-May-18	time	2.67	3.77	4.84	5.90	6.98	8.03	9.09	10.17	11.23	12.33		13.79	6 / 4			
reaction time		interval		1.10	1.07	1.06	1.08	1.05	1.06	1.08	1.06	1.10	1.46			3.23	3.19	3.24
wind	??	velocity	5.14	8.31	8.54	8.62	8.46	8.70	8.62	8.46	8.62	8.31	9.60	7.98		8.49	8.60	8.46

Yin Jing (CHN) (1988)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2009 Mikio Oda Memorial (Hiroshima, JPN) — *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*

date	29-Apr-09	time	2.60	3.67	4.70	5.73	6.75	7.77	8.81	9.86	10.90	11.96		13.40	/ 1			
reaction time		interval		1.07	1.03	1.03	1.02	1.02	1.04	1.05	1.04	1.06	1.44	PB		3.13	3.08	3.15
wind	1.9 m/s	velocity	5.28	8.54	8.87	8.87	8.96	8.96	8.79	8.70	8.79	8.62	9.74	8.21		8.76	8.90	8.70

Yokochi, Taiga (JPN) (2000)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Japanese National Championsips (Niigata, JPN) — *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	30-Jun-24	time	2.64	3.70	4.73	5.73	6.76	7.78	8.81	9.86	10.91	12.00		13.39	9 / 3			
reaction time	0.159	interval	7 steps	1.06	1.03	1.00	1.03	1.02	1.03	1.05	1.05	1.09	1.39			3.09	3.08	3.19
wind	0.2 m/s	velocity	5.20	8.62	8.87	9.14	8.87	8.96	8.87	8.70	8.70	8.39	10.09	8.22		8.87	8.90	8.60

FINAL - 2024 Fuse Sprint (Tottori, JPN) — *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	02-Jun-24	time	2.65	3.75	4.80	5.85	6.88	7.92	9.01	10.11	11.25	12.37		13.83	6 / 8			
reaction time	0.167	interval	7 steps	1.10	1.05	1.05	1.03	1.04	1.09	1.10	1.14	1.12	1.46			3.20	3.16	3.36
wind	1.3 m/s	velocity	5.18	8.31	8.70	8.70	8.87	8.79	8.39	8.31	8.02	8.16	9.60	7.95		8.57	8.68	8.16

FINAL - 2024 Seiko Golden Grand Prix (Tokyo, JPN) — *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	19-May-24	time	2.67	3.76	4.78	5.83	6.85	7.90	8.95	10.01	11.08	12.18		13.65	1 / 7			
reaction time	0.171	interval	7 steps	1.09	1.02	1.05	1.02	1.05	1.05	1.06	1.07	1.10	1.47			3.16	3.12	3.23
wind	-0.6 m/s	velocity	5.14	8.39	8.96	8.70	8.96	8.70	8.70	8.62	8.54	8.31	9.54	8.06		8.68	8.79	8.49

FINAL - 2024 Michitaka Kinami Memorial (Osaka, JPN) — *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	12-May-24	time	2.67	3.73	4.78	5.82	6.83	7.85	8.87	9.93	10.98	12.07		13.47	7 / 2			
reaction time	0.179	interval		1.06	1.05	1.04	1.01	1.02	1.02	1.06	1.05	1.09	1.40			3.15	3.05	3.20
wind	0.9 m/s	velocity	5.14	8.62	8.70	8.79	9.05	8.96	8.96	8.62	8.70	8.39	10.01	8.17		8.70	8.99	8.57

FINAL - 2024 Mikio Oda Memorial (Hiroshima, JPN) — *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*

date	29-Apr-24	time	2.68	3.78	4.80	5.86	6.92	7.96	9.00	10.05	11.13	12.23		13.63	8 / 5			
reaction time	0.204	interval	7 steps	1.10	1.02	1.06	1.06	1.04	1.04	1.05	1.08	1.10	1.40			3.18	3.14	3.23
wind	-0.6 m/s	velocity	4.85	7.73	8.33	8.02	8.02	8.17	8.17	8.10	7.87	7.73	10.01	8.07		8.62	8.73	8.49

Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN) — *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	21-Aug-23	time	2.63	3.75	4.83	5.95	7.08	8.18	9.35	10.53	11.79	13.08		14.93	1 / 9			
reaction time	0.173	interval	7 steps	1.12	1.08	1.12	1.13	1.10	1.17	1.18	1.26	1.29	1.85			3.32	3.40	3.73
wind	-0.2 m/s	velocity	5.22	8.16	8.46	8.16	8.09	8.31	7.81	7.75	7.25	7.09	7.58	7.37		8.26	8.06	7.35

Heat 3 - 2023 World Athletics Championships (Budapest, HUN) — *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	20-Aug-23	time	2.66	3.74	4.79	5.81	6.90	7.97	9.02	10.09	11.18			14.39	9 / 8			
reaction time	0.170	interval	7 steps	1.08	1.05	1.02	1.09	1.07	1.05	1.07	1.09					3.15	3.21	-9.02
wind	0.0 m/s	velocity	5.16	8.46	8.70	8.96	8.39	8.54	8.70	8.54	8.39			7.64		8.70	8.54	-3.04

FINAL - 2023 Japanese National Championsips (Osaka, JPN) — *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	04-Jun-23	time	2.64	3.73	4.77	5.80	6.85	7.87	8.92	9.97	11.03	12.10		13.51	8 / 3			
reaction time	0.177	interval	7 steps	1.09	1.04	1.03	1.05	1.02	1.05	1.05	1.06	1.07	1.41			3.16	3.12	3.18
wind	-0.9 m/s	velocity	5.20	8.39	8.79	8.87	8.70	8.96	8.70	8.70	8.62	8.54	9.94	8.14		8.68	8.79	8.62

FINAL - 2023 Seiko Golden Grand Prix (Yokohama, JPN) — *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	21-May-23	time	2.63	3.73	4.75	5.76	6.80	7.82	8.83	9.90	10.97	12.05		13.46	1 / 6			
reaction time	0.156	interval	7 steps	1.10	1.02	1.01	1.04	1.02	1.01	1.07	1.07	1.08	1.41			3.13	3.07	3.22
wind	0.8 m/s	velocity	5.22	8.31	8.96	9.05	8.79	8.96	9.05	8.54	8.54	8.46	9.94	8.17		8.76	8.93	8.52

FINAL - 2023 Michitaka Kinami Memorial (Osaka, JPN) — *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	07-May-23	time	2.66	3.79	4.85	5.90	6.93	7.97	9.02	10.07	11.13	12.21		13.60	9 / 4			
reaction time	0.158	interval	7 steps	1.13	1.06	1.05	1.03	1.04	1.05	1.05	1.06	1.08	1.39			3.24	3.12	3.19
wind	-0.3 m/s	velocity	5.16	8.09	8.62	8.70	8.87	8.79	8.70	8.70	8.62	8.46	10.09	8.09		8.46	8.79	8.60

FINAL - 2023 Mikio Oda Memorial (Hiroshima, JPN) — *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	29-Apr-23	time	2.64	3.74	4.79	5.82	6.88	7.91	8.97	10.05	11.13	12.19		13.60	6 / 4			
reaction time	0.160	interval	7 steps	1.10	1.05	1.03	1.06	1.03	1.06	1.08	1.08	1.06	1.41			3.18	3.15	3.22
wind	0.3 m/s	velocity	5.20	8.31	8.70	8.87	8.62	8.87	8.62	8.46	8.46	8.62	9.94	8.09		8.62	8.70	8.52

FINAL - 2022 Japanese National Championsips (Osaka, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	12-Jun-22	time	2.64	3.73	4.77	5.82	6.85	7.92	8.97	10.05	11.13	12.25		13.72	3 / 8			
reaction time	0.161	interval	7 steps	1.09	1.04	1.05	1.03	1.07	1.05	1.08	1.08	1.12	1.47			3.18	3.15	3.28
wind	-1.2 m/s	velocity	5.20	8.39	8.79	8.70	8.87	8.54	8.70	8.46	8.46	8.16	9.54	8.02		8.62	8.70	8.36

FINAL - 2022 Seiko Golden Grand Prix (Tokyo, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	08-May-22	time	2.65	3.75	4.79	5.83	6.88	7.94	9.00	10.07	11.17	12.27		13.73	8 / 6			
reaction time	0.155	interval	7 steps	1.10	1.04	1.04	1.05	1.06	1.06	1.07	1.10	1.10	1.46			3.18	3.17	3.27
wind	0.1 m/s	velocity	5.18	8.31	8.79	8.79	8.70	8.62	8.62	8.54	8.31	8.31	9.60	8.01		8.62	8.65	8.39

FINAL - 2022 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	29-Apr-22	time	2.67	3.77	4.83	5.90	6.95	8.00	9.05	10.20	11.33	12.48		13.98	2 / 7			
reaction time	0.157	interval	7 steps	1.10	1.06	1.07	1.05	1.05	1.05	1.15	1.13	1.15	1.50			3.23	3.15	3.43
wind	-1.5 m/s	velocity	5.14	8.31	8.62	8.54	8.70	8.70	8.70	7.95	8.09	7.95	9.35	7.87		8.49	8.70	7.99

FINAL - 2021 Japanese National Championships (Osaka, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	27-Jun-21	time	2.62	3.70	4.72	5.75	6.76	7.77	8.84	9.89	10.96	12.03		13.47	8 / 5			
reaction time	0.167	interval	7 steps	1.08	1.02	1.03	1.01	1.01	1.07	1.05	1.07	1.07	1.44	**PB**		3.13	3.09	3.19
wind	1.2 m/s	velocity	5.24	8.46	8.96	8.87	9.05	9.05	8.54	8.70	8.54	8.54	9.74	8.17		8.76	8.87	8.60

FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	09-May-21	time	2.58	3.64	4.69	5.73	6.78	7.83	8.88	9.98	11.09	12.20		13.67	6 / 7			
reaction time	0.139	interval	7 steps	1.06	1.05	1.04	1.05	1.05	1.05	1.10	1.11	1.11	1.47			3.15	3.15	3.32
wind	-0.8 m/s	velocity	5.32	8.62	8.70	8.79	8.70	8.70	8.70	8.31	8.23	8.23	9.54	8.05		8.70	8.70	8.26

FINAL - 2021 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2021) - race analysis of men's 110m hurdles in the 2021 season*

date	29-Apr-21	time	2.65	3.75	4.81	5.85	6.89	7.93	8.99	10.06	11.14	12.24		13.68	1 / 6			
reaction time		interval	7 steps	1.10	1.06	1.04	1.04	1.04	1.06	1.07	1.08	1.10	1.44			3.20	3.14	3.25
wind	1.7 m/s	velocity	5.18	8.31	8.62	8.79	8.79	8.79	8.62	8.54	8.46	8.31	9.74	8.04		8.57	8.73	8.44

FINAL - 2020 Michitaka Kinami Memorial (Osaka, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	24-Oct-20	time	2.67	3.77	4.80	5.87	6.91	7.95	9.04	10.07	11.15	12.24		13.67	5 / 3			
reaction time		interval	7 steps	1.10	1.03	1.07	1.04	1.04	1.09	1.03	1.08	1.09	1.43			3.20	3.17	3.20
wind	0.6 m/s	velocity	5.14	8.31	8.87	8.54	8.79	8.79	8.39	8.87	8.46	8.39	9.80	8.05		8.57	8.65	8.57

FINAL - 2020 Japanese National Championships (Niigata, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	03-Oct-20	time	2.67	3.75	4.80	5.83	6.88	7.93	8.97	10.05	11.12	12.23		13.72	3 / 8			
reaction time	0.158	interval	7 steps	1.08	1.05	1.03	1.05	1.05	1.04	1.08	1.07	1.11	1.49			3.16	3.14	3.26
wind	-0.1 m/s	velocity	5.14	8.46	8.70	8.87	8.70	8.70	8.79	8.46	8.54	8.23	9.41	8.02		8.68	8.73	8.41

Heat 1 - 2020 Japanese National Championships (Niigata, JPN) *Shibayama (2020) - race analysis of men's 110m hurdles in the 2020 season*

date	02-Oct-20	time	2.69	3.76	4.80	5.83	6.85	7.90	8.93	10.00	11.06	12.15		13.60	7 / 5			
reaction time	0.160	interval	7 steps	1.07	1.04	1.03	1.02	1.05	1.03	1.07	1.06	1.09	1.45	**PB**		3.14	3.10	3.22
wind	0.8 m/s	velocity	5.10	8.54	8.79	8.87	8.96	8.70	8.87	8.54	8.62	8.39	9.67	8.09		8.73	8.85	8.52

Yokoyama, Masaya (JPN)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN) *Takashima (2023) - national high school sports festival - biomechanics data*																
date 06-Aug-23 time	2.77	3.91	5.02	6.13	7.23	8.33	9.45	10.57	11.70	12.89		14.33	3 / 5			
reaction time 0.201 interval		1.14	1.11	1.11	1.10	1.10	1.12	1.12	1.13	1.19	1.44			3.36	3.32	3.44
wind 0.8 m/s velocity	4.95	8.02	8.23	8.23	8.31	8.31	8.16	8.16	8.09	7.68	9.74	7.68		8.16	8.26	7.97

Yoneyama, Aiki (JPN) (2004)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
FINAL - 2022 Japanese National High School Championships (Naruto, JPN) *Kishima (2022) - national high school championships biomechanics data collection*																
date 07-Aug-22 time	2.69	3.84	4.99	6.12	7.26	8.38	9.65	10.92	12.22	13.47		15.00	7 / 8			
reaction time 0.124 interval		1.15	1.15	1.13	1.14	1.12	1.27	1.27	1.30	1.25	1.53			3.43	3.53	3.82
wind -3.8 m/s velocity	5.10	7.95	7.95	8.09	8.02	8.16	7.20	7.20	7.03	7.31	9.16	7.33		7.99	7.77	7.18

Yoshima, Kaito (JPN) (1998)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
B FINAL - 2024 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2024) - race analysis of domestic and international men's 110m hurdles in the 2024 season*																
date 29-Apr-24 time	2.65	3.74	4.83	5.90	7.00	8.08	9.20	10.32	11.45	12.61		14.12	2 / 5			
reaction time 0.161 interval		1.09	1.09	1.07	1.10	1.08	1.12	1.12	1.13	1.16	1.51			3.25	3.30	3.41
wind -0.7 m/s velocity	5.18	8.39	8.39	8.54	8.31	8.46	8.16	8.16	8.09	7.88	9.28	7.79		8.44	8.31	8.04

B FINAL - 2022 Mikio Oda Memorial (Hiroshima, JPN) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	29-Apr-22	time	2.70	3.81	4.90	5.99	7.06	8.13	9.24	10.35	11.48	12.64		14.16	1 / 6			
reaction time	0.175	interval	7 steps	1.11	1.09	1.09	1.07	1.07	1.11	1.11	1.13	1.16	1.52			3.29	3.25	3.40
wind	-0.7 m/s	velocity	5.08	8.23	8.39	8.39	8.54	8.54	8.23	8.23	8.09	7.88	9.22	7.77		8.33	8.44	8.06

