Men's 400m Split Times - by time

LAST UPDATE: 26-May-25

van Niekerk, Wayde (RSA) (1992)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)																	
date 14-Aug-16 time	6.01	10.77	15.63	20.58	25.71	31.06	36.77	43.03	43.03	8 / 1							
reaction time 0.181 interval		4.76	4.86	4.95	5.13	5.35	5.71	6.26	WR	# of strides	10.77	9.81	10.48	11.97	20.58	22.45	1.87
velocity	8.32	10.50	10.29	10.10	9.75	9.35	8.76	7.99	9.30	163.0	9.29	10.19	9.54	8.35	9.72	8.91	

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

Johnson, Michael (USA) (1967)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 IAAF World Championships (Sevilla, ESP)																	
date 26-Aug-99 time	6.14	11.10	16.10	21.22	26.42	31.66	37.18	43.18	43.18	5 / 1							
reaction time 0.150 interval		4.96	5.00	5.12	5.20	5.24	5.52	6.00	WR	# of strides	11.10	10.12	10.44	11.52	21.22	21.96	0.74
velocity	8.14	10.08	10.00	9.77	9.62	9.54	9.06	8.33	9.26	180.5	9.01	9.88	9.58	8.68	9.43	9.11	

Ferro (2001) - biomechanical analysis of the 7th world championships in athletics seville 1999

Reynolds, Harry (Butch) (USA) (1964	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1988 Weltklasse (Zurich, SUI)																	
date 17-Aug-88 time	6.3	11.3	16.3	21.4	26.7	32.1	37.6	43.3	43.29	/ 1							
reaction time interval		5.00	5.00	5.10	5.30	5.40	5.50	5.70	WR	# of strides	11.30	10.10	10.70	11.20	21.40	21.90	0.50
velocity	7.94	4.42	3.07	2.34	1.87	1.56	1.33	1.15	9.24	159.7	8.85	9.90	9.35	8.93	9.35	9.13	

Vazel (2016) - How van Niekerk broke the 400m world record

Johnson, Michael (USA) (1967)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1995 IAAF World Championships (Göteborg, SWE)																	
date 09-Aug-95 time		11.13		21.26		31.55		43.39	43.39	5 / 1							
reaction time interval				10.13		10.29		11.84	CR / PB	# of strides	11.13	10.13	10.29	11.84	21.26	22.13	0.87
velocity		8.98		9.87		9.72		8.45	9.22	182.0	8.98	9.87	9.72	8.45	9.41	9.04	

Pariente (2003) - la fabuleuse histoire de l'athletisme

Hall, Quincy (USA) (1998)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Olympic Games (Paris, FRA)																	
date 07-Aug-24 time	6.16	11.01	15.89	21.00	26.34	31.81	37.46	43.40	43.40	8 / 1							
reaction time 0.168 interval		4.85	4.88	5.11	5.34	5.47	5.65	5.94	PB	# of strides	11.01	9.99	10.81	11.59	21.00	22.40	1.40
velocity	8.12	10.31	10.25	9.78	9.36	9.14	8.85	8.42	9.22	157.7	9.08	10.01	9.25	8.63	9.52	8.93	

Paris 2024 Olympic Games - Results Book (2024)

Johnson, Michael (USA) (1967)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 USA Olympic Trials (Atlanta, GA)																	
date 19-Jun-96 time		11.02		21.27		31.64	37.34	43.44	43.44	5 / 1							
reaction time interval				10.25		10.37	5.70	6.10		# of strides	11.02	10.25	10.37	11.80	21.27	22.17	0.90
velocity		9.07		9.76		9.64	8.77	8.20	9.21		9.07	9.76	9.64	8.47	9.40	9.02	

USATF Women's Sprint Development (1996)

Hudson-Smith, Matthew (GBR) (1994	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Olympic Games (Paris, FRA)																	
date 07-Aug-24 time	6.01	10.81	15.65	20.62	25.86	31.35	37.19	43.44	43.44	6 / 2							
reaction time 0.149 interval		4.80	4.84	4.97	5.24	5.49	5.84	6.25	AR	# of strides	10.81	9.81	10.73	12.09	20.62	22.82	2.20
velocity	8.32	10.42	10.33	10.06	9.54	9.11	8.56	8.00	9.21	161.0	9.25	10.19	9.32	8.27	9.70	8.76	

Paris 2024 Olympic Games - Results Book (2024)

Wariner, Jeremy (USA) (1984)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Championships (Osaka, JPN)																	
date 31-Aug-07 time	6.01	10.80	15.77	20.97	26.27	31.60	37.24	43.45	43.45	6 / 1							
reaction time 0.182 interval		4.79	4.97	5.20	5.30	5.33	5.64	6.21	PB	# of strides	10.80	10.17	10.63	11.85	20.97	22.48	1.51
velocity	8.32	10.44	10.06	9.62	9.43	9.38	8.87	8.05	9.21	168.7	9.26	9.83	9.41	8.44	9.54	8.90	