Yoshimoto, Hinata (JPN)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

FINAL - 2024 Shimane High School Championships (Izumo, JPN) *Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*

date	26-May-24	time	2.83	4.07	5.28	6.53	7.77	9.03	10.27	11.62	12.95	14.30		15.94	5 / 4			
reaction time		interval		1.24	1.21	1.25	1.24	1.26	1.24	1.35	1.33	1.35	1.64			3.70	3.74	4.03
wind	0.3 m/s	velocity	4.85	7.37	7.55	7.31	7.37	7.25	7.37	6.77	6.87	6.77	8.55	6.90		7.41	7.33	6.80

Yoshinaga, Kazuyuki (JPN) (1984)

FINAL - 2009 Japanese National Championships (Hiroshima, JPN) *Ryutaro (2010) - an attempt or a creation of a race pattern stadard model for the 110m hurdles*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	27-Jun-09	time	2.63	3.71	4.78	5.85	6.91	8.01	9.10	10.19	11.27	12.38		13.86	1 / 5			
reaction time		interval		1.08	1.07	1.07	1.06	1.10	1.09	1.09	1.08	1.11	1.48	**PB**		3.22	3.25	3.28
wind	1.6 m/s	velocity	5.22	8.46	8.54	8.54	8.62	8.31	8.39	8.39	8.46	8.23	9.47	7.94		8.52	8.44	8.36

Young, Ahmad (USA) (2000)

Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	27-Jun-24	time	2.60	3.65	4.73	5.77	6.80	7.83	8.86	9.93	10.98	12.08		13.58	9 / 6			
reaction time		interval	7 steps	1.05	1.08	1.04	1.03	1.03	1.03	1.07	1.05	1.10	1.50			3.17	3.09	3.22
wind	-0.2 m/s	velocity	5.28	8.70	8.46	8.79	8.87	8.87	8.87	8.54	8.70	8.31	9.35	8.10		8.65	8.87	8.52

Heat 3 - 2024 USA Olympic Trials (Eugene, OR) (TV Analysis) *Henson (2024) - Athlete First: 2024 year end hurdle report*

date	24-Jun-24	time	2.60	3.65	4.70	5.75	6.77	7.80	8.83	9.87	10.93	12.06		13.46	9 / 6			
reaction time		interval	7 steps	1.05	1.05	1.05	1.02	1.03	1.03	1.04	1.06	1.13	1.40	**=PB**		3.15	3.08	3.23
wind	1.8 m/s	velocity	5.28	8.70	8.70	8.70	8.96	8.87	8.87	8.79	8.62	8.09	10.01	8.17		8.70	8.90	8.49

Yuuto, Yuiguchi (JPN)

FINAL - 2016 Miyazaki Perfecture High School Championships (Miyazaki, JPN) *(2016.10.26) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	16-Sep-16	time	2.81	3.97	5.16	6.35	7.54	8.72	10.00	11.23	12.46	13.70		15.25	4 / 1			
reaction time		interval		1.16	1.19	1.19	1.19	1.18	1.28	1.23	1.23	1.24	1.55			3.54	3.65	3.70
wind	0.4 m/s	velocity	4.88	7.88	7.68	7.68	7.68	7.75	7.14	7.43	7.43	7.37	9.05	7.21		7.75	7.51	7.41

Yu Haonan (CHN) (2000)

U20 Heat 3 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	14-Aug-19	time	2.64	3.75	4.83	5.94	7.02	8.12	9.21	10.31	11.41	12.53		14.04	4 / 3			
reaction time	0.154	interval		1.11	1.08	1.11	1.08	1.10	1.09	1.10	1.10	1.12	1.51			3.30	3.27	3.32
wind	0.6 m/s	velocity	5.20	8.23	8.46	8.23	8.46	8.31	8.39	8.31	8.31	8.16	9.28	7.83		8.31	8.39	8.26

Yu Zhicheng (CHN) (1963)

FINAL - 1990 Asian Games (Beijing, CHN) *Feng (1993) - an analysis of the racing technique in the entire course of the men's 110m hurdles*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	28-Sep-90	time	2.70	3.79	4.86	5.94	6.99	8.06	9.14	10.22	11.32	12.40		13.82	3 / 1			
reaction time		interval		1.09	1.07	1.08	1.05	1.07	1.08	1.08	1.10	1.08	1.42	**=AR**		3.24	3.20	3.26
wind	2.0 m/s	velocity	5.08	8.39	8.54	8.46	8.70	8.54	8.46	8.46	8.31	8.46	9.87	7.96		8.46	8.57	8.41

Semi-Final 2 - 1988 Olympic Games (Seoul, KOR) *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time	2.62	3.74	4.82	5.88	6.94	8.03	9.11	10.23	11.35	12.47		13.94	7 / 6			
reaction time	0.143	interval		1.12	1.08	1.06	1.06	1.09	1.08	1.12	1.12	1.12	1.47			3.26	3.23	3.36
wind	-0.7 m/s	velocity	5.24	8.16	8.46	8.62	8.62	8.39	8.46	8.16	8.16	8.16	9.54	7.89		8.41	8.49	8.16

FINAL - 1987 Chinese National Games (Guangzhou, CHN) *Wang (2009) - research of training characteristic during different stages in the development of 110m hurdles*

date	28-Nov-87	time	2.62	3.73	4.85	5.93	6.95	7.98	9.02	10.04	11.12	12.24		13.72	/ 2			
reaction time		interval		1.11	1.12	1.08	1.02	1.03	1.04	1.02	1.08	1.12	1.48			3.31	3.09	3.22
wind	1.6 m/s	velocity	5.24	8.23	8.16	8.46	8.96	8.87	8.79	8.96	8.46	8.16	9.47	8.02		8.28	8.87	8.52

Yue Xuesong (CHN) (1997)

Decathlon - Heat 1 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	27-Jun-21	time	2.80	3.95	5.10	6.25	7.42	8.59	9.74	10.91	12.08	13.28		14.82	4 / 3			
reaction time	0.193	interval		1.15	1.15	1.15	1.17	1.17	1.15	1.17	1.17	1.20	1.54			3.45	3.49	3.54
wind	0.5 m/s	velocity	4.90	7.95	7.95	7.95	7.81	7.81	7.95	7.81	7.81	7.62	9.10	7.42		7.95	7.86	7.75

Decathlon - Heat 3 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	11-Jul-19	time	2.77	3.92	5.05	6.20	7.36	8.52	9.69	10.86	12.03	13.23		14.76	5 / 1			
reaction time	0.203	interval		1.15	1.13	1.15	1.16	1.16	1.17	1.17	1.17	1.20	1.53	**PB**		3.43	3.49	3.54
wind	0.0 m/s	velocity	4.95	7.95	8.09	7.95	7.88	7.88	7.81	7.81	7.81	7.62	9.16	7.45		7.99	7.86	7.75

Záhora, Vojtech (CZE) (1998)

Heat 1 - 2014 Czech Republic National U18 Championships (Trinec, CZE) (91cm) *Feher (2014) - Final report from the U18 & U20 Czech Republic national championships*

date	28-Jun-14	time	2.92	4.15	5.36	6.62	7.82	9.04	10.30	11.53	12.79	14.10		15.84	5 / 6			
reaction time	0.180	interval		1.23	1.21	1.26	1.20	1.22	1.26	1.23	1.26	1.31	1.74			3.70	3.68	3.80
wind	-0.3 m/s	velocity	4.70	7.43	7.55	7.25	7.62	7.49	7.25	7.43	7.25	6.98	8.06	6.94		7.41	7.45	7.22

Zallow, Chad (USA) (1997)

FINAL - 2021 American Track League 1 (Fayetteville, AR) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Jan-21	time	2.55	3.60	4.64	5.70	6.72							7.71	6 / 4			
reaction time	0.189	interval		1.05	1.04	1.06	1.02						0.99			3.15		
		velocity	5.38	8.70	8.79	8.62	8.96						9.82	7.78		8.70		

FINAL - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	15-Feb-20	time	2.53	3.59	4.65	5.70	6.75						7.65	2 / 4	
reaction time	0.151	interval		1.06	1.06	1.05	1.05					0.90			3.17
		velocity	5.42	8.62	8.62	8.70	8.70					10.80	7.84		8.65

Semi-Final 2 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	15-Feb-20	time	2.55	3.60	4.67	5.72	6.80						7.72	4 / 3	
reaction time	0.156	interval		1.05	1.07	1.05	1.08					0.92			3.17
		velocity	5.38	8.70	8.54	8.70	8.46					10.57	7.77		8.65

Heat 1 - 2020 USATF National Indoor Championships (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.57	3.62	4.67	5.72	6.81						7.67	8 / 1	
reaction time	0.168	interval		1.05	1.05	1.05	1.09					0.86			3.15
		velocity	5.34	8.70	8.70	8.70	8.39					11.30	7.82		8.70

FINAL - 2020 Millrose Games (New York, NY) (TV Analysis) *Henson (2020) - Athlete First: 2020 year end hurdle report*

date	08-Feb-20	time	2.50	3.55	4.63	5.67	6.72						7.69	8 / 3	
reaction time	0.172	interval		1.05	1.08	1.04	1.05					0.97			3.17
		velocity	5.49	8.70	8.46	8.79	8.70					10.02	7.80		8.65

Zaza, Wellington (LBR) (1995)

FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	21-May-22	time	2.47	3.57	4.67	5.73	6.77	7.90	8.95	10.08	11.17	12.28		13.81	8 / 8			
reaction time	0.141	interval		1.10	1.10	1.06	1.04	1.13	1.05	1.13	1.09	1.11	1.53			3.26	3.22	3.33
wind	0.7 m/s	velocity	5.55	8.31	8.31	8.62	8.79	8.09	8.70	8.09	8.39	8.23	9.16	7.97		8.41	8.52	8.23

FINAL - 2022 Meeting Hauts-de-France Pas-de-Calais (Liévin, FRA) (TV Analysis) *Henson (2022) Athlete First: Grant Holloway 2022 Men's 60m Hurdles World Indoor Record*

date	17-Feb-22	time	2.45	3.52	4.55	5.57	6.63						7.63	8 / 6	
reaction time	0.149	interval		1.07	1.03	1.02	1.06					1.00			3.12
		velocity	5.60	8.54	8.87	8.96	8.62					9.72	7.86		8.79

FINAL - 2021 American Track League 1 (Fayetteville, AR) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	24-Jan-21	time	2.50	3.60	4.70	5.78	6.88						7.87	2 / 6	
reaction time	0.153	interval		1.10	1.10	1.08	1.10					0.99			3.28
		velocity	5.49	8.31	8.31	8.46	8.31					9.82	7.62		8.36

Zeller, Joshua (GBR) (2000)

FINAL - 2023 Xiamen Diamond League (Xiamen, CHN) *Omega Timing (2023) - diamond league race analysis*

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
date	02-Sep-23	time	2.47	3.56	4.59	5.62	6.64	7.68	8.72	9.75	10.81	11.88		13.45	1 / 9			
reaction time	0.147	interval		1.09	1.03	1.03	1.02	1.04	1.04	1.03	1.06	1.07	1.57			3.15	3.10	3.16
wind	0.0 m/s	velocity	5.55	8.39	8.87	8.87	8.96	8.79	8.79	8.87	8.62	8.54	8.93	8.18		8.70	8.85	8.68

FINAL - 2023 London Athletics Meet (London, GBR) *Omega Timing (2023) - diamond league race analysis*

date	23-Jul-23	time	2.49	3.57	4.60	5.61	6.67	7.75	8.81	9.89	10.99	12.10		13.82	1 / 6			
reaction time	0.144	interval		1.08	1.03	1.01	1.06	1.08	1.06	1.08	1.10	1.11	1.72			3.12	3.20	3.29
wind	1.3 m/s	velocity	5.51	8.46	8.87	9.05	8.62	8.46	8.62	8.46	8.31	8.23	8.15	7.96		8.79	8.57	8.33

FINAL - 2023 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2023) - diamond league race analysis*

date	16-Jul-23	time	2.49	3.56	4.59	5.62	6.64	7.65	8.68	9.72	10.77	11.84		13.43	1 / 5			
reaction time	0.158	interval		1.07	1.03	1.03	1.02	1.01	1.03	1.04	1.05	1.07	1.59			3.13	3.06	3.16
wind	0.3 m/s	velocity	5.51	8.54	8.87	8.87	8.96	9.05	8.87	8.79	8.70	8.54	8.82	8.19		8.76	8.96	8.68

Heat 1 - 2023 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2023) - diamond league race analysis*

date	16-Jul-23	time	2.49	3.57	4.61	5.64	6.65	7.67	8.70	9.74	10.78	11.83		13.40	8 / 6			
reaction time	0.156	interval		1.08	1.04	1.03	1.01	1.02	1.03	1.04	1.04	1.05	1.57			3.15	3.06	3.13
wind	0.3 m/s	velocity	5.51	8.46	8.79	8.87	9.05	8.96	8.87	8.79	8.79	8.70	8.93	8.21		8.70	8.96	8.76

FINAL - 2023 Athletissima (Lausanne, SUI) *Omega Timing (2023) - diamond league race analysis*

date	30-Jun-23	time	2.47	3.56	4.60	5.64	6.66	7.69	8.73	9.79	10.87	11.96		13.58	8 / 7			
reaction time	0.153	interval		1.09	1.04	1.04	1.02	1.03	1.04	1.06	1.08	1.09	1.62			3.17	3.09	3.23
wind	-1.0 m/s	velocity	5.55	8.39	8.79	8.79	8.96	8.87	8.79	8.62	8.46	8.39	8.65	8.10		8.65	8.87	8.49

FINAL - 2022 World Athletics Championships (Eugene, OR) *Shibayama (2023) - race analysis of the men's 110m hurdles in the 2022 season*

date	17-Jul-22	time	2.61	3.67	4.69	5.71	6.72	7.73	8.75	9.78	10.82	11.89		13.33	7 / 5			
reaction time	0.145	interval		1.06	1.02	1.02	1.01	1.01	1.02	1.03	1.04	1.07	1.44			3.10	3.04	3.14
wind	1.2 m/s	velocity	5.26	8.62	8.96	8.96	9.05	9.05	8.96	8.87	8.79	8.54	9.74	8.25		8.85	9.02	8.73

Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.56	3.60	4.63	5.63	6.65	7.67	8.70	9.73	10.80	11.86		13.31	5 / 2			
reaction time	0.124	interval		1.04	1.03	1.00	1.02	1.02	1.03	1.03	1.07	1.06	1.45			3.07	3.07	3.16
wind	-0.6 m/s	velocity	5.36	8.79	8.87	9.14	8.96	8.96	8.87	8.87	8.54	8.62	9.67	8.26		8.93	8.93	8.68

Heat 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.56	3.63	4.68	5.70	6.73	7.73	8.76	9.80	10.86	11.93		13.41	5 / 3		
reaction time	0.126	interval		1.07	1.05	1.02	1.03	1.00	1.03	1.04	1.06	1.07	1.48			3.14	3.06	3.17
wind	0.4 m/s	velocity	5.36	8.54	8.70	8.96	8.87	9.14	8.87	8.79	8.62	8.54	9.47	8.20		8.73	8.96	8.65

FINAL - 2022 NCAA Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	10-Jun-22	time	2.50	3.57	4.59	5.61	6.61	7.62	8.64	9.66	10.69	11.73		13.26	7 / 3		
reaction time		interval		1.07	1.02	1.02	1.00	1.01	1.02	1.02	1.03	1.04	1.53			3.11	3.03	3.09
wind	0.0 m/s	velocity	5.49	8.54	8.96	8.96	9.14	9.05	8.96	8.96	8.87	8.79	9.16	8.30		8.82	9.05	8.87

Zeng Jianhang (CHN) (1998)

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
FINAL - 2024 Chinese National Championships (Quzhou, CHN)															*Shandong Athletics Sport Science (2024)*			
date	16-Sep-24	time	2.57	3.63	4.65	5.68	6.69	7.74	8.77	9.82	10.92	12.01		13.51	7 / 4			
reaction time	0.164	interval		1.06	1.02	1.03	1.01	1.05	1.03	1.05	1.10	1.09	1.50			3.11	3.09	3.24
wind	0.2 m/s	velocity	5.34	8.62	8.96	8.87	9.05	8.70	8.87	8.70	8.31	8.39	9.35	8.14		8.82	8.87	8.46

Heat 2 - 2021 East China District Meeting (Zhaoqing, CHN) *CAA Hurdle Development (2021)*

date	24-Apr-21	time	2.56	3.62	4.66	5.69	6.72	7.77	8.84	9.91	11.00	12.10		13.62	5 / 1		
reaction time	0.151	interval		1.06	1.04	1.03	1.03	1.05	1.07	1.07	1.09	1.10	1.52			3.13	3.15	3.26
wind	-1.2 m/s	velocity	5.36	8.62	8.79	8.87	8.87	8.70	8.54	8.54	8.39	8.31	9.22	8.08		8.76	8.70	8.41

FINAL - 2021 Yangtze River Delta Athletics Meeting (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	08-Apr-21	time	2.56	3.64	4.66	5.68	6.68	7.72	8.76	9.80	10.88	11.96		13.43	6 / 1		
reaction time		interval		1.08	1.02	1.02	1.00	1.04	1.04	1.04	1.08	1.08	1.47	**PB**		3.12	3.08	3.20
wind	-0.1 m/s	velocity	5.36	8.46	8.96	8.96	9.14	8.79	8.79	8.79	8.46	8.46	9.54	8.19		8.79	8.90	8.57

FINAL - 2021 National Indoor Grand Prix (Jinan, CHN) *CAA Hurdle Development (2021)*

date	18-Mar-21	time	2.54	3.59	4.63	5.65	6.67							7.57	4 / 1		
reaction time	0.161	interval		1.05	1.04	1.02	1.02						0.90			3.11		
		velocity	5.40	8.70	8.79	8.96	8.96						10.80	7.93		8.82		

A FINAL - 2021 National Indoor Grand Prix (Chengdu, CHN) *CAA Hurdle Development (2021)*

date	13-Mar-21	time	2.54	3.58	4.62	5.62	6.64							7.55	3 / 1		
reaction time	0.163	interval		1.04	1.04	1.00	1.02						0.91	**PB**		3.08		
		velocity	5.40	8.79	8.79	9.14	8.96						10.68	7.95		8.90		

FINAL - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.58	3.62	4.66	5.69	6.72	7.76	8.82	9.90	10.98	12.09		13.54	6 / 2		
reaction time	0.156	interval		1.04	1.04	1.03	1.03	1.04	1.06	1.08	1.08	1.11	1.45			3.11	3.13	3.27
wind	0.4 m/s	velocity	5.32	8.79	8.79	8.87	8.87	8.79	8.62	8.46	8.46	8.23	9.67	8.12		8.82	8.76	8.39

Heat 1 - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.61	3.69	4.72	5.75	6.81	7.87	8.94	10.02	11.12	12.22		13.69	6 / 2		
reaction time	0.159	interval		1.08	1.03	1.03	1.06	1.06	1.07	1.08	1.10	1.10	1.47			3.14	3.19	3.28
wind	0.3 m/s	velocity	5.26	8.46	8.87	8.87	8.62	8.62	8.54	8.46	8.31	8.31	9.54	8.04		8.73	8.60	8.36

FINAL - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	24-Aug-19	time	2.62	3.67	4.72	5.75	6.79	7.84	8.89	9.98	11.07	12.17		13.65	5 / 1		
reaction time	0.177	interval		1.05	1.05	1.03	1.04	1.05	1.05	1.09	1.09	1.10	1.48			3.13	3.14	3.28
wind	-0.1 m/s	velocity	5.24	8.70	8.70	8.87	8.79	8.70	8.70	8.39	8.39	8.31	9.47	8.06		8.76	8.73	8.36

Heat 1 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.65	3.71	4.77	5.85	6.94	8.02	9.11	10.24	11.38	12.53		14.11	4 / 1		
reaction time	0.176	interval		1.06	1.06	1.08	1.09	1.08	1.09	1.13	1.14	1.15	1.58			3.20	3.26	3.42
wind	-0.2 m/s	velocity	5.18	8.62	8.62	8.46	8.39	8.46	8.39	8.09	8.02	7.95	8.87	7.80		8.57	8.41	8.02

FINAL - 2019 Chinese World Championship Trials (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	02-Aug-19	time	2.56	3.60	4.64	5.67	6.74	7.76	8.82	9.88	10.96	12.08		13.54	3 / 2		
reaction time	0.150	interval		1.04	1.04	1.03	1.07	1.02	1.06	1.06	1.08	1.12	1.46			3.11	3.15	3.26
wind	0.0 m/s	velocity	5.36	8.79	8.79	8.87	8.54	8.96	8.62	8.62	8.46	8.16	9.60	8.12		8.82	8.70	8.41

Heat 2 - 2019 Chinese World Championship Trials (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	02-Aug-19	time	2.62	3.70	4.78	5.86	6.94	8.02	9.10	10.20	11.31	12.47		13.99	7 / 1		
reaction time	0.153	interval		1.08	1.08	1.08	1.08	1.08	1.08	1.10	1.11	1.16	1.52			3.24	3.24	3.37
wind	-0.2 m/s	velocity	5.24	8.46	8.46	8.46	8.46	8.46	8.46	8.31	8.23	7.88	9.22	7.86		8.46	8.46	8.14

FINAL - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.58	3.65	4.70	5.75	6.77	7.86	8.92	9.99	11.09	12.18		13.59	8 / 1		
reaction time	0.174	interval		1.07	1.05	1.05	1.02	1.09	1.06	1.07	1.10	1.09	1.41			3.17	3.17	3.26
wind	0.1 m/s	velocity	5.32	8.54	8.70	8.70	8.96	8.39	8.62	8.54	8.31	8.39	9.94	8.09		8.65	8.65	8.41

Heat 3 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.69	3.79	4.85	5.94	7.02	8.11	9.18	10.27	11.39	12.51		13.98	6 / 2		
reaction time	0.204	interval		1.10	1.06	1.09	1.08	1.09	1.07	1.09	1.12	1.12	1.47			3.25	3.24	3.33

wind	-0.5 m/s	velocity	5.10	8.31	8.62	8.39	8.46	8.39	8.54	8.39	8.16	8.16	9.54	7.87		8.44	8.46	8.23

FINAL - 2019 Asian Grand Prix 2 (Chongqing, CHN) *CAA Hurdle Development (2019)*

date	07-Jun-19	time	2.58	3.62	4.66	5.67	6.70	7.72	8.76	9.80	10.92	12.03		13.45	3 / 2			
reaction time	0.168	interval		1.04	1.04	1.01	1.03	1.02	1.04	1.04	1.12	1.11	1.42	**PB**		3.09	3.09	3.27
wind	1.2 m/s	velocity	5.32	8.79	8.79	9.05	8.87	8.96	8.79	8.79	8.16	8.23	9.87	8.18		8.87	8.87	8.39

FINAL - 2019 Asian Grand Prix 1 (Chongqing, CHN) *CAA Hurdle Development (2019)*

date	04-Jun-19	time	2.58	3.65	4.70	5.75	6.83	7.90	8.95	10.05	11.16	12.26		13.72	6 / 2			
reaction time	0.159	interval		1.07	1.05	1.05	1.08	1.07	1.05	1.10	1.11	1.10	1.46			3.17	3.20	3.31
wind	-0.3 m/s	velocity	5.32	8.54	8.70	8.70	8.46	8.54	8.70	8.31	8.23	8.31	9.60	8.02		8.65	8.57	8.28

FINAL - 2019 Nanjing World Challenge (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	21-May-19	time	2.59	3.64	4.70	5.73	6.76	7.82	8.87	9.95	11.04	12.16		13.62	10 / 8			
reaction time	0.146	interval		1.05	1.06	1.03	1.03	1.06	1.05	1.08	1.09	1.12	1.46	**PB**		3.14	3.14	3.29
wind	0.1 m/s	velocity	5.30	8.70	8.62	8.87	8.87	8.62	8.70	8.46	8.39	8.16	9.60	8.08		8.73	8.73	8.33

FINAL - 2019 Shanghai Diamond League (Shanghai, CHN) *CAA Hurdle Development (2019)*

date	18-May-19	time	2.58	3.68	4.72	5.78	6.82	7.88	8.96	10.02	11.12	12.24		13.71	1 / 9			
reaction time	0.154	interval		1.10	1.04	1.06	1.04	1.06	1.08	1.06	1.10	1.12	1.47			3.20	3.18	3.28
wind	0.7 m/s	velocity	5.32	8.31	8.79	8.62	8.79	8.62	8.46	8.62	8.31	8.16	9.54	8.02		8.57	8.62	8.36

Heat 2 - 4th Leg - 2019 IAAF World Relays - Shuttle Hurdle Relay (Yokohama, JPN) *CAA Hurdle Development (2019)*

date	11-May-19	time	2.50	3.58	4.68	5.78	6.88	7.97	9.04	10.17	11.27	12.41		13.90	4 / 3			
reaction time		interval		1.08	1.10	1.10	1.10	1.09	1.07	1.13	1.10	1.14	1.49			3.28	3.26	3.37
wind	na	velocity	5.49	8.46	8.31	8.31	8.31	8.39	8.54	8.09	8.31	8.02	9.41	7.91	***57.54***	8.36	8.41	8.14

FINAL - 2019 Asian Athletics Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	24-Apr-19	time	2.59	3.63	4.67	5.72	6.75	7.81	8.85	9.92	11.03	12.03		13.85	2 / 7			
reaction time	0.152	interval		1.04	1.04	1.05	1.03	1.06	1.04	1.07	1.11	1.00	1.82			3.13	3.13	3.18
wind	1.7 m/s	velocity	5.30	8.79	8.79	8.70	8.87	8.62	8.79	8.54	8.23	9.14	7.70	7.94		8.76	8.76	8.62

Heat 1 - 2019 Asian Athletics Championships (Doha, QAT) *CAA Hurdle Development (2019)*

date	23-Apr-19	time	2.55	3.60	4.67	5.70	6.76	7.82	8.89	9.98	11.07	12.21		13.69	7 / 3			
reaction time	0.153	interval		1.05	1.07	1.03	1.06	1.06	1.07	1.09	1.09	1.14	1.48			3.15	3.19	3.32
wind	2.1 m/s	velocity	5.38	8.70	8.54	8.87	8.62	8.62	8.54	8.39	8.39	8.02	9.47	8.04		8.70	8.60	8.26

FINAL - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.62	3.70	4.74	5.78	6.82	7.86	8.94	10.02	11.12	12.22		13.67	4 / 1			
reaction time	0.186	interval		1.08	1.04	1.04	1.04	1.04	1.08	1.08	1.10	1.10	1.45			3.16	3.16	3.28
wind	-0.3 m/s	velocity	5.24	8.46	8.79	8.79	8.79	8.79	8.46	8.46	8.31	8.31	9.67	8.05		8.68	8.68	8.36

Heat 2 - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.62	3.67	4.73	5.78	6.82	7.88	8.96	10.06	11.20	12.39		13.98	5 / 1			
reaction time	0.176	interval		1.05	1.06	1.05	1.04	1.06	1.08	1.10	1.14	1.19	1.59			3.16	3.18	3.43
wind	0.1 m/s	velocity	5.24	8.70	8.62	8.70	8.79	8.62	8.46	8.31	8.02	7.68	8.82	7.87		8.68	8.62	7.99

FINAL - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	09-Apr-19	time	2.58	3.65	4.70	5.73	6.77	7.80	8.96	10.22	11.35	12.51		14.00	9 / 2			
reaction time	0.180	interval		1.07	1.05	1.03	1.04	1.03	1.16	1.26	1.13	1.16	1.49			3.15	3.23	3.55
wind	0.2 m/s	velocity	5.32	8.54	8.70	8.87	8.79	8.87	7.88	7.25	8.09	7.88	9.41	7.86		8.70	8.49	7.72

Heat 1 - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	08-Apr-19	time	2.69	3.81	4.87	5.96	7.08	8.20	9.33	10.44	11.58	12.73		14.31	2 / 1			
reaction time	0.290	interval		1.12	1.06	1.09	1.12	1.12	1.13	1.11	1.14	1.15	1.58			3.27	3.37	3.40
wind	-1.5 m/s	velocity	5.10	8.16	8.62	8.39	8.16	8.16	8.09	8.23	8.02	7.95	8.87	7.69		8.39	8.14	8.06

A-FINAL - 2019 Chinese Indoor National Grand Prix Final (Hangzhou, CHN) *CAA Hurdle Development (2019)*

date	20-Mar-19	time	2.55	3.62	4.68	5.69	6.74							7.62	3 / 1			
reaction time		interval		1.07	1.06	1.01	1.05						0.88	**PB**		3.14		
		velocity	5.38	8.54	8.62	9.05	8.70						11.05	7.87		8.73		

A-FINAL - 2019 Chinese Indoor National Grand Prix 2 (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	24-Feb-19	time	2.60	3.69	4.73	5.77	6.81							7.70	3 / 1			
reaction time		interval		1.09	1.04	1.04	1.04						0.89			3.17		
		velocity	5.28	8.39	8.79	8.79	8.79						10.92	7.79		8.65		

B-FINAL - 2019 Chinese Indoor National Grand Prix 1 (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	20-Feb-19	time	2.60	3.68	4.74	5.79	6.84							7.75	4 / 1			
reaction time		interval		1.08	1.06	1.05	1.05						0.91			3.19		
		velocity	5.28	8.46	8.62	8.70	8.70						10.68	7.74		8.60		

FINAL - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	16-Sep-18	time	2.72	3.78	4.81	5.84	6.87	7.92	8.99	10.07	11.14	12.30		13.77	4 / 2		
reaction time		interval		1.06	1.03	1.03	1.03	1.05	1.07	1.08	1.07	1.16	1.47			3.12	3.15	3.31
wind	-0.3 m/s	velocity	5.04	8.62	8.87	8.87	8.87	8.70	8.54	8.46	8.54	7.88	9.54	7.99		8.79	8.70	8.28

Heat 2 - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	15-Sep-18	time	2.58	3.67	4.71	5.77	6.84	7.90	8.98	10.08	11.17	12.29		13.83	3 / 1		
reaction time		interval		1.09	1.04	1.06	1.07	1.06	1.08	1.10	1.09	1.12	1.54			3.19	3.21	3.31
wind	0.7 m/s	velocity	5.32	8.39	8.79	8.62	8.54	8.62	8.46	8.31	8.39	8.16	9.10	7.95		8.60	8.54	8.28

FINAL - 2018 Asian Games (Jakarta, INA) *Shibayama (2018) - Race analysis of men's 110m hurdle run in 2018 season*

date	28-Aug-18	time	2.63	3.66	4.70	5.76	6.79	7.85	8.90	9.98	11.06	12.19		13.65	1 / 6		
reaction time	0.221	interval		1.03	1.04	1.06	1.03	1.06	1.05	1.08	1.08	1.13	1.46	=PB		3.13	3.14	3.29
wind	0.0 m/s	velocity	5.22	8.87	8.79	8.62	8.87	8.62	8.70	8.46	8.46	8.09	9.60	8.06		8.76	8.73	8.33