Mochida (2008) - biomechancial analysis of the 400m final race at ehe 2007 world championships in athletics

van Niekerk, Wayde (RSA) (1992)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 IAAF World Championships (Beijing, CHN)																	
date 26-Aug-15 time	6.02	10.73	15.65	20.76	25.95	31.36	37.17	43.48	43.48	6 / 1							
reaction time 0.156 interval		4.71	4.92	5.11	5.19	5.41	5.81	6.31	AR	# of strides	10.73	10.03	10.60	12.12	20.76	22.72	1.96
velocity	8.31	10.62	10.16	9.78	9.63	9.24	8.61	7.92	9.20	162.5	9.32	9.97	9.43	8.25	9.63	8.80	

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

Gardiner, Steven (BAH) (1995)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 IAAF World Championships (Doha, QAT)																	
date 04-Oct-19 time	6.22	11.00	15.92	20.96	26.15	31.59	37.32	43.48	43.48	4 / 1							
reaction time 0.164 interval		4.78	4.92	5.04	5.19	5.44	5.73	6.16	NR PB	# of strides	11.00	9.96	10.63	11.89	20.96	22.52	1.56
velocity	8.04	10.46	10.16	9.92	9.63	9.19	8.73	8.12	9.20	158.5	9.09	10.04	9.41	8.41	9.54	8.88	

Yamanaka (2019) - race analysis of men and women 400m competition

Johnson, Michael (USA) (1967)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 Olympic Games (Atlanta, GA)																	
date 29-Jul-96 time				21.22		31.80		43.49	43.49	4 / 1							
reaction time 0.254 interval						10.58		11.69	OR	# of strides			10.58	11.69	21.22	22.27	1.05
velocity				9.43		9.45		8.55	9.20	180.7			9.45	8.55	9.43	8.98	

Urtebise (1996) - Atlanta 1996 : 400m

Watts, Quincy (USA) (1970)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1992 Olympic Games (Barcelona, ESP)																	
date 05-Aug-92 time				20.8		31.4		43.50	43.50	4 / 1							
reaction time interval						10.60		12.1	OR	# of strides			10.60	12.10	20.80	22.70	1.90
velocity				9.62		9.43		8.26	9.20	170.2			9.43	8.26	9.62	8.81	

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

Norman, Michael (USA) (1997)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 USATF National Championships (Eugene, OR)																	
date 25-Jun-22 time		10.87		21.12		32.12		43.56	43.56	/ 1							
reaction time interval				10.25		11.00		11.44		# of strides	10.87	10.25	11.00	11.44	21.12	22.44	1.32
velocity		9.20		9.76		9.09		8.74	9.18		9.20	9.76	9.09	8.74	9.47	8.91	

Track Newsletter (2022) - USATF championships men

Norman, Michael (USA) (1997)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Prefontaine Classic (Eugene, OR)																	
date 28-May-22 time	6.02	11.00	16.00	21.33	26.67	32.09	37.67	43.60	43.60	4 / 1							
reaction time 0.130 interval		4.98	5.00	5.33	5.34	5.42	5.58	5.93		# of strides	11.00	10.33	10.76	11.51	21.33	22.27	0.94
velocity	8.31	10.04	10.00	9.38	9.36	9.23	8.96	8.43	9.17	172.5	9.09	9.68	9.29	8.69	9.38	8.98	

Omega Timing (2022) - diamond league race analysis

Norman, Michael (USA) (1997)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

FINAL - 2018 NCAA Championships (Eugene, OR) *Track Newsletter (2018) - NCAA men's championships*

date	08-Jun-18	time		21.0		31.9		43.6	43.61	/ 1					
reaction time		interval				10.90		11.70	PB	# of strides		10.90	11.70	21.00	22.60	1.60
		velocity		9.52		9.17		8.55	9.17			9.17	8.55	9.52	8.85	

van Niekerk, Wayde (RSA) (1992)

FINAL - 2017 Athletissima (Lausanne, SUI) *Škraba (2017) - Wayde van Niekerk's 400m races in lausanne & monaco: splits & strides*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Jul-17	time		10.9		20.9		31.7		43.62	43.62	5 / 1							
reaction time		interval				10.00		10.80		11.92		# of strides	10.90	10.00	10.80	11.92	20.90	22.72	1.82
		velocity		9.17		10.00		9.26		8.39	9.17	162.1	9.17	10.00	9.26	8.39	9.57	8.80	

Kerley, Fred (USA) (1995)