FINAL - 2018 National Grand Prix Final (Guiyang, CHN) (Altitude) *Zhang (2019) - comparative analysis characteristics Chinese elite men's 110m hurdles in different age groups*

date	17-Jun-18	time	2.60	3.64	4.69	5.72	6.75	7.78	8.85	9.91	11.00	12.11		13.65	4 / 1		
reaction time		interval		1.04	1.05	1.03	1.03	1.03	1.07	1.06	1.09	1.11	1.54	PB		3.12	3.13	3.26
wind	-0.3 m/s	velocity	5.28	8.79	8.70	8.87	8.87	8.87	8.54	8.62	8.39	8.23	9.10	8.06		8.79	8.76	8.41

FINAL - 2018 Shanghai Diamond League (Shanghai, CHN) (TV Analysis) *Henson (2020) - Athlete First: 2018 year end hurdle report*

date	12-May-18	time	2.56	3.60	4.64	5.68	6.72	7.78	8.84	9.92	11.00	12.16		13.76	1 / 8		
reaction time	0.148	interval		1.04	1.04	1.04	1.04	1.06	1.06	1.08	1.08	1.16	1.60	PB		3.12	3.16	3.32
wind	0.2 m/s	velocity	5.36	8.79	8.79	8.79	8.79	8.62	8.62	8.46	8.46	7.88	8.76	7.99		8.79	8.68	8.26

Zeng Pan (CHN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 Chinese National Sports School Championships (Jinjiang (CHN)) *Zhang (2019) - comparative analysis of characteristics of Chinese elite men's 110m hurdles in different age groups*

date	??	time	2.75	3.88	4.96	6.09	7.18	8.27	9.39	10.53	11.65	12.78		14.31	6 / 5		
reaction time		interval		1.13	1.08	1.13	1.09	1.09	1.12	1.14	1.12	1.13	1.53			3.34	3.30	3.39
wind	??	velocity	4.99	8.09	8.46	8.09	8.39	8.39	8.16	8.02	8.16	8.09	9.16	7.69		8.21	8.31	8.09

Żevrowski, Dawid (POL) (1997)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 Copernicus Cup (Toruń, POL) (TV Analysis) *Henson (2021) - men's 60m hurdles world record season - Grant Holloway*

date	17-Feb-21	time	2.63	3.71	4.76	5.80	6.86							7.84	1 / 7		
reaction time	0.167	interval		1.08	1.05	1.04	1.06						0.98			3.17		
		velocity	5.22	8.46	8.70	8.79	8.62						9.92	7.65		8.65		

Zhang Honglin (CHN) (1994)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.60	3.67	4.73	5.76	6.82	7.87	8.93	9.99	11.12	12.21		13.70	5 / 2		
reaction time	0.158	interval		1.07	1.06	1.03	1.06	1.05	1.06	1.06	1.13	1.09	1.49			3.16	3.17	3.28
wind	1.6 m/s	velocity	5.28	8.54	8.62	8.87	8.62	8.70	8.62	8.62	8.09	8.39	9.41	8.03		8.68	8.65	8.36

Heat 3 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.60	3.68	4.75	5.81	6.87	7.94	8.99	10.09	11.21	12.36		13.91	5 / 1		
reaction time	0.156	interval		1.08	1.07	1.06	1.06	1.07	1.05	1.10	1.12	1.15	1.55			3.21	3.18	3.37
wind	0.5 m/s	velocity	5.28	8.46	8.54	8.62	8.62	8.54	8.70	8.31	8.16	7.95	9.05	7.91		8.54	8.62	8.14

FINAL - 2020 Chinese Olympic Trials (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	12-Jun-21	time	2.65	3.75	4.79	5.82	6.87	7.94	9.01	10.07	11.18	12.29		13.75	5 / 2		
reaction time	0.161	interval		1.10	1.04	1.03	1.05	1.07	1.07	1.06	1.11	1.11	1.46			3.17	3.19	3.28
wind	0.9 m/s	velocity	5.18	8.31	8.79	8.87	8.70	8.54	8.54	8.62	8.23	8.23	9.60	8.00		8.65	8.60	8.36

Heat 1 - 2020 Chinese Olympic Trials (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	12-Jun-21	time	2.52	3.60	4.69	5.77	6.84	7.90	8.96	10.06	11.19	12.33		13.94	6 / 1		
reaction time	0.166	interval		1.08	1.09	1.08	1.07	1.06	1.06	1.10	1.13	1.14	1.61			3.25	3.19	3.37
wind	-0.4 m/s	velocity	5.44	8.46	8.39	8.46	8.54	8.62	8.62	8.31	8.09	8.02	8.71	7.89		8.44	8.60	8.14

FINAL - 2021 National Grand Prix (Chengdu, CHN) *CAA Hurdle Development (2021)*

date	02-Apr-21	time	2.66	3.76	4.80	5.87	6.91	7.94	9.02	10.08	11.20	12.30		13.76	4 / 1		
reaction time	0.179	interval		1.10	1.04	1.07	1.04	1.03	1.08	1.06	1.12	1.10	1.46			3.21	3.15	3.28
wind	-0.1 m/s	velocity	5.16	8.31	8.79	8.54	8.79	8.87	8.46	8.62	8.16	8.31	9.60	7.99		8.54	8.70	8.36

Heat 2 - 2021 National Grand Prix (Chengdu, CHN) *CAA Hurdle Development (2021)*

date	02-Apr-21	time	2.62	3.72	4.78	5.88	6.94	8.02	9.10	10.18	11.28	12.38		13.90	6 / 1		
reaction time	0.172	interval		1.10	1.06	1.10	1.06	1.08	1.08	1.08	1.10	1.10	1.52			3.26	3.22	3.28
wind	0.3 m/s	velocity	5.24	8.31	8.62	8.31	8.62	8.46	8.46	8.46	8.31	8.31	9.22	7.91		8.41	8.52	8.36

FINAL - 2021 National Indoor Grand Prix (Jinan, CHN) *CAA Hurdle Development (2021)*

date	18-Mar-21	time	2.66	3.74	4.81	5.86	6.91							7.81	3 / 2		
reaction time	0.204	interval	7 steps	1.08	1.07	1.05	1.05						0.90			3.20		
		velocity	5.16	8.46	8.54	8.70	8.70						10.80	7.68		8.57		

FINAL - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.63	3.74	4.80	5.86	6.90	7.94	9.01	10.08	11.16	12.26		13.66	4 / 4		
reaction time	0.167	interval		1.11	1.06	1.06	1.04	1.04	1.07	1.07	1.08	1.10	1.40			3.23	3.15	3.25
wind	0.4 m/s	velocity	5.22	8.23	8.62	8.62	8.79	8.79	8.54	8.54	8.46	8.31	10.01	8.05		8.49	8.70	8.44

Heat 1 - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.63	3.73	4.78	5.84	6.90	7.96	9.04	10.12	11.22	12.35		13.79	8 / 3		
reaction time	0.167	interval		1.10	1.05	1.06	1.06	1.06	1.08	1.08	1.10	1.13	1.44			3.21	3.20	3.31
wind	0.3 m/s	velocity	5.22	8.31	8.70	8.62	8.62	8.62	8.46	8.46	8.31	8.09	9.74	7.98		8.54	8.57	8.28

A-FINAL - 2019 Chinese Indoor National Grand Prix 4 (Xi'an, CHN) *CAA Hurdle Development (2019)*

date	4-Mar-19	time	2.67	3.75	4.83	5.91	7.01							7.93	5 / 3		
reaction time		interval		1.08	1.08	1.08	1.10						0.92			3.24		
		velocity	5.14	8.46	8.46	8.46	8.31						10.57	7.57		8.46		

B-FINAL - 2019 Chinese Indoor National Grand Prix 3 (Xi'an, CHN) *CAA Hurdle Development (2019)*

date	28-Feb-19	time	2.69	3.81	4.89	5.96	7.06							7.94	3 / 1		
reaction time		interval		1.12	1.08	1.07	1.10						0.88			3.27		
		velocity	5.10	8.16	8.46	8.54	8.31						11.05	7.56		8.39		

FINAL - 2018 National Grand Prix Final (Guiyang, CHN) (Altitude) *Zhang (2019) - comparative analysis characteristics Chinese elite men's 110m hurdles in different age groups*

date	17-Jun-18	time	2.69	3.77	4.83	5.92	6.99	8.06	9.15	10.24	11.35	12.47		13.98	7 / 4		
reaction time		interval		1.08	1.06	1.09	1.07	1.07	1.09	1.09	1.11	1.12	1.51			3.23	3.23	3.32
wind	-0.3 m/s	velocity	5.10	8.46	8.62	8.39	8.54	8.54	8.39	8.39	8.23	8.16	9.28	7.87		8.49	8.49	8.26

FINAL - 2017 Chinese National Games (Tianjin, CHN) *Henson (2017) - coaching observations*

date	03-Sep-17	time	2.67	3.75	4.82	5.87	6.94	7.99	9.09	10.16	11.26	12.36		13.78	4 / 3		
reaction time		interval		1.08	1.07	1.05	1.07	1.05	1.10	1.07	1.10	1.10	1.42			3.20	3.22	3.27
wind	0.3 m/s	velocity	5.14	8.46	8.54	8.70	8.54	8.70	8.31	8.54	8.31	8.31	9.87	7.98		8.57	8.52	8.39

FINAL - 2016 Shanghai Golden Grand Prix (Shanghai, CHN) *Henson (2021) - Athlete First: 2016 year end hurdle report*

date	14-May-16	time	2.54	3.60	4.64	5.68	6.74	7.82	8.90	10.02	11.10	12.22		13.79	1 / 7		
reaction time	0.142	interval		1.06	1.04	1.04	1.06	1.08	1.08	1.12	1.08	1.12	1.57			3.14	3.22	3.32
wind	1.2 m/s	velocity	5.40	8.62	8.79	8.79	8.62	8.46	8.46	8.16	8.46	8.16	8.93	7.98		8.73	8.52	8.26

FINAL - 2016 Seiko Golden Grand Prix (Kawasaki, JPN) *Kota (2016) - race analysis of japanese top-ranked men 110m and women 100m hurdlers*

date	08-May-16	time	2.69	3.72	4.76	5.78	6.82	7.84	8.90	9.94	11.02	12.12		13.59	8 / 2		
reaction time	0.162	interval		1.03	1.04	1.02	1.04	1.02	1.06	1.04	1.08	1.10	1.47			3.09	3.12	3.22
wind	-0.6 m/s	velocity	5.10	8.87	8.79	8.96	8.79	8.96	8.62	8.79	8.46	8.31	9.54	8.09		8.87	8.79	8.52

Zhang Jinzhao (CHN) (1999)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.70	3.82	4.88	5.95	7.04	8.12	9.23	10.34	11.46	12.59		14.09	4 / 3		
reaction time	0.189	interval		1.12	1.06	1.07	1.09	1.08	1.11	1.11	1.12	1.13	1.50			3.25	3.28	3.36
wind	-1.2 m/s	velocity	5.08	8.16	8.62	8.54	8.39	8.46	8.23	8.23	8.16	8.09	9.35	7.81		8.44	8.36	8.16

FINAL - 2020 Chinese Olympic Trials (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	12-Jun-21	time	2.77	3.87	4.95	6.01	7.07	8.14	9.19	10.28	11.38	12.47		13.94	4 / 3		
reaction time	0.190	interval		1.10	1.08	1.06	1.06	1.07	1.05	1.09	1.10	1.09	1.47	PB		3.24	3.18	3.28
wind	0.9 m/s	velocity	4.95	8.31	8.46	8.62	8.62	8.54	8.70	8.39	8.31	8.39	9.54	7.89		8.46	8.62	8.36

Heat 2 - 2020 Chinese Olympic Trials (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	12-Jun-21	time	2.64	3.76	4.84	5.92	7.00	8.09	9.17	10.28	11.39	12.51		14.10	3 / 2		
reaction time	0.172	interval		1.12	1.08	1.08	1.08	1.09	1.08	1.11	1.11	1.12	1.59			3.28	3.25	3.34
wind	-0.8 m/s	velocity	5.20	8.16	8.46	8.46	8.46	8.39	8.46	8.23	8.23	8.16	8.82	7.80		8.36	8.44	8.21

FINAL - 2021 East China District Meeting (Zhaoqing, CHN) *CAA Hurdle Development (2021)*

date	24-Apr-21	time	2.74	3.84	4.94	5.99	7.06	8.14	9.22	10.29	11.40	12.52		14.00	5 / 3		
reaction time	0.208	interval		1.10	1.10	1.05	1.07	1.08	1.08	1.07	1.11	1.12	1.48	PB		3.25	3.23	3.30
wind	-0.3 m/s	velocity	5.01	8.31	8.31	8.70	8.54	8.46	8.46	8.54	8.23	8.16	9.47	7.86		8.44	8.49	8.31

Heat 1 - 2021 East China District Meeting (Zhaoqing, CHN) *CAA Hurdle Development (2021)*

date	24-Apr-21	time	2.74	3.84	4.91	5.99	7.07	8.14	9.24	10.34	11.45	12.59		14.09	3 / 2		
reaction time	0.192	interval		1.10	1.07	1.08	1.08	1.07	1.10	1.10	1.11	1.14	1.50			3.25	3.25	3.35
wind	-1.1 m/s	velocity	5.01	8.31	8.54	8.46	8.46	8.54	8.31	8.31	8.23	8.02	9.35	7.81		8.44	8.44	8.19

FINAL - 2021 Yangtze River Delta Athletics Meeting (Shaoxing, CHN) *CAA Hurdle Development (2021)*

date	08-Apr-21	time	2.76	3.86	4.96	6.04	7.12	8.22	9.32	10.42	11.52	12.64		14.12	9 / 3		
reaction time		interval		1.10	1.10	1.08	1.08	1.10	1.10	1.10	1.10	1.12	1.48	PB		3.28	3.28	3.32
wind	-0.1 m/s	velocity	4.97	8.31	8.31	8.46	8.46	8.31	8.31	8.31	8.31	8.16	9.47	7.79		8.36	8.36	8.26

Heat 3 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.82	3.95	5.06	6.17	7.29	8.41	9.54	10.69	11.85	13.03		14.55	4 / 6		
reaction time	0.233	interval		1.13	1.11	1.11	1.12	1.12	1.13	1.15	1.16	1.18	1.52	PB		3.35	3.37	3.49

wind	-0.5 m/s	velocity	4.87	8.09	8.23	8.23	8.16	8.16	8.09	7.95	7.88	7.75	9.22	7.56		8.19	8.14	7.86