FINAL - 2019 USATF National Championships (Des Moines, IA) *Track Newsletter (2019) - USATF championships men*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jul-19	time				21.1		32.0		43.6	43.64	/ 1							
reaction time		interval						10.90		11.60	PB	# of strides			10.90	11.60	21.10	22.50	1.40
		velocity				9.48		9.17		8.62	9.17				9.17	8.62	9.48	8.89	

Johnson, Michael (USA) (1967)

FINAL - 1993 IAAF World Championships (Stuttgart, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Aug-93	time		11.28		21.65		32.12		43.65	43.65	3 / 1							
reaction time		interval				10.37		10.47		11.53	CR PB	# of strides	11.28	10.37	10.47	11.53	21.65	22.00	0.35
		velocity		8.87		9.64		9.55		8.67	9.16	181.0	8.87	9.64	9.55	8.67	9.24	9.09	

Merritt, LaShawn (USA) (1986)

FINAL - 2015 IAAF World Championships (Beijing, CHN) *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-15	time	6.06	10.73	15.68	20.87	26.21	31.65	37.40	43.65	43.65	8 / 2							
reaction time	0.195	interval		4.67	4.95	5.19	5.34	5.44	5.75	6.25	PB	# of strides	10.73	10.14	10.78	12.00	20.87	22.78	1.91
		velocity	8.25	10.71	10.10	9.63	9.36	9.19	8.70	8.00	9.16	170.7	9.32	9.86	9.28	8.33	9.58	8.78	

Johnson, Michael (USA) (1967)

FINAL - 1995 USATF National Championships (Sacramento, CA) *Track Newsletter (1995) - USATF National Championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Jun-95	time		11.2		21.5		31.8		43.7	43.66	/ 1							
reaction time		interval				10.30		10.30		11.90		# of strides	11.20	10.30	10.30	11.90	21.50	22.20	0.70
		velocity		8.93		9.71		9.71		8.40	9.16		8.93	9.71	9.71	8.40	9.30	9.01	

Johnson, Michael (USA) (1967)

FINAL - 1996 Athletissima (Laussane, SUI) *ferrari (2009) - Split 100 metri uomini e donne (www.noivelocisti.net/forum?func=view&catid=9&id=1813)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Jul-96	time				21.9				43.66	43.66	/ 1							
reaction time		interval								21.76		# of strides					21.90	21.76	-0.14
		velocity				9.13				9.19	9.16						9.13	9.19	

Johnson, Michael (USA) (1967)

FINAL - 2000 USA Olympic Trials (Sacramento, CA) *Hymans (2008) - history of the US olympic trials - track and field*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Jul-00	time		11.4		21.6		32.2		43.7	43.68	7 / 1							
reaction time		interval				10.2		10.6		11.5		# of strides	11.40	10.20	10.60	11.50	21.60	22.10	0.50
		velocity		8.77		9.80		9.43		8.70	9.16		8.77	9.80	9.43	8.70	9.26	9.05	

Kerley, Fred (USA) (1995)

Quarter-Final 1 - 2017 NCAA Championships - West Preliminary (Austin, TX) *Vazel (2018) - historical analysis and coaching commentary - biomechanical report - London 2017 - Men's 400m*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.0		21.1		31.9		43.70	43.70	/ 1							
reaction time		interval				10.10		10.80		11.80	PB	# of strides	11.00	10.10	10.80	11.80	21.10	22.60	1.50
		velocity		9.09		9.90		9.26		8.47	9.15		9.09	9.90	9.26	8.47	9.48	8.85	

Allison, Champion (USA) (1998)

FINAL - 2022 USATF National Championships (Eugene, OR) *Track Newsletter (2022) - USATF championships men*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-22	time		11.08		21.16		32.18		43.70	43.70	/ 2							
reaction time		interval				10.08		11.02		11.52	PB	# of strides	11.08	10.08	11.02	11.52	21.16	22.54	1.38
		velocity		9.03		9.92		9.07		8.68	9.15		9.03	9.92	9.07	8.68	9.45	8.87	

Makwala, Isaac (BOT) (1986)

FINAL - 2015 Résisprint International (La Chaux-de-Fonds, SUI) *Vazel (2015) - van Niekerk and Merritt were on for the record at 300m*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Jul-15	time						31.5		43.73	43.72	/ 1							
reaction time		interval								12.2	AR / PB	# of strides				12.23			
		velocity						9.52		8.18	9.15					8.18			

van Niekerk, Wayde (RSA) (1992)

FINAL - 2017 Herculis Meeting International d'Athlétisme (Monaco, MON) *(2017.07.21) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-17	time		10.78		20.91		31.91		43.73	43.73	5 / 1							
reaction time		interval				10.13		11.00		11.82		# of strides	10.78	10.13	11.00	11.82	20.91	22.82	1.91
		velocity		9.28		9.87		9.09		8.46	9.15		9.28	9.87	9.09	8.46	9.56	8.76	

Merritt, LaShawn (USA) (1986)

FINAL - 2013 IAAF World Championships (Moscow, RUS) (2013) - www.trackandfieldnews.com/index.php?option=com_content&view=article&id=1698

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Aug-13	time		11.1		21.2		31.8		43.7	43.74	6 / 1							
reaction time	0.256	interval				10.1		10.6		11.9	PB	# of strides	11.10	10.10	10.60	11.90	21.20	22.50	1.30
		velocity		9.01		9.90		9.43		8.40	9.14		9.01	9.90	9.43	8.40	9.43	8.89	

Hudson-Smith, Matthew (GBR) (1994

FINAL - 2024 London Athletics Meet (London, GBR) *Omega Timing (2024) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-24	time	6.07	10.88	15.82	20.96	26.23	31.71	37.50	43.74	43.74	5 / 1							
reaction time	0.158	interval		4.81	4.94	5.14	5.27	5.48	5.79	6.24	AR	# of strides	10.88	10.08	10.75	12.03	20.96	22.78	1.82
		velocity	8.24	10.40	10.12	9.73	9.49	9.12	8.64	8.01	9.14	161.0	9.19	9.92	9.30	8.31	9.54	8.78	

Samukonga, Muzala (ZAM) (2002)

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-24	time	6.11	10.87	15.78	20.95	26.35	31.91	37.68	43.74	43.74	7 / 3							
reaction time	0.185	interval		4.76	4.91	5.17	5.40	5.56	5.77	6.06	NR PB	# of strides	10.87	10.08	10.96	11.83	20.95	22.79	1.84

		velocity	8.18	10.50	10.18	9.67	9.26	8.99	8.67	8.25	9.14	176.0	9.20	9.92	9.12	8.45	9.55	8.78	

Merritt, LaShawn (USA) (1986)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2008 Olympic Games (Beijing, CHN)																		*Vazel (2011) - speed reserve in the 400m*	
date	21-Aug-08	time		10.99		21.02		31.78		43.75	43.75	4 / 1							
reaction time	0.318	interval				10.03		10.76		11.97	**PB**	# of strides	10.99	10.03	10.76	11.97	21.02	22.73	1.71
		velocity		9.10		9.97		9.29		8.35	9.14	170.0	9.10	9.97	9.29	8.35	9.51	8.80	

James, Kirani (GRN) (1992)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)																		*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*	
date	14-Aug-16	time	6.03	10.78	15.58	20.61	25.79	31.27	37.20	43.76	43.76	6 / 2							
reaction time	0.134	interval		4.75	4.80	5.03	5.18	5.48	5.93	6.56		# of strides	10.78	9.83	10.66	12.49	20.61	23.15	2.54
		velocity	8.29	10.53	10.42	9.94	9.65	9.12	8.43	7.62	9.14	162.8	9.28	10.17	9.38	8.01	9.70	8.64	

James, Kirani (GRN) (1992)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2015 IAAF World Championships (Beijing, CHN)																		*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*	
date	26-Aug-15	time	6.21	10.99	15.90	21.00	26.26	31.73	37.50	43.78	43.78	5 / 3							
reaction time	0.152	interval		4.78	4.91	5.10	5.26	5.47	5.77	6.28		# of strides	10.99	10.01	10.73	12.05	21.00	22.78	1.78
		velocity	8.05	10.46	10.18	9.80	9.51	9.14	8.67	7.96	9.14	158.7	9.10	9.99	9.32	8.30	9.52	8.78	

Richards, Jereem (TTO) (1994)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2024 Olympic Games (Paris, FRA)																		*Paris 2024 Olympic Games - Results Book (2024)*	
date	07-Aug-24	time	6.02	10.69	15.43	20.46	25.82	31.42	37.32	43.78	43.78	9 / 4							
reaction time	0.144	interval		4.67	4.74	5.03	5.36	5.60	5.90	6.46	**NR PB**	# of strides	10.69	9.77	10.96	12.36	20.46	23.32	2.86
		velocity	8.31	10.71	10.55	9.94	9.33	8.93	8.47	7.74	9.14	172.5	9.35	10.24	9.12	8.09	9.78	8.58	

James, Kirani (GRN) (1992)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)																		*Paris 2024 Olympic Games - Results Book (2024)*	
date	06-Aug-24	time	6.00	10.84	15.77	20.84	26.13	31.79	37.67	43.78	43.78	8 / 1							
reaction time	0.147	interval		4.84	4.93	5.07	5.29	5.66	5.88	6.11		# of strides	10.84	10.00	10.95	11.99	20.84	22.94	2.10
		velocity	8.33	10.33	10.14	9.86	9.45	8.83	8.50	8.18	9.14	161.7	9.23	10.00	9.13	8.34	9.60	8.72	