Zhang Shuai (CHN) (1996)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Heat 3 - 2019 Chinese National Championships (Shenyang, CHN)																		*CAA Hurdle Development (2019)*
date	08-Jul-19	time	2.69	3.84	5.01	6.14	7.26	8.37	9.53	10.69	11.86	13.05		14.67	8 / 7			
reaction time	0.260	interval		1.15	1.17	1.13	1.12	1.11	1.16	1.16	1.17	1.19	1.62			3.45	3.39	3.52
wind	-0.5 m/s	velocity	5.10	7.95	7.81	8.09	8.16	8.23	7.88	7.88	7.81	7.68	8.65	7.50		7.95	8.09	7.79
FINAL - 2019 Chinese National Grand Prix 4 (Luoyang, CHN)																		*CAA Hurdle Development (2019)*
date	30-May-19	time	2.68	3.78	4.88	5.97	7.07	8.19	9.30	10.41	11.54	12.72		14.27	4 / 8			
reaction time	0.174	interval		1.10	1.10	1.09	1.10	1.12	1.11	1.11	1.13	1.18	1.55			3.29	3.33	3.42
wind	0.0 m/s	velocity	5.12	8.31	8.31	8.39	8.31	8.16	8.23	8.23	8.09	7.75	9.05	7.71		8.33	8.23	8.02
B-FINAL - 2019 Chinese Indoor National Grand Prix 4 (Xi'an, CHN)																		*CAA Hurdle Development (2019)*
date	4-Mar-19	time	2.70	3.79	4.96	6.08	7.21							8.26	4 / 4			
reaction time		interval		1.09	1.17	1.12	1.13						1.05			3.38		
		velocity	5.08	8.39	7.81	8.16	8.09						9.26	7.26		8.11		

Zhang Shuaiyin (CHN) (1998)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Decathlon - Heat 3 - 2021 Chinese National Championships (Chongqing, CHN)																		*CAA Hurdle Development (2021)*
date	27-Jun-21	time	2.80	3.97	5.14	6.31	7.47	8.64	9.81	10.99	12.19	13.45		15.09	6 / 3			
reaction time	0.163	interval		1.17	1.17	1.17	1.16	1.17	1.17	1.18	1.20	1.26	1.64			3.51	3.50	3.64
wind	-0.2 m/s	velocity	4.90	7.81	7.81	7.81	7.88	7.81	7.81	7.75	7.62	7.25	8.55	7.29		7.81	7.83	7.53

Zhang Tao (CHN) (1997)			**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**
Heat 4 - 2021 Chinese National Championships (Chongqing, CHN)																		*CAA Hurdle Development (2021)*
date	25-Jun-21	time	2.70	3.80	4.92	6.04	7.14	8.24	9.38	10.51	11.66	12.85		14.42	5 / 4			
reaction time	0.189	interval		1.10	1.12	1.12	1.10	1.10	1.14	1.13	1.15	1.19	1.57			3.34	3.34	3.47
wind	-0.2 m/s	velocity	5.08	8.31	8.16	8.16	8.31	8.31	8.02	8.09	7.95	7.68	8.93	7.63		8.21	8.21	7.90
Heat 2 - 2021 East China District Meeting (Zhaoqing, CHN)																		*CAA Hurdle Development (2021)*
date	24-Apr-21	time	2.72	3.91	5.04	6.21	7.38	8.54	9.73	10.93	12.16	13.37		15.13	7 / 7			
reaction time	0.186	interval		1.19	1.13	1.17	1.17	1.16	1.19	1.20	1.23	1.21	1.76			3.49	3.52	3.64
wind	-1.2 m/s	velocity	5.04	7.68	8.09	7.81	7.81	7.88	7.68	7.62	7.43	7.55	7.97	7.27		7.86	7.79	7.53
FINAL - 2019 Chinese National Grand Prix Final (Daqing, CHN)																		*CAA Hurdle Development (2019)*
date	24-Aug-19	time	2.72	3.85	4.93	6.03	7.11	8.21	9.31	10.42	11.55	12.67		14.18	4 / 5			
reaction time	0.181	interval		1.13	1.08	1.10	1.08	1.10	1.10	1.11	1.13	1.12	1.51			3.31	3.28	3.36
wind	-0.1 m/s	velocity	5.04	8.09	8.46	8.31	8.46	8.31	8.31	8.23	8.09	8.16	9.28	7.76		8.28	8.36	8.16
Heat 2 - 2019 Chinese National Grand Prix Final (Daqing, CHN)																		*CAA Hurdle Development (2019)*
date	23-Aug-19	time	2.74	3.85	4.95	6.05	7.14	8.22	9.33	10.46	11.58	12.75		14.30	4 / 1			
reaction time	0.180	interval		1.11	1.10	1.10	1.09	1.08	1.11	1.13	1.12	1.17	1.55			3.31	3.28	3.42
wind	-0.2 m/s	velocity	5.01	8.23	8.31	8.31	8.39	8.46	8.23	8.09	8.16	7.81	9.05	7.69		8.28	8.36	8.02
FINAL - 2019 Chinese World Championship Trials (Shenyang, CHN)																		*CAA Hurdle Development (2019)*
date	02-Aug-19	time	2.69	3.78	4.87	5.94	7.01	8.07	9.14	10.24	11.34	12.48		13.98	6 / 5			
reaction time	0.159	interval		1.09	1.09	1.07	1.07	1.06	1.07	1.10	1.10	1.14	1.50			3.25	3.20	3.34
wind	0.0 m/s	velocity	5.10	8.39	8.39	8.54	8.54	8.62	8.54	8.31	8.31	8.02	9.35	7.87		8.44	8.57	8.21
Heat 2 - 2019 Chinese World Championship Trials (Shenyang, CHN)																		*CAA Hurdle Development (2019)*
date	02-Aug-19	time	2.70	3.82	4.90	5.96	7.07	8.16	9.24	10.36	11.48	12.65		14.20	4 / 2			
reaction time	0.174	interval		1.12	1.08	1.06	1.11	1.09	1.08	1.12	1.12	1.17	1.55			3.26	3.28	3.41
wind	-0.2 m/s	velocity	5.08	8.16	8.46	8.62	8.23	8.39	8.46	8.16	8.16	7.81	9.05	7.75		8.41	8.36	8.04
Heat 3 - 2019 Chinese National Championships (Shenyang, CHN)																		*CAA Hurdle Development (2019)*
date	08-Jul-19	time	2.65	3.75	4.82	5.91	6.96	7.99	9.07	10.16	11.26	12.41		13.89	2 / 1			
reaction time	0.158	interval		1.10	1.07	1.09	1.05	1.03	1.08	1.09	1.10	1.15	1.48			3.26	3.16	3.34
wind	-0.5 m/s	velocity	5.18	8.31	8.54	8.39	8.70	8.87	8.46	8.39	8.31	7.95	9.47	7.92		8.41	8.68	8.21
FINAL - 2019 Chinese National Grand Prix 3 (Jinhau, CHN)																		*CAA Hurdle Development (2019)*
date	23-May-19	time	2.70	3.82	4.92	6.00	7.08	8.16	9.22	10.32	11.42	12.52		13.99	7 / 6			
reaction time	0.174	interval		1.12	1.10	1.08	1.08	1.08	1.06	1.10	1.10	1.10	1.47			3.30	3.22	3.30
wind	2.5 m/s	velocity	5.08	8.16	8.31	8.46	8.46	8.46	8.62	8.31	8.31	8.31	9.54	7.86		8.31	8.52	8.31
FINAL - 2019 Chinese National Grand Prix 2 (Huangshi, CHN)																		*CAA Hurdle Development (2019)*
date	13-Apr-19	time	2.76	3.86	4.96	6.06	7.14	8.23	9.32	10.42	11.52	12.66		14.11	9 / 4			
reaction time	0.216	interval		1.10	1.10	1.10	1.08	1.09	1.09	1.10	1.10	1.14	1.45			3.30	3.26	3.34
wind	-0.3 m/s	velocity	4.97	8.31	8.31	8.31	8.46	8.39	8.39	8.31	8.31	8.02	9.67	7.80		8.31	8.41	8.21
Heat 3 - 2019 Chinese National Grand Prix 2 (Huangshi, CHN)																		*CAA Hurdle Development (2019)*
date	13-Apr-19	time	2.72	3.82	4.90	5.98	7.06	8.16	9.26	10.40	11.52	12.68		14.16	8 / 3			
reaction time	0.198	interval		1.10	1.08	1.08	1.08	1.10	1.10	1.14	1.12	1.16	1.48			3.26	3.28	3.42

wind	0.0 m/s	velocity	5.04	8.31	8.46	8.46	8.46	8.31	8.31	8.02	8.16	7.88	9.47	7.77			8.41	8.36	8.02

FINAL - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	09-Apr-19	time	2.70	3.81	4.90	5.99	7.07	8.16	9.26	10.34	11.44	12.55		14.03	5 / 3				
reaction time	0.195	interval		1.11	1.09	1.09	1.08	1.09	1.10	1.08	1.10	1.11	1.48				3.29	3.27	3.29
wind	0.2 m/s	velocity	5.08	8.23	8.39	8.39	8.46	8.39	8.31	8.46	8.31	8.23	9.47	7.84			8.33	8.39	8.33

Heat 2 - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	08-Apr-19	time	2.72	3.82	4.90	5.98	7.06	8.14	9.26	10.34	11.44	12.58		14.05	7 / 1				
reaction time	0.200	interval		1.10	1.08	1.08	1.08	1.08	1.12	1.08	1.10	1.14	1.47				3.26	3.28	3.32
wind	-0.6 m/s	velocity	5.04	8.31	8.46	8.46	8.46	8.46	8.16	8.46	8.31	8.02	9.54	7.83			8.41	8.36	8.26

A-FINAL - 2019 Chinese Indoor National Grand Prix 1 (Nanjing, CHN) *CAA Hurdle Development (2019)*

date	20-Feb-19	time	2.71	3.82	4.92	6.00	7.14							8.12	3 / 4				
reaction time		interval		1.11	1.10	1.08	1.14						0.98				3.29		
		velocity	5.06	8.23	8.31	8.46	8.02						9.92	7.39			8.33		

FINAL - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	16-Sep-18	time	2.80	3.89	4.96	6.02	7.12	8.19	9.29	10.39	11.50	12.53		16.34	3 / 8				
reaction time		interval		1.09	1.07	1.06	1.10	1.07	1.10	1.10	1.11	1.03	3.81				3.22	3.27	3.24
wind	-0.3 m/s	velocity	4.90	8.39	8.54	8.62	8.31	8.54	8.31	8.31	8.23	8.87	3.68	6.73			8.52	8.39	8.46

Heat 1 - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	15-Sep-18	time	2.77	3.85	4.90	5.99	7.50	8.11	9.18	10.29	11.36	12.51		14.00	8 / 2				
reaction time		interval		1.08	1.05	1.09	1.51	0.61	1.07	1.11	1.07	1.15	1.49				3.22	3.19	3.33
wind	-0.2 m/s	velocity	4.95	8.46	8.70	8.39	6.05	14.98	8.54	8.23	8.54	7.95	9.41	7.86			8.52	8.60	8.23

FINAL - 2018 National Grand Prix Final (Guiyang, CHN) (Altitude) *Zhang (2019) - comparative analysis characteristics Chinese elite men's 110m hurdles in different age groups*

date	17-Jun-18	time	2.71	3.78	4.86	5.91	6.99	8.05	9.14	10.21	11.32	12.41		13.92	6 / 2				
reaction time		interval		1.07	1.08	1.05	1.08	1.06	1.09	1.07	1.11	1.09	1.51				3.20	3.23	3.27
wind	-0.3 m/s	velocity	5.06	8.54	8.46	8.70	8.46	8.62	8.39	8.54	8.23	8.39	9.28	7.90			8.57	8.49	8.39

Zhang Xiangyu (CHN) (1991)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 National Grand Prix Final (Guiyang, CHN) (Altitude) *Zhang (2019) - comparative analysis characteristics Chinese elite men's 110m hurdles in different age groups*

date	17-Jun-18	time	2.71	3.80	4.89	5.97	7.08	8.16	9.27	10.37	11.50	12.62		14.15	9 / 7				
reaction time		interval		1.09	1.09	1.08	1.11	1.08	1.11	1.10	1.13	1.12	1.53				3.26	3.30	3.35
wind	-0.3 m/s	velocity	5.06	8.39	8.39	8.46	8.23	8.46	8.23	8.31	8.09	8.16	9.16	7.77			8.41	8.31	8.19

Zhang Zhen (CHN) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 2 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	11-Jul-19	time	2.83	4.00	5.13	6.29	7.43	8.59	9.77	10.96	12.18	13.42		15.10	3 / 4				
reaction time	0.169	interval		1.17	1.13	1.16	1.14	1.16	1.18	1.19	1.22	1.24	1.68				3.46	3.48	3.65
wind	-0.1 m/s	velocity	4.85	7.81	8.09	7.88	8.02	7.88	7.75	7.68	7.49	7.37	8.35	7.28			7.92	7.88	7.51

Zhang Zijun (CHN) (2004)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2024 Chinese National Grand Prix Final (Rizhao, CHN) *Shandong Athletics Sport Science (2024)*

date	30-Jun-24	time	2.60	3.69	4.73	5.78	6.82	7.86	8.91	9.98	11.04	12.10		13.52	8 / 3				
reaction time	0.148	interval		1.09	1.04	1.05	1.04	1.04	1.05	1.07	1.06	1.06	1.42	PB			3.18	3.13	3.19
wind	0.9 m/s	velocity	5.28	8.39	8.79	8.70	8.79	8.79	8.70	8.54	8.62	8.62	9.87	8.14			8.62	8.76	8.60

Zhao Baixian (CHN)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

FINAL - 2018 Chinese National U18 Championships (Jinzhou, CHN) (Altitude) *Zhang (2019) - comparative analysis of characteristics of Chinese elite men's 110m hurdles in different age groups*

date	17-May-18	time	2.62	3.73	4.82	5.89	6.97	8.07	9.15	10.25	11.37	12.50		14.05	5 / 7				
reaction time		interval		1.11	1.09	1.07	1.08	1.10	1.08	1.10	1.12	1.13	1.55				3.27	3.26	3.35
wind	??	velocity	5.24	8.23	8.39	8.54	8.46	8.31	8.46	8.31	8.16	8.09	9.05	7.83			8.39	8.41	8.19

Zhao Guorui (CHN) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Decathlon - Heat 1 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.84	4.07	5.29	6.52	7.81	9.06	10.31	11.63	12.90	14.25		16.02	8 / 5				
reaction time	0.207	interval		1.23	1.22	1.23	1.29	1.25	1.25	1.32	1.27	1.35	1.77				3.68	3.79	3.94
wind	?? m/s	velocity	4.83	7.43	7.49	7.43	7.09	7.31	7.31	6.92	7.20	6.77	7.92	6.87			7.45	7.23	6.96

Decathlon - Heat 2 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	11-Jul-19	time	2.78	4.02	5.24	6.44	7.64	8.86	10.09	11.33	12.59	13.86		15.63	6 / 5				
reaction time	0.198	interval		1.24	1.22	1.20	1.20	1.22	1.23	1.24	1.26	1.27	1.77	PB			3.66	3.65	3.77
wind	-0.1 m/s	velocity	4.94	7.37	7.49	7.62	7.62	7.49	7.43	7.37	7.25	7.20	7.92	7.04			7.49	7.51	7.27

Zhao Jiefu (CHN) (2001)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 2 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.79	3.94	5.05	6.18	7.31	8.43	9.58	10.71	11.91	13.11		14.77	9 / 7				
reaction time	0.214	interval		1.15	1.11	1.13	1.13	1.12	1.15	1.13	1.20	1.20	1.66				3.39	3.40	3.53
wind	-1.2 m/s	velocity	4.92	7.95	8.23	8.09	8.09	8.16	7.95	8.09	7.62	7.62	8.45	7.45			8.09	8.06	7.77