Norman, Michael (USA) (1997)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2019 USATF National Championships (Des Moines, IA)																		*Track Newsletter (2019) - USATF championships men*	
date	27-Jul-19	time				21.1		32.2		43.8	43.79	/ 2							
reaction time		interval						11.10		11.60		# of strides			11.10	11.60	21.10	22.70	1.60
		velocity				9.48		9.01		8.62	9.13				9.01	8.62	9.48	8.81	

Hall, Quincy (USA) (1998)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)																		*Omega Timing (2024) - diamond league race analysis*	
date	12-Jul-24	time	6.26	11.14	16.09	21.19	26.59	32.15	37.83	43.80	43.80	5 / 1							
reaction time	0.185	interval		4.88	4.95	5.10	5.40	5.56	5.68	5.97	**PB**	# of strides	11.14	10.05	10.96	11.65	21.19	22.61	1.42
		velocity	7.99	10.25	10.10	9.80	9.26	8.99	8.80	8.38	9.13	158.0	8.98	9.95	9.12	8.58	9.44	8.85	

Samukonga, Muzala (ZAM) (2002)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)																		*Paris 2024 Olympic Games - Results Book (2024)*	
date	06-Aug-24	time	6.06	10.77	15.72	20.88	26.26	31.91	37.76	43.81	43.81	5 / 2							
reaction time	0.162	interval		4.71	4.95	5.16	5.38	5.65	5.85	6.05	**NR PB**	# of strides	10.77	10.11	11.03	11.90	20.88	22.93	2.05
		velocity	8.25	10.62	10.10	9.69	9.29	8.85	8.55	8.26	9.13	177.0	9.29	9.89	9.07	8.40	9.58	8.72	

Johnson, Michael (USA) (1967)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2000 Olympic Games (Sydney, AUS)																		*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*	
date	25-Sep-00	time		11.4		21.6		32.1		43.8	43.84	6 / 1							
reaction time		interval				10.20		10.50		11.70		# of strides	11.40	10.20	10.50	11.70	21.60	22.20	0.60
		velocity		8.77		9.80		9.52		8.55	9.12		8.77	9.80	9.52	8.55	9.26	9.01	

Makwala, Isaac (BOT) (1986)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2017 Herculis Meeting International d'Athlétisme (Monaco, MON)																		*(2017.07.21) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*	
date	21-Jul-17	time		11.02		21.29		31.95		43.84	43.84	6 / 2							
reaction time		interval				10.27		10.66		11.89		# of strides	11.02	10.27	10.66	11.89	21.29	22.55	1.26
		velocity		9.07		9.74		9.38		8.41	9.12		9.07	9.74	9.38	8.41	9.39	8.87	

Merritt, LaShawn (USA) (1986)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)																		*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*	
date	14-Aug-16	time	6.11	10.82	15.57	20.47	25.69	31.23	37.18	43.85	43.85	5 / 3							
reaction time	0.204	interval		4.71	4.75	4.90	5.22	5.54	5.95	6.67		# of strides	10.82	9.65	10.76	12.62	20.47	23.38	2.91
		velocity	8.18	10.62	10.53	10.20	9.58	9.03	8.40	7.50	9.12	171.9	9.24	10.36	9.29	7.92	9.77	8.55	

Gardiner, Steven (BAH) (1995)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2020 Olympic Games (Tokyo, JPN)																		*Omega Timing (2022) - Tokyo 2020 - race analysis - men's 400m final*	
date	05-Aug-21	time	6.33	11.15	15.96	21.00	26.30	31.83	37.62	43.85	43.85	7 / 1							
reaction time	0.179	interval		4.82	4.81	5.04	5.30	5.53	5.79	6.23		# of strides	11.15	9.85	10.83	12.02	21.00	22.85	1.85
		velocity	7.90	10.37	10.40	9.92	9.43	9.04	8.64	8.03	9.12	157.0	8.97	10.15	9.23	8.32	9.52	8.75	

Evans, Lee (USA) (1947)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1968 Olympic Games (Mexico City, MEX) (*Altitude*)																		*Track & Field News (1979) - olympic track & field: complete results*	
date	18-Oct-68	time		10.7		21.1		32.2		43.8	43.86	6 / 1							
reaction time		interval				10.40		11.10		11.60	**WR**	# of strides	10.70	10.40	11.10	11.60	21.10	22.70	1.60
		velocity		9.35		9.62		9.01		8.62	9.12	168.0	9.35	9.62	9.01	8.62	9.48	8.81	

Lewis, Steve (USA) (1969)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1988 Olympic Games (Seoul, KOR)																		*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*	
date	28-Sep-88	time		11.26		21.41		32.13		43.87	43.87	6 / 1							
reaction time	0.181	interval				10.15		10.72		11.74	**WJR**	# of strides	11.26	10.15	10.72	11.74	21.41	22.46	1.05
		velocity		8.88		9.85		9.33		8.52	9.12		8.88	9.85	9.33	8.52	9.34	8.90	

James, Kirani (GRN) (1992)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**

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

date	07-Aug-24	time	5.96	10.75	15.61	20.63	25.90	31.50	37.46	43.87	43.87	5 / 5						
reaction time	0.147	interval		4.79	4.86	5.02	5.27	5.60	5.96	6.41		# of strides	10.75	9.88	10.87	12.37	20.63	23.24	2.61
		velocity	8.39	10.44	10.29	9.96	9.49	8.93	8.39	7.80	9.12	162.5	9.30	10.12	9.20	8.08	9.69	8.61	

Johnson, Michael (USA) (1967)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1995 Weltklasse (Zurich, SUI)																	*Track Newsletter (1995) - major international meets - zurich GP*
date 16-Aug-95	time		11.0		21.0		32.2		43.9	43.88	/ 1							
reaction time	interval				10.00		11.20		11.70		# of strides	11.00	10.00	11.20	11.70	21.00	22.90	1.90
	velocity		9.09		10.00		8.93		8.55	9.12		9.09	10.00	8.93	8.55	9.52	8.73	

Gardiner, Steven (BAH) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)																	*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*
date 06-Aug-17	time		10.74		20.59		31.47	37.43	43.70	43.89	5 / 1							
reaction time 0.186	interval				9.85		10.88	5.96	6.27	NR	# of strides	10.74	9.85	10.88	12.23	20.59	23.11	2.52
	velocity		9.31		10.15		9.19	8.39	7.97	9.11	160.7	9.31	10.15	9.19	8.18	9.71	8.65	

Reynolds, Harry (Butch) (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 USA Olympic Trials (Atlanta, GA)																	*USATF Women's Sprint Development (1996)*
date 19-Jun-96	time		11.12		21.36		32.12	37.79	43.91	43.91	4 / 2							
reaction time	interval				10.24		10.76	5.67	6.12		# of strides	11.12	10.24	10.76	11.79	21.36	22.55	1.19
	velocity		8.99		9.77		9.29	8.82	8.17	9.11		8.99	9.77	9.29	8.48	9.36	8.87	

Johnson, Michael (USA) (1967)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 Prefontaine Classic (Eugene, OR)																	*Track Newsletter (2000) - US invitationals- eugene GP*
date 24-Jun-00	time				21.5		32.0		43.9	43.92	/ 1							
reaction time	interval						10.50		11.90		# of strides			10.50	11.90	21.50	22.40	0.90
	velocity				9.30		9.52		8.40	9.11				9.52	8.40	9.30	8.93	

Reynolds, Harry (Butch) (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1988 USA Olympic Trials (Indianapolis, IN)																	*Hymans (2008) - history of the US olympic trials - track and field*
date 20-Jul-88	time		10.6		21.2		32.0		43.93	43.93	6 / 1							
reaction time	interval				10.6		10.8		11.9	PB	# of strides	10.60	10.60	10.80	11.93	21.20	22.73	1.53
	velocity		9.43		9.43		9.26		8.38	9.11		9.43	9.43	9.26	8.38	9.43	8.80	

Reynolds, Harry (Butch) (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1988 Olympic Games (Seoul, KOR)																	*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*
date 28-Sep-88	time		11.29		21.68		32.58		43.93	43.93	3 / 2							
reaction time 0.160	interval				10.39		10.90		11.35		# of strides	11.29	10.39	10.90	11.35	21.68	22.25	0.57
	velocity		8.86		9.62		9.17		8.81	9.11		8.86	9.62	9.17	8.81	9.23	8.99	

Wariner, Jeremy (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 IAAF World Championships (Helsinki, FIN)																	*ferrari (2009) - Split 100 metri uomini e donne (www.noivelocisti.net/forum?func=view&catid=9&id=1813)*
date 12-Aug-05	time		10.7		21.0		31.8		43.93	43.93	3 / 1							
reaction time 0.150	interval				10.3		10.8		12.1	PB	# of strides	10.70	10.30	10.80	12.13	21.00	22.93	1.93
	velocity		9.35		9.71		9.26		8.24	9.11	171.0	9.35	9.71	9.26	8.24	9.52	8.72	

James, Kirani (GRN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Olympic Games (London, GBR)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 06-Aug-12	time		11.1		21.3		32.0		43.9	43.94	5 / 1							
reaction time 0.163	interval						10.70		11.90	AR	# of strides	11.10	10.20	10.70	11.90	21.30	22.60	1.30
	velocity		9.01		9.39		9.35		8.40	9.10	157.7	9.01	9.80	9.35	8.40	9.39	8.85	