Heat 2 - 2021 East China District Meeting (Zhaoqing, CHN) *CAA Hurdle Development (2021)*

date	24-Apr-21	time	2.80	3.96	5.08	6.23	7.35	8.46	9.60	10.74	11.88	13.08		14.69	2 / 5		
reaction time	0.213	interval		1.16	1.12	1.15	1.12	1.11	1.14	1.14	1.14	1.20	1.61			3.43	3.37	3.48
wind	-1.2 m/s	velocity	4.90	7.88	8.16	7.95	8.16	8.23	8.02	8.02	8.02	7.62	8.71	7.49		7.99	8.14	7.88

Heat 2 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.83	3.99	5.12	6.26	7.37	8.51	9.66	10.79	11.97	13.16		14.78	2 / 7		
reaction time	0.218	interval		1.16	1.13	1.14	1.11	1.14	1.15	1.13	1.18	1.19	1.62			3.43	3.40	3.50
wind	0.4 m/s	velocity	4.85	7.88	8.09	8.02	8.23	8.02	7.95	8.09	7.75	7.68	8.65	7.44		7.99	8.06	7.83

Zhao Pengchuan (CHN) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10

Heat 1 - 2019 Chinese World Championship Trials (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	02-Aug-19	time	2.69	3.82	4.93	6.01	7.12	8.21	9.32	10.43	11.56	12.69		14.25	4 / 4		
reaction time	0.168	interval		1.13	1.11	1.08	1.11	1.09	1.11	1.11	1.13	1.13	1.56			3.32	3.31	3.37
wind	-0.3 m/s	velocity	5.10	8.09	8.23	8.46	8.23	8.39	8.23	8.23	8.09	8.09	8.99	7.72		8.26	8.28	8.14

FINAL - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.67	3.77	4.84	5.90	6.96	8.02	9.11	10.22	11.35	12.46		14.04	4 / 7		
reaction time	0.164	interval		1.10	1.07	1.06	1.06	1.06	1.09	1.11	1.13	1.11	1.58			3.23	3.21	3.35
wind	0.1 m/s	velocity	5.14	8.31	8.54	8.62	8.62	8.62	8.39	8.23	8.09	8.23	8.87	7.83		8.49	8.54	8.19

Heat 2 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.65	3.77	4.82	5.89	6.95	8.02	9.10	10.18	11.26	12.37		13.85	3 / 1		
reaction time	0.168	interval		1.12	1.05	1.07	1.06	1.07	1.08	1.08	1.08	1.11	1.48			3.24	3.21	3.27
wind	0.4 m/s	velocity	5.18	8.16	8.70	8.54	8.62	8.54	8.46	8.46	8.46	8.23	9.47	7.94		8.46	8.54	8.39

FINAL - 2019 Chinese National Grand Prix 4 (Luoyang, CHN) *CAA Hurdle Development (2019)*

date	30-May-19	time	2.67	3.77	4.84	5.93	6.99	8.07	9.16	10.26	11.35	12.46		13.94	6 / 1		
reaction time	0.165	interval		1.10	1.07	1.09	1.06	1.08	1.09	1.10	1.09	1.11	1.48			3.26	3.23	3.30
wind	0.0 m/s	velocity	5.14	8.31	8.54	8.39	8.62	8.46	8.39	8.31	8.39	8.23	9.47	7.89		8.41	8.49	8.31

FINAL - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.68	3.81	4.90	5.96	7.06	8.18	9.28	10.42	11.54	12.68		14.24	7 / 7		
reaction time	0.176	interval		1.13	1.09	1.06	1.10	1.12	1.10	1.14	1.12	1.14	1.56			3.28	3.32	3.40
wind	-0.3 m/s	velocity	5.12	8.09	8.39	8.62	8.31	8.16	8.31	8.02	8.16	8.02	8.99	7.72		8.36	8.26	8.06

Heat 5 - 2019 Chinese National Grand Prix 2 (Huangshi, CHN) *CAA Hurdle Development (2019)*

date	13-Apr-19	time	2.62	3.73	4.80	5.85	6.92	8.00	9.08	10.16	11.30	12.44		14.00	6 / 1		
reaction time	0.161	interval		1.11	1.07	1.05	1.07	1.08	1.08	1.08	1.14	1.14	1.56			3.23	3.23	3.36
wind	0.6 m/s	velocity	5.24	8.23	8.54	8.70	8.54	8.46	8.46	8.46	8.02	8.02	8.99	7.86		8.49	8.49	8.16

Heat 1 - 2019 Chinese National Grand Prix 1 (Zhaoqing, CHN) *CAA Hurdle Development (2019)*

date	08-Apr-19	time	2.78	3.89	4.98	6.06	7.18	8.26	9.38	10.48	11.60	12.75		14.38	3 / 2		
reaction time	0.288	interval		1.11	1.09	1.08	1.12	1.08	1.12	1.10	1.12	1.15	1.63			3.28	3.32	3.37
wind	-1.5 m/s	velocity	4.94	8.23	8.39	8.46	8.16	8.46	8.16	8.31	8.16	7.95	8.60	7.65		8.36	8.26	8.14

A-FINAL - 2019 Chinese Indoor National Grand Prix Final (Hangzhou, CHN) *CAA Hurdle Development (2019)*

date	20-Mar-19	time	2.64	3.75	4.84	5.92	7.02							8.00	2 / 4		
reaction time		interval		1.11	1.09	1.08	1.10						0.98			3.28		
		velocity	5.20	8.23	8.39	8.46	8.31						9.92	7.50		8.36		

A-FINAL - 2019 Chinese Indoor National Grand Prix 4 (Xi'an, CHN) *CAA Hurdle Development (2019)*

date	4-Mar-19	time	2.62	3.72	4.80	5.86	6.90							7.82	3 / 1		
reaction time		interval		1.10	1.08	1.06	1.04						0.92			3.24		
		velocity	5.24	8.31	8.46	8.62	8.79						10.57	7.67		8.46		

A-FINAL - 2019 Chinese Indoor National Grand Prix 3 (Xi'an, CHN) *CAA Hurdle Development (2019)*

date	28-Feb-19	time	2.61	3.71	4.77	5.85	6.91							7.84	4 / 2		
reaction time		interval		1.10	1.06	1.08	1.06						0.93			3.24		
		velocity	5.26	8.31	8.62	8.46	8.62						10.45	7.65		8.46		

FINAL - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	16-Sep-18	time	2.67	3.79	4.87	5.94	7.06	8.09	9.20	10.29	11.39	12.51		13.99	7 / 3		
reaction time		interval		1.12	1.08	1.07	1.12	1.03	1.11	1.09	1.10	1.12	1.48			3.27	3.26	3.31
wind	-0.3 m/s	velocity	5.14	8.16	8.46	8.54	8.16	8.87	8.23	8.39	8.31	8.16	9.47	7.86		8.39	8.41	8.28

Heat 1 - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	15-Sep-18	time	2.67	3.77	4.84	5.92	6.99	8.09	9.17	10.28	11.40	12.50		14.03	2 / 3		
reaction time		interval		1.10	1.07	1.08	1.07	1.10	1.08	1.11	1.12	1.10	1.53			3.25	3.25	3.33
wind	-0.2 m/s	velocity	5.14	8.31	8.54	8.46	8.54	8.31	8.46	8.23	8.16	8.31	9.16	7.84		8.44	8.44	8.23

FINAL - 2017 Chinese National Games (Tianjin, CHN) *Henson (2017) - coaching observations*

date	03-Sep-17	time	2.63	3.74	4.82	5.89	6.97	8.04	9.12	10.22	11.32	12.46		13.94	3 / 4		

reaction time		interval	*7 steps*	1.11	1.08	1.07	1.08	1.07	1.08	1.10	1.10	1.14	1.48				3.26	3.23	3.34
wind	0.3 m/s	velocity	5.22	8.23	8.46	8.54	8.46	8.54	8.46	8.31	8.31	8.02	9.47	7.89			8.41	8.49	8.21

Zheng Wang (CHN) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
U18 FINAL - 2019 Chinese National Youth Games (Taiyuan, CHN) (91cm)													*CAA Hurdle Development (2019)*			
date 14-Aug-19 time	2.64	3.74	4.80	5.87	6.93	8.02	9.09	10.18	11.33	12.46		14.06	7 / 2			
reaction time 0.167 interval		1.10	1.06	1.07	1.06	1.09	1.07	1.09	1.15	1.13	1.60			3.23	3.22	3.37
wind -0.1 m/s velocity	5.20	8.31	8.62	8.54	8.62	8.39	8.54	8.39	7.95	8.09	8.76	7.82		8.49	8.52	8.14

Zhong Shulun (CHN) (2003)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
U18 FINAL - 2019 Chinese National Youth Games (Taiyuan, CHN) (91cm)													*CAA Hurdle Development (2019)*			
date 14-Aug-19 time	2.80	3.97	5.12	6.23	7.36	8.51	9.66	10.79	11.93	13.10		14.72	8 / 4			
reaction time 0.225 interval		1.17	1.15	1.11	1.13	1.15	1.15	1.13	1.14	1.17	1.62			3.43	3.43	3.44
wind -0.1 m/s velocity	4.90	7.81	7.95	8.23	8.09	7.95	7.95	8.09	8.02	7.81	8.65	7.47		7.99	7.99	7.97

Zhou Jun (CHN) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
U18 FINAL - 2019 Chinese National Youth Games (Taiyuan, CHN) (91cm)													*CAA Hurdle Development (2019)*			
date 14-Aug-19 time	2.83	3.99	5.11	6.25	7.36	8.51	9.66	10.79	11.98	13.16		14.80	9 / 6			
reaction time 0.173 interval		1.16	1.12	1.14	1.11	1.15	1.15	1.13	1.19	1.18	1.64			3.42	3.41	3.50
wind -0.1 m/s velocity	4.85	7.88	8.16	8.02	8.23	7.95	7.95	8.09	7.68	7.75	8.55	7.43		8.02	8.04	7.83

Zhoya, Sasha (FRA) (2002)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Short Hurdles - 2025 Grand Slam Track Miami (Miramar, FL) (TV Analysis)													*Henson (2025) - Athlete First: 2025 year end hurdle report*			
date 02-May-25 time	2.60	3.66	4.67	5.64	6.64	7.62	8.61	9.64	10.64	11.71		13.06	4 / 2			
reaction time 0.250 interval *7 steps*	1.06	1.01	0.97	1.00	0.98	0.99	1.03	1.00	1.07	1.35		PB		3.04	2.97	3.10
wind 1.4 m/s velocity	5.28	8.62	9.05	9.42	9.14	9.33	9.23	8.87	9.14	8.54	10.39	8.42		9.02	9.23	8.85

FINAL - 2024 Memorial van damme (Brussels, BEL) *Omega Timing (2024) - diamond league race analysis*

date	13-Sep-24	time	2.43	3.48	4.50	5.50	6.50	7.51	8.54	9.56	10.59	11.63		13.16	6 / 1			
reaction time	0.150	interval	*7 steps*	1.05	1.02	1.00	1.00	1.01	1.03	1.02	1.03	1.04	1.53			3.07	3.04	3.09
wind	0.4 m/s	velocity	5.65	8.70	8.96	9.14	9.14	9.05	8.87	8.96	8.87	8.79	9.16	8.36		8.93	9.02	8.87

FINAL - 2024 Weltklasse (Zürich, SUI) *Omega Timing (2024) - diamond league race analysis*

date	05-Sep-24	time				5.51	6.50	7.50	8.50	9.51	10.52	11.54		13.10	2 / 2			
reaction time	0.148	interval	*7 steps*				0.99	1.00	1.00	1.01	1.01	1.02	1.56	PB			2.99	3.04
wind	-0.3 m/s	velocity				7.47	9.23	9.14	9.14	9.05	9.05	8.96	8.99	8.40			9.17	9.02

FINAL - 2024 Golden Gala • Pietro Mennea (Roma, ITA) *Omega Timing (2024) - diamond league race analysis*

date	30-Aug-24	time	2.40	3.49	4.53	5.54	6.55	7.55	8.56	9.57	10.60	11.63		13.18	6 / 1			
reaction time	0.151	interval	*7 steps*	1.09	1.04	1.01	1.01	1.00	1.01	1.01	1.03	1.03	1.55			3.14	3.02	3.07
wind	0.4 m/s	velocity	5.72	8.39	8.79	9.05	9.05	9.14	9.05	9.05	8.87	8.87	9.05	8.35		8.73	9.08	8.93

FINAL - 2024 Kamila Skolimowska Memorial (Silesia, POL) *Omega Timing (2024) - diamond league race analysis*

date	25-Aug-24	time	2.39	3.46	4.49	5.49	6.49	7.52	8.57	9.65	10.73	11.83		13.40	1 / 6			
reaction time	0.138	interval	*7 steps*	1.07	1.03	1.00	1.00	1.03	1.05	1.08	1.08	1.10	1.57			3.10	3.08	3.26
wind	1.1 m/s	velocity	5.74	8.54	8.87	9.14	9.14	8.87	8.70	8.46	8.46	8.31	8.93	8.21		8.85	8.90	8.41

FINAL - 2024 Athletissima (Lausanne, SUI) *Omega Timing (2024) - diamond league race analysis*

date	22-Aug-24	time	2.44	3.52	4.55	5.59	6.60	7.61	8.63	9.68	10.73	11.80		13.37	8 / 7			
reaction time	0.142	interval	*7 steps*	1.08	1.03	1.04	1.01	1.01	1.02	1.05	1.05	1.07	1.57			3.15	3.04	3.17
wind	-0.1 m/s	velocity	5.62	8.46	8.87	8.79	9.05	9.05	8.96	8.70	8.70	8.54	8.93	8.23		8.70	9.02	8.65

Semi-Final 2 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	2.40	3.48	4.52	5.54	6.55	7.55	8.56	9.60	10.67	11.76		13.34	8 / 3			
reaction time	0.160	interval	*7 steps*	1.08	1.04	1.02	1.01	1.00	1.01	1.04	1.07	1.09	1.58			3.14	3.02	3.20
wind	-0.1 m/s	velocity	5.72	8.46	8.79	8.96	9.05	9.14	9.05	8.79	8.54	8.39	8.87	8.25		8.73	9.08	8.57

Heat 5 - 2024 Olympic Games (Paris, FRA) *Paris 2024 Olympic Games - Results Book (2024)*

date	04-Aug-24	time	2.46	3.54	4.59	5.60	6.62	7.62	8.63	9.66	10.72	11.83		13.43	9 / 3			
reaction time	0.152	interval	*7 steps*	1.08	1.05	1.01	1.02	1.00	1.01	1.03	1.06	1.11	1.60			3.14	3.03	3.20
wind	0.7 m/s	velocity	5.58	8.46	8.70	9.05	8.96	9.14	9.05	8.87	8.62	8.23	8.76	8.19		8.73	9.05	8.57

FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON) *Omega Timing (2024) - diamond league race analysis*

date	12-Jul-24	time	2.42	3.49	4.52	5.55	6.57	7.59	8.62	9.64	10.68	11.72		13.25	5 / 5			
reaction time	0.137	interval	*7 steps*	1.07	1.03	1.03	1.02	1.02	1.03	1.02	1.04	1.04	1.53			3.13	3.07	3.10
wind	-0.7 m/s	velocity	5.67	8.54	8.87	8.87	8.96	8.96	8.87	8.96	8.79	8.79	9.16	8.30		8.76	8.93	8.85

FINAL - 2024 Meeting de Paris (Paris, FRA) *Omega Timing (2024) - diamond league race analysis*

date	07-Jul-24	time	2.40	3.44	4.46	5.45	6.45	7.45	8.47	9.50	10.53	11.58		13.15	8 / 1			
reaction time	0.142	interval	*7 steps*	1.04	1.02	0.99	1.00	1.00	1.02	1.03	1.03	1.05	1.57	=PB		3.05	3.02	3.11
wind	-0.6 m/s	velocity	5.72	8.79	8.96	9.23	9.14	9.14	8.96	8.87	8.87	8.70	8.93	8.37		8.99	9.08	8.82

Heat 2 - 2024 Meeting de Paris (Paris, FRA) *Omega Timing (2024) - diamond league race analysis*

date	07-Jul-24	time	2.37	3.46	4.49	5.51	6.55	7.57	8.60	9.65	10.71	11.75		13.33	6 / 4			
reaction time	0.135	interval	7 steps	1.09	1.03	1.02	1.04	1.02	1.03	1.05	1.06	1.04	1.58			3.14	3.09	3.15
wind	0.4 m/s	velocity	5.79	8.39	8.87	8.96	8.79	8.96	8.87	8.70	8.62	8.79	8.87	8.25		8.73	8.87	8.70

FINAL - 2023 World Athletics Championships (Budapest, HUN) *Shibayama (2024) - race analysis of men's 110m hurdles in the 2023 season*

date	21-Aug-23	time	2.60	3.64	4.66	5.68	6.69	7.72	8.75	9.75	10.78	11.86		13.26	7 / 6			
reaction time	0.166	interval	7 steps	1.04	1.02	1.02	1.01	1.03	1.03	1.00	1.03	1.08	1.40			3.08	3.07	3.11
wind	0.0 m/s	velocity	5.28	8.79	8.96	8.96	9.05	8.87	8.87	9.14	8.87	8.46	10.01	8.30		8.90	8.93	8.82

Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	21-Aug-23	time	2.50	3.53	4.56	5.56	6.58	7.58	8.62	9.64	10.66	11.73		13.15	7 / 2			
reaction time	0.129	interval	7 steps	1.03	1.03	1.00	1.02	1.00	1.04	1.02	1.02	1.07	1.42	PB		3.06	3.06	3.11
wind	-0.2 m/s	velocity	5.49	8.87	8.87	9.14	8.96	9.14	8.79	8.96	8.96	8.54	9.87	8.37		8.96	8.96	8.82

Heat 1 - 2023 World Athletics Championships (Budapest, HUN) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	20-Aug-23	time	2.56	3.63	4.70	5.72	6.73	7.75	8.78	9.80	10.88	11.93		13.35	7 / 3			
reaction time	0.157	interval	7 steps	1.07	1.07	1.02	1.01	1.02	1.03	1.02	1.08	1.05	1.42			3.16	3.06	3.15
wind	-0.3 m/s	velocity	5.36	8.54	8.54	8.96	9.05	8.96	8.87	8.96	8.46	8.70	9.87	8.24		8.68	8.96	8.70

FINAL - 2023 French National Championships (Albi, FRA) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	29-Jul-23	time	2.50	3.54	4.54	5.52	6.50	7.50	8.52	9.52	10.54	11.58		13.01	6 / 1			
reaction time	0.187	interval	7 steps	1.04	1.00	0.98	0.98	1.00	1.02	1.00	1.02	1.04	1.43			3.02	3.00	3.06
wind	2.3 m/s	velocity	5.49	8.79	9.14	9.33	9.33	9.14	8.96	9.14	8.96	8.79	9.80	8.46		9.08	9.14	8.96

Heat 2 - 2023 French National Championships (Albi, FRA) (TV Analysis) *Henson (2023) - Athlete First: 2023 year end hurdle report*

date	29-Jul-23	time	2.52	3.56	4.58	5.56	6.52	7.52	8.52	9.52	10.54	11.58		13.01	6 / 1			
reaction time	0.173	interval	7 steps	1.04	1.02	0.98	0.96	1.00	1.00	1.00	1.02	1.04	1.43			3.04	2.96	3.06
wind	5.3 m/s	velocity	5.44	8.79	8.96	9.33	9.52	9.14	9.14	9.14	8.96	8.79	9.80	8.46		9.02	9.26	8.96

FINAL - 2022 European Athletics Championships (Munich, GER) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Aug-22	time	2.52	3.58	4.62	5.64	6.66	7.68	8.72	9.78	10.86	11.92		16.51	7 / 8			
reaction time	0.153	interval	7 steps	1.06	1.04	1.02	1.02	1.02	1.04	1.06	1.08	1.06	4.59			3.12	3.08	3.20
wind	-0.2 m/s	velocity	5.44	8.62	8.79	8.96	8.96	8.96	8.79	8.62	8.46	8.62	3.05	6.66		8.79	8.90	8.57

FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	10-Aug-22	time	2.50	3.53	4.56	5.56	6.56	7.56	8.60	9.63	10.66	11.73		13.21	2 / 5			
reaction time	0.138	interval	7 steps	1.03	1.03	1.00	1.00	1.00	1.04	1.03	1.03	1.07	1.48			3.06	3.04	3.13
wind	0.6 m/s	velocity	5.49	8.87	8.87	9.14	9.14	9.14	8.79	8.87	8.87	8.54	9.47	8.33		8.96	9.02	8.76

Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	17-Jul-22	time	2.50	3.63	4.70	5.76	6.80	7.83	8.83	9.88	10.96	12.00		13.47	8 / 5			
reaction time	0.154	interval	7 steps	1.13	1.07	1.06	1.04	1.03	1.00	1.05	1.08	1.04	1.47			3.26	3.07	3.17
wind	-0.6 m/s	velocity	5.49	8.09	8.54	8.62	8.79	8.87	9.14	8.70	8.46	8.79	9.54	8.17		8.41	8.93	8.65

Heat 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) *Henson (2022) - Athlete First: 2022 year end hurdle report*

date	16-Jul-22	time	2.46	3.53	4.60	5.60	6.63	7.66	8.70	9.80	10.86	12.00		13.48	6 / 3			
reaction time	0.132	interval	7 steps	1.07	1.07	1.00	1.03	1.03	1.04	1.10	1.06	1.14	1.48			3.14	3.10	3.30
wind	-0.3 m/s	velocity	5.58	8.54	8.54	9.14	8.87	8.87	8.79	8.31	8.62	8.02	9.47	8.16		8.73	8.85	8.31

FINAL - 2021 World Athletics U20 Championships (Nairobi, KEN) (99.1cm) (Altitude) (TV Analysis) *Henson (2021) - Athlete First: 2021 Sasha Zhoya 110m Hurdles World U20 Record*

date	21-Aug-21	time	2.32	3.36	4.32	5.28	6.24	7.20	8.20	9.20	10.16	11.16		12.72	4 / 1			
reaction time	0.138	interval	7 steps	1.04	0.96	0.96	0.96	0.96	1.00	1.00	0.96	1.00	1.56	WU20R		2.96	2.92	2.96
wind	1.0 m/s	velocity	5.91	8.79	9.52	9.52	9.52	9.52	9.14	9.14	9.52	9.14	8.99	8.65		9.26	9.39	9.26

Semi-Final 2 - 2021 World Athletics U20 Championships (Nairobi, KEN) (99.1cm) (Altitude) (TV Analysis) *Henson (2021) - Athlete First: 2021 Sasha Zhoya 110m Hurdles World U20 Record*

date	20-Aug-21	time	2.36	3.36	4.36	5.34	6.32	7.28	8.26	9.26	10.28	11.32		12.93	6 / 1			
reaction time	0.160	interval	7 steps	1.00	1.00	0.98	0.98	0.96	0.98	1.00	1.02	1.04	1.61	WU20R		2.98	2.92	3.06
wind	-0.4 m/s	velocity	5.81	9.14	9.14	9.33	9.33	9.52	9.33	9.14	8.96	8.79	8.71	8.51		9.20	9.39	8.96

Heat 3 - 2021 World Athletics U20 Championships (Nairobi, KEN) (99.1cm) (Altitude) (TV Analysis) *Henson (2021) - Athlete First: 2021 Sasha Zhoya 110m Hurdles World U20 Record*

date	20-Aug-21	time	2.43	3.50	4.50	5.50	6.50	7.50	8.50	9.52	10.54	11.58		13.12	4 / 1			
reaction time	0.175	interval	7 steps	1.07	1.00	1.00	1.00	1.00	1.00	1.02	1.02	1.04	1.54			3.07	3.00	3.08
wind	0.3 m/s	velocity	5.65	8.54	9.14	9.14	9.14	9.14	9.14	8.96	8.96	8.79	9.10	8.38		8.93	9.14	8.90

FINAL - 2021 European U20 Championships (Tallinn, EST) (99.1cm) (TV Analysis) *Henson (2021) - Athlete First: 2021 Sasha Zhoya 110m Hurdles World U20 Record*

date	17-Jul-21	time	2.48	3.48	4.48	5.48	6.48	7.48	8.48	9.48	10.52	11.52		13.05	4 / 1			
reaction time	0.196	interval	7 steps	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.00	1.53	CR		3.00	3.00	3.04
wind	0.2 m/s	velocity	5.53	9.14	9.14	9.14	9.14	9.14	9.14	9.14	8.79	9.14	9.16	8.43		9.14	9.14	9.02

Semi-Final 3 - 2021 European U20 Championships (Tallinn, EST) (99.1cm) (TV Analysis) *Henson (2021) - Athlete First: 2021 Sasha Zhoya 110m Hurdles World U20 Record*

date	16-Jul-21	time	2.48	3.48	4.48	5.46	6.42	7.40	8.38	9.38	10.40	11.44		12.98	5 / 1			
reaction time	0.219	interval	7 steps	1.00	1.00	0.98	0.96	0.98	0.98	1.00	1.02	1.04	1.54			2.98	2.92	3.06
wind	2.4 m/s	velocity	5.53	9.14	9.14	9.33	9.52	9.33	9.33	9.14	8.96	8.79	9.10	8.47		9.20	9.39	8.96

FINAL - 2021 French National U20 Championships (Bondoufle, FRA) (99.1cm) (TV Analysis) *Henson (2021) - Athlete First: 2021 Sasha Zhoya 110m Hurdles World U20 Record*

date	10-Jul-21	time	2.53	3.56	4.56	5.58	6.56	7.58	8.60	9.60	10.62	11.66		13.06	6 / 1			
reaction time	0.150	interval	*7 steps*	1.03	1.00	1.02	0.98	1.02	1.02	1.00	1.02	1.04	1.40			3.05	3.02	3.06
wind	2.2 m/s	velocity	5.42	8.87	9.14	8.96	9.33	8.96	8.96	9.14	8.96	8.79	10.01	8.42		8.99	9.08	8.96

Zhu Shenglong (CHN) (2000)	**H1**	**H2**	**H3**	**H4**	**H5**	**H6**	**H7**	**H8**	**H9**	**H10**	**Run-In**	**Official Time**	**Lane / Place**	**H1-H4**	**H4-H7**	**H7-H10**

Race 5 - 2025 Chinese National Grand Prix (Nanjing, CHN) *Hubei Athletics Sport Science (2025)*

date	23-Feb-25	time	2.60	3.64	4.67	5.68	6.70							7.56	/ 2			
reaction time	0.145	interval	7 steps	1.04	1.03	1.01	1.02						0.86	**PB**		3.08		
		velocity	5.28	8.79	8.87	9.05	8.96						11.30	7.94		8.90		

FINAL - 2024 Chinese National Championships (Quzhou, CHN) *Shandong Athletics Sport Science (2024)*

date	16-Sep-24	time	2.60	3.66	4.69	5.72	6.74	7.77	8.84	9.91	10.94	12.06		13.55	5 / 6			
reaction time	0.141	interval	7 steps	1.06	1.03	1.03	1.02	1.03	1.07	1.07	1.03	1.12	1.49			3.12	3.12	3.22
wind	0.2 m/s	velocity	5.28	8.62	8.87	8.87	8.96	8.87	8.54	8.54	8.87	8.16	9.41	8.12		8.79	8.79	8.52

FINAL - 2024 Chinese National Grand Prix Final (Rizhao, CHN) *Shandong Athletics Sport Science (2024)*

date	30-Jun-24	time	2.62	3.67	4.69	5.72	6.74	7.80	8.86	9.93	11.02	12.13		13.62	5 / 6			
reaction time	0.148	interval	7 steps	1.05	1.02	1.03	1.02	1.06	1.06	1.07	1.09	1.11	1.49			3.10	3.14	3.27
wind	0.9 m/s	velocity	5.24	8.70	8.96	8.87	8.96	8.62	8.62	8.54	8.39	8.23	9.41	8.08		8.85	8.73	8.39

FINAL - 2024 Yangtze River Delta Athletics Diamond Gala (Suzhou, CHN) (TV Analysis) *Omega Timing (2024) - diamond league race analysis*

date	27-Apr-24	time	2.63	3.69	4.75	5.75	6.79	7.81	8.84	9.88	10.96	12.02		13.45	8 / 7			
reaction time	0.150	interval	7 steps	1.06	1.06	1.00	1.04	1.02	1.03	1.04	1.08	1.06	1.43			3.12	3.09	3.18
wind	0.8 m/s	velocity	5.22	8.62	8.62	9.14	8.79	8.96	8.87	8.79	8.46	8.62	9.80	8.18		8.79	8.87	8.62

FINAL - 2024 World Athletics Indoor Championships (Glasgow, GBR) (TV Analysis) *Henson (2024) Athlete First: Grant Holloway 2024 Men's 60m Hurdles World Indoor Record*

date	02-Mar-24	time	2.58	3.66	4.74	5.79	6.77							7.76	5 / 2			
reaction time	0.149	interval	7 steps	1.08	1.08	1.05	0.98						0.99			3.21		
		velocity	5.32	8.46	8.46	8.70	9.33						9.82	7.73		8.54		

Heat 1 - 2022 Chinese National Grand Prix (Huangshi, CHN) *Huo (2022) - research on the technical characteristics of elite chinese 110m hurdlers*

date	15-Jul-22	time	2.66	3.72	4.78	5.85	6.90	7.96	9.03	10.12	11.20	12.32		13.83	/ 1			
reaction time		interval		1.06	1.06	1.07	1.05	1.06	1.07	1.09	1.08	1.12	1.51			3.19	3.18	3.29
wind	0.2 m/s	velocity	5.16	8.62	8.62	8.54	8.70	8.62	8.54	8.39	8.46	8.16	9.28	7.95		8.60	8.62	8.33

FINAL - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.66	3.73	4.78	5.84	6.91	7.99	9.05	10.15	11.27	12.39		13.87	8 / 4			
reaction time	0.176	interval		1.07	1.05	1.06	1.07	1.08	1.06	1.10	1.12	1.12	1.48			3.18	3.21	3.34
wind	1.6 m/s	velocity	5.16	8.54	8.70	8.62	8.54	8.46	8.62	8.31	8.16	8.16	9.47	7.93		8.62	8.54	8.21