Bloomfield, Akeem (JAM) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 NCAA Championships (Eugene, OR)																	*Track Newsletter (2018) - NCAA men's championships*
date 08-Jun-18	time				20.9		31.8		43.9	43.94	/ 2							
reaction time	interval						10.90		12.10	PB	# of strides			10.90	12.10	20.90	23.00	2.10
	velocity				9.57		9.17		8.26	9.10				9.17	8.26	9.57	8.70	

Hall, Quincy (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 06-Aug-24	time	6.21	11.10	16.00	21.05	26.34	31.92	37.75	43.95	43.95	5 / 1							
reaction time 0.179	interval		4.89	4.90	5.05	5.29	5.58	5.83	6.20		# of strides	11.10	9.95	10.87	12.03	21.05	22.90	1.85
	velocity	8.05	10.22	10.20	9.90	9.45	8.96	8.58	8.06	9.10	159.5	9.01	10.05	9.20	8.31	9.50	8.73	

Merritt, LaShawn (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Championships (Osaka, JPN)																	*Mochida (2008) - biomechancial analysis of the 400m final race at ehe 2007 world championships in athletics*
date 31-Aug-07	time	6.01	10.76	15.63	20.90	26.31	31.72	37.45	43.96	43.96	5 / 2							
reaction time 0.180	interval		4.75	4.87	5.27	5.41	5.41	5.73	6.51	PB	# of strides	10.76	10.14	10.82	12.24	20.90	23.06	2.16
	velocity	8.32	10.53	10.27	9.49	9.24	9.24	8.73	7.68	9.10	168.0	9.29	9.86	9.24	8.17	9.57	8.67	

Hudson-Smith, Matthew (GBR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Athletissima (Lausanne, SUI)																	*Omega Timing (2024) - diamond league race analysis*
date 22-Aug-24	time	6.11	11.01	16.01	21.18	26.49	32.02	37.83	43.96	43.96	5 / 1							
reaction time 0.143	interval		4.90	5.00	5.17	5.31	5.53	5.81	6.13		# of strides	11.01	10.17	10.84	11.94	21.18	22.78	1.60
	velocity	8.18	10.20	10.00	9.67	9.42	9.04	8.61	8.16	9.10	160.0	9.08	9.83	9.23	8.38	9.44	8.78	

James, Larry (USA) (1947)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1968 Olympic Games (Mexico City, MEX) (*Altitude*)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 18-Oct-68	time				21.5		32.6		43.9	43.97	2 / 2							
reaction time	interval						11.10		11.30	PB	# of strides			11.10	11.30	21.50	22.40	0.90
	velocity				9.30		9.01		8.85	9.10				9.01	8.85	9.30	8.93	

Merritt, LaShawn (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 USA Olympic Trials (Eugene, OR)																	*Track Newsletter (2016) - US olympic trials men*
date 03-Jul-16	time		10.9		21.2		32.1		44.0	43.97	5 / 1							
reaction time 0.210	interval				10.30		10.90		11.90		# of strides	10.90	10.30	10.90	11.90	21.20	22.80	1.60

		velocity		9.17		9.71		9.17		8.40	9.10		9.17	9.71	9.17	8.40	9.43	8.77

Everett, Danny (USA) (1966)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1988 USA Olympic Trials (Indianapolis, IN)																	
date 20-Jul-88 time		11.1		21.3		32.0		43.98	43.98	4 / 2							
reaction time interval				10.2		10.7		12.0	PB	# of strides	11.10	10.20	10.70	11.98	21.30	22.68	1.38
velocity		9.01		9.80		9.35		8.35	9.10		9.01	9.80	9.35	8.35	9.39	8.82	

Hymans (2008) - history of the US olympic trials - track and field

van Niekerk, Wayde (RSA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 IAAF World Championships (London, GBR)																	
date 08-Aug-17 time	6.02	10.81	15.67	20.80	26.15	31.64	37.46	43.98	43.98	6 / 1							
reaction time 0.157 interval		4.79	4.86	5.13	5.35	5.49	5.82	6.52		# of strides	10.81	9.99	10.84	12.34	20.80	23.18	2.38
velocity	8.31	10.44	10.29	9.75	9.35	9.11	8.59	7.67	9.10	163.1	9.25	10.01	9.23	8.10	9.62	8.63	

Yamanaka (2017) - male and female 400m analysis in the 2017 season

Patterson, Jacory (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Miami (Miramar, FL)																	
date 03-May-25 time		11.19		21.55		32.38		43.98	43.98	8 / 1							
reaction time 0.200 interval				10.36		10.83		11.60	PB	# of strides	11.19	10.36	10.83	11.60	21.55	22.43	0.88
velocity		8.94		9.65		9.23		8.62	9.10		8.94	9.65	9.23	8.62	9.28	8.92	