Heat 2 - 2021 Chinese National Championships (Chongqing, CHN) *CAA Hurdle Development (2021)*

date	25-Jun-21	time	2.65	3.77	4.82	5.89	6.97	8.04	9.13	10.23	11.34	12.48		13.99	6 / 1			
reaction time	0.163	interval		1.12	1.05	1.07	1.08	1.07	1.09	1.10	1.11	1.14	1.51			3.24	3.24	3.35
wind	-1.2 m/s	velocity	5.18	8.16	8.70	8.54	8.46	8.54	8.39	8.31	8.23	8.02	9.28	7.86		8.46	8.46	8.19

FINAL - 2021 Philippe Cup Athletics Invitational (Wuhan, CHN) *CAA Hurdle Development (2021)*

date	19-May-21	time	2.63	3.70	4.75	5.79	6.84	7.92	8.97	10.09	11.18	12.28		13.78	6 / 2			
reaction time	0.169	interval		1.07	1.05	1.04	1.05	1.08	1.05	1.12	1.09	1.10	1.50	**PB**		3.16	3.18	3.31
wind	1.9 m/s	velocity	5.22	8.54	8.70	8.79	8.70	8.46	8.70	8.16	8.39	8.31	9.35	7.98		8.68	8.62	8.28

FINAL - 2021 Happy Chengdu Meeting (Chengdu, CHN) *Jiang (2022) - research on pre-competition training of Zhu Shenglong preparting for the 14th national games*

date	15-May-21	time	2.46	3.58	4.68	5.76	6.83	7.89	8.96	10.02	11.10	12.22		13.87	/ 1			
reaction time		interval		1.12	1.10	1.08	1.07	1.06	1.07	1.06	1.08	1.12	1.65	**PB**		3.30	3.20	3.26
wind	1.3 m/s	velocity	5.58	8.16	8.31	8.46	8.54	8.62	8.54	8.62	8.46	8.16	8.50	7.93		8.31	8.57	8.41

FINAL - 2021 East China District Meeting (Zhaoqing, CHN) *CAA Hurdle Development (2021)*

date	24-Apr-21	time	2.64	3.70	4.76	5.82	6.88	7.96	9.03	10.12	11.24	12.38		13.91	3 / 2			
reaction time	0.165	interval		1.06	1.06	1.06	1.06	1.08	1.07	1.09	1.12	1.14	1.53			3.18	3.21	3.35
wind	-0.3 m/s	velocity	5.20	8.62	8.62	8.62	8.62	8.46	8.54	8.39	8.16	8.02	9.16	7.91		8.62	8.54	8.19

Heat 2 - 2021 East China District Meeting (Zhaoqing, CHN) *CAA Hurdle Development (2021)*

date	24-Apr-21	time	2.64	3.73	4.78	5.87	6.97	8.05	9.23	10.38	11.57	12.74		14.29	3 / 3			
reaction time	0.164	interval		1.09	1.05	1.09	1.10	1.08	1.18	1.15	1.19	1.17	1.55			3.23	3.36	3.51
wind	-1.2 m/s	velocity	5.20	8.39	8.70	8.39	8.31	8.46	7.75	7.95	7.68	7.81	9.05	7.70		8.49	8.16	7.81

Heat 1 - 2020 Chinese National Championships (Shaoxing, CHN) *CAA Hurdle Development (2020)*

date	16-Sep-20	time	2.73	3.84	4.94	6.02	7.11	8.22	9.34	10.46	11.62	12.80		14.36	1 / 8			
reaction time	0.157	interval		1.11	1.10	1.08	1.09	1.11	1.12	1.12	1.16	1.18	1.56			3.29	3.32	3.46
wind	0.3 m/s	velocity	5.03	8.23	8.31	8.46	8.39	8.23	8.16	8.16	7.88	7.75	8.99	7.66		8.33	8.26	7.92

FINAL - 2020 Don Kirby Elite Invitational (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.69	3.77	4.86	5.89	6.96						7.88	5 / 2		
reaction time		interval		1.08	1.09	1.03	1.07					0.92			3.20	
		velocity	5.10	8.46	8.39	8.87	8.54					10.57	7.61		8.57	

Semi-Final 2 - 2020 Don Kirby Elite Invitational (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.70	3.80	4.87	5.90	6.97						7.89	2 / 1		
reaction time		interval		1.10	1.07	1.03	1.07					0.92			3.20	
		velocity	5.08	8.31	8.54	8.87	8.54					10.57	7.60		8.57	

Heat 3 - 2020 Don Kirby Elite Invitational (Albuquerque, NM) (Altitude) *CAA Hurdle Development (2020)*

date	14-Feb-20	time	2.59	3.64	4.74	5.79	6.84						7.92	2 / 1		
reaction time		interval		1.05	1.10	1.05	1.05					1.08			3.20	
		velocity	5.30	8.70	8.31	8.70	8.70					9.00	7.58		8.57	

FINAL - 2020 Mountain T's Invitational (Flagstaff AZ) (Altitude) *CAA Hurdle Development (2020)*

date	01-Feb-20	time	2.64	3.72	4.76	5.79	6.82						7.74	6 / 1		
reaction time		interval		1.08	1.04	1.03	1.03					0.92	PB		3.15	
		velocity	5.20	8.46	8.79	8.87	8.87					10.57	7.75		8.70	

Heat 1 - 2020 Mountain T's Invitational (Flagstaff AZ) (Altitude) *CAA Hurdle Development (2020)*

date	01-Feb-20	time	2.67	3.75	4.82	5.86	6.90						7.83	5 / 2		
reaction time		interval		1.08	1.07	1.04	1.04					0.93	PB		3.19	
		velocity	5.14	8.46	8.54	8.79	8.79					10.45	7.66		8.60	

FINAL - 2020 Leonard Hilton Memorial Invitational (Houston, TX) *CAA Hurdle Development (2020)*

date	17-Jan-20	time	2.60	3.67	4.76	5.81	6.87						7.91	3 / 3		
reaction time		interval		1.07	1.09	1.05	1.06					1.04	PB		3.21	
		velocity	5.28	8.54	8.39	8.70	8.62					9.35	7.59		8.54	

Heat 3 - 2020 Leonard Hilton Memorial Invitational (Houston, TX) *CAA Hurdle Development (2020)*

date	17-Jan-20	time	2.62	3.71	4.79	5.84	6.92						8.00	5 / 1		
reaction time		interval		1.09	1.08	1.05	1.08					1.08			3.22	
		velocity	5.24	8.39	8.46	8.70	8.46					9.00	7.50		8.52	

Heat 1 - 2019 Chinese National Grand Prix Final (Daqing, CHN) *CAA Hurdle Development (2019)*

date	23-Aug-19	time	2.80	3.92	4.99	6.09	7.19	8.30	9.46	10.59	11.85	13.11		14.85	6 / 7			
reaction time	0.184	interval		1.12	1.07	1.10	1.10	1.11	1.16	1.13	1.26	1.26	1.74			3.29	3.37	3.65
wind	-0.2 m/s	velocity	4.90	8.16	8.54	8.31	8.31	8.23	7.88	8.09	7.25	7.25	8.06	7.41		8.33	8.14	7.51

U20 Heat 1 - 2019 Chinese National Youth Games (Taiyuan, CHN) (99cm) *CAA Hurdle Development (2019)*

date	14-Aug-19	time	2.54	3.63	4.71	5.74	6.77	7.82	8.87	9.94	11.04	12.14		13.82	5 / 1			
reaction time	0.145	interval		1.09	1.08	1.03	1.03	1.05	1.05	1.07	1.10	1.10	1.68			3.20	3.13	3.27
wind	0.5 m/s	velocity	5.40	8.39	8.46	8.87	8.87	8.70	8.70	8.54	8.31	8.31	8.35	7.96		8.57	8.76	8.39

Heat 1 - 2019 Chinese World Championship Trials (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	02-Aug-19	time	2.74	3.88	5.02	6.14	7.28	8.42	9.55	10.73	11.89	13.11		14.82	5 / 5			
reaction time	0.154	interval		1.14	1.14	1.12	1.14	1.14	1.13	1.18	1.16	1.22	1.71			3.40	3.41	3.56
wind	-0.3 m/s	velocity	5.01	8.02	8.02	8.16	8.02	8.02	8.09	7.75	7.88	7.49	8.20	7.42		8.06	8.04	7.70

FINAL - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.72	3.80	4.87	5.92	6.99	8.04	9.09	10.18	11.29	12.40		13.90	2 / 4			
reaction time	0.170	interval		1.08	1.07	1.05	1.07	1.05	1.05	1.09	1.11	1.11	1.50	PB		3.20	3.17	3.31
wind	0.1 m/s	velocity	5.04	8.46	8.54	8.70	8.54	8.70	8.70	8.39	8.23	8.23	9.35	7.91		8.57	8.65	8.28

Heat 3 - 2019 Chinese National Championships (Shenyang, CHN) *CAA Hurdle Development (2019)*

date	08-Jul-19	time	2.71	3.80	4.89	5.95	7.02	8.09	9.20	10.31	11.43	12.57		14.08	5 / 3			
reaction time	0.169	interval		1.09	1.09	1.06	1.07	1.07	1.11	1.11	1.12	1.14	1.51			3.24	3.25	3.37
wind	-0.5 m/s	velocity	5.06	8.39	8.39	8.62	8.54	8.54	8.23	8.23	8.16	8.02	9.28	7.81		8.46	8.44	8.14

FINAL - 2019 Chinese National Grand Prix 4 (Luoyang, CHN) *CAA Hurdle Development (2019)*

date	30-May-19	time	2.71	3.80	4.89	5.96	7.03	8.09	9.16	10.26	11.37	12.51		14.01	8 / 3			
reaction time	0.171	interval		1.09	1.09	1.07	1.07	1.06	1.07	1.10	1.11	1.14	1.50	PB		3.25	3.20	3.35
wind	0.0 m/s	velocity	5.06	8.39	8.39	8.54	8.54	8.62	8.54	8.31	8.23	8.02	9.35	7.85		8.44	8.57	8.19

B-FINAL - 2019 Chinese Indoor National Grand Prix Final (Hangzhou, CHN) *CAA Hurdle Development (2019)*

date	20-Mar-19	time	2.71	3.79	4.87	5.97	7.04						7.97	2 / 2		
reaction time		interval		1.08	1.08	1.10	1.07					0.93			3.26	
		velocity	5.06	8.46	8.46	8.31	8.54					10.45	7.53		8.41	

A-FINAL - 2019 Chinese Indoor National Grand Prix 4 (Xi'an, CHN) *CAA Hurdle Development (2019)*

date	4-Mar-19	time	2.68	3.76	4.83	5.90	6.99						7.96	2 / 4		
reaction time		interval		1.08	1.07	1.07	1.09					0.97	PB		3.22	
		velocity	5.12	8.46	8.54	8.54	8.39					10.02	7.54		8.52	

B-FINAL - 2019 Chinese Indoor National Grand Prix 3 (Xi'an, CHN) *CAA Hurdle Development (2019)*

date	28-Feb-19	time	2.72	3.80	4.88	5.94	7.04						7.98	4 / 2			
reaction time		interval		1.08	1.08	1.06	1.10					0.94	PB		3.22		
		velocity	5.04	8.46	8.46	8.62	8.31					10.34	7.52		8.52		

FINAL - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	16-Sep-18	time	2.72	3.82	4.89	5.96	7.04	8.12	9.22	10.33	11.46	12.58		14.09	2 / 4			
reaction time		interval		1.10	1.07	1.07	1.08	1.08	1.10	1.11	1.13	1.12	1.51	PB		3.24	3.26	3.36
wind	-0.3 m/s	velocity	5.04	8.31	8.54	8.54	8.46	8.46	8.31	8.23	8.09	8.16	9.28	7.81		8.46	8.41	8.16

Heat 2 - 2018 Chinese National Championships (Taiyuan, CHN) *Henson (2018) - coaching observations*

date	15-Sep-18	time	2.74	3.85	4.94	6.00	7.09	8.19	9.26	10.38	11.49	12.61		14.13	2 / 4			
reaction time		interval		1.11	1.09	1.06	1.09	1.10	1.07	1.12	1.11	1.12	1.52	PB		3.26	3.26	3.35
wind	0.7 m/s	velocity	5.01	8.23	8.39	8.62	8.39	8.31	8.54	8.16	8.23	8.16	9.22	7.78		8.41	8.41	8.19

FINAL - 2018 Chinese National U20 Championships (Nanchang, CHN) (99.1cm) *Zhang (2019) - comparative analysis characteristics Chinese elite 110m hurdles in different age*

date	13-May-18	time	2.69	3.79	4.85	5.90	6.94	8.00	9.06	10.15	11.24	12.36		13.83	4 / 3			
reaction time		interval		1.10	1.06	1.05	1.04	1.06	1.06	1.09	1.09	1.12	1.47			3.21	3.16	3.30
wind	1.0 m/s	velocity	5.10	8.31	8.62	8.70	8.79	8.62	8.62	8.39	8.39	8.16	9.54	7.95		8.54	8.68	8.31

Zhuk, Vitaliy (BLR) (1996)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 2 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date 05-Aug-21	time	2.72	3.85	5.02	6.20	7.32	8.52	9.70	10.89	12.08	13.31		14.95	3 / 7			
reaction time 0.146	interval	7 steps	1.13	1.17	1.18	1.12	1.20	1.18	1.19	1.19	1.23	1.64			3.48	3.50	3.61
wind 0.0 m/s	velocity	5.04	8.09	7.81	7.75	8.16	7.62	7.75	7.69	7.67	7.43	8.55	7.36		7.88	7.83	7.60

Ziemek, Zachery (USA) (1993)

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Decathlon - Heat 1 - 2024 Olympic Games (Paris, FRA)													*Paris 2024 Olympic Games - Results Book (2024)*			
date 03-Aug-24	time	2.56	3.79	4.96	6.13	7.32	8.51	9.72	10.90	12.13	13.35		15.11	7 / 6			
reaction time 0.145	interval	7 steps	1.23	1.17	1.17	1.19	1.19	1.21	1.18	1.23	1.22	1.76			3.57	3.59	3.63
wind 0.2 m/s	velocity	5.36	7.43	7.81	7.81	7.68	7.68	7.55	7.75	7.43	7.49	7.97	7.28		7.68	7.64	7.55
Decathlon - Heat 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis)													*Henson (2024) - Athlete First: 2022 year end hurdle report*			
date 24-Jul-22	time	2.76	3.87	5.00	6.16	7.25	8.40	9.50	10.67	11.83	13.00		14.47	3 / 2			
reaction time 0.116	interval	7 steps	1.11	1.13	1.16	1.09	1.15	1.10	1.17	1.16	1.17	1.47			3.40	3.34	3.50
wind 1.5 m/s	velocity	4.97	8.23	8.09	7.88	8.39	7.95	8.31	7.81	7.88	7.81	9.54	7.60		8.06	8.21	7.83
Decathlon - Heat 1 - 2020 Olympic Games (Tokyo, JPN) (TV Analysis)													*Henson (2024) - Athlete First: 2021 year end hurdle report*			
date 05-Aug-21	time	2.75	3.90	4.97	6.08	7.20	8.39	9.52	10.64	11.80	12.98		14.51	6 / 2			
reaction time 0.181	interval	7 steps	1.15	1.07	1.11	1.12	1.19	1.13	1.12	1.16	1.18	1.53			3.33	3.44	3.46
wind 0.1 m/s	velocity	4.99	7.95	8.54	8.23	8.16	7.68	8.09	8.16	7.88	7.75	9.16	7.58		8.23	7.97	7.92