Grand Slam Track (2025) - results and splits by race

Samukonga, Muzala (ZAM) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Golden Gala Pietro Mennea (Roma, ITA)																	
date 30-Aug-24 time	6.10	10.83	15.90	21.22	26.74	32.39	38.12	43.99	43.99	4 / 1							
reaction time 0.183 interval		4.73	5.07	5.32	5.52	5.65	5.73	5.87		# of strides	10.83	10.39	11.17	11.60	21.22	22.77	1.55
velocity	8.20	10.57	9.86	9.40	9.06	8.85	8.73	8.52	9.09	173.0	9.23	9.62	8.95	8.62	9.43	8.78	

Omega Timing (2024) - diamond league race analysis

Wariner, Jeremy (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2004 Olympic Games (Athens, GRE)																	
date 23-Aug-04 time				21.5		32.2		44.0	44.00	4 / 1							
reaction time 0.268 interval						10.7		11.8	PB	# of strides			10.70	11.80	21.50	22.50	1.00
velocity				9.30		9.35		8.47	9.09				9.35	8.47	9.30	8.89	

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

Merritt, LaShawn (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FiNAL - 2008 USA Olympic Trials (Eugene, OR)																	
date 03-Jul-08 time		10.98	15.58	21.45	26.75	32.32	37.95	44.00	44.00	6 / 1							
reaction time interval			4.60	5.87	5.30	5.57	5.63	6.05		# of strides	10.98	10.47	10.87	11.68	21.45	22.55	1.10
velocity		9.11	10.87	8.52	9.43	8.98	8.88	8.26	9.09		9.11	9.55	9.20	8.56	9.32	8.87	

USATF Women's Sprint Development with HPC (2008)

Cedenio, Machel (TTO) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)																	
date 14-Aug-16 time	6.08	10.87	15.80	20.86	26.18	31.88	37.70	44.01	44.01	3 / 4							
reaction time 0.203 interval		4.79	4.93	5.06	5.32	5.70	5.82	6.31	NR	# of strides	10.87	9.99	11.02	12.13	20.86	23.15	2.29
velocity	8.22	10.44	10.14	9.88	9.40	8.77	8.59	7.92	9.09	161.5	9.20	10.01	9.07	8.24	9.59	8.64	

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

Wariner, Jeremy (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 IAAF World Athletics Final (Stuttgart, GER) *(TV Analysis)*																	
date 09-Sep-06 time		10.86		21.06		32.13		44.02	44.02	5 / 1							
reaction time 0.185 interval				10.20		11.07		11.89	CR	# of strides	10.86	10.20	11.07	11.89	21.06	22.96	1.90
velocity		9.21		9.80		9.03		8.41	9.09		9.21	9.80	9.03	8.41	9.50	8.71	

Graubner (2009) - http://www.fgs.uni-halle.de

James, Kirani (GRN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2016 Olympic Games (Rio de Janeiro, BRA)																	
date 13-Aug-16 time		10.85		21.02		31.97		44.02	44.02	4 / 1							
reaction time 0.144 interval				10.17		10.95		12.05		# of strides	10.85	10.17	10.95	12.05	21.02	23.00	1.98
velocity		9.22		9.83		9.13		8.30	9.09		9.22	9.83	9.13	8.30	9.51	8.70	

(2016.08.15) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en

Thebe, Baboloki (BOT) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Athletissima (Lausanne, SUI)																	
date 06-Jul-17 time		10.9		21.1		32.0		44.02	44.02	3 / 2							
reaction time interval				10.20		10.90		12.02	PB	# of strides	10.90	10.20	10.90	12.02	21.10	22.92	1.82
velocity		9.17		9.80		9.17		8.32	9.09	173.7	9.17	9.80	9.17	8.32	9.48	8.73	

Vazel (2018) - historical analysis and coaching commentary - biomechanical report - London 2017 - Men's 400m

James, Kirani (GRN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Prefontaine Classic (Eugene, OR)																	
date 28-May-22 time	6.09	10.95	16.00	21.24	26.62	32.17	37.89	44.02	44.02	5 / 2							
reaction time 0.145 interval		4.86	5.05	5.24	5.38	5.55	5.72	6.13		# of strides	10.95	10.29	10.93	11.85	21.24	22.78	1.54
velocity	8.21	10.29	9.90	9.54	9.29	9.01	8.74	8.16	9.09	161.0	9.13	9.72	9.15	8.44	9.42	8.78	

Omega Timing (2022) - diamond league race analysis

Kerley, Fred (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 USATF National Championships (Sacramento, CA)																	
date 24-Jun-17 time		11.27		21.18		32.02		44.03	44.03	4 / 1							
reaction time interval				9.91		10.84		12.01		# of strides	11.27	9.91	10.84	12.01	21.18	22.85	1.67
velocity		8.87		10.09		9.23		8.33	9.08		8.87	10.09	9.23	8.33	9.44	8.75	

Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/

Cherry, Michael (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Memorial van Damme (Brussels, BEL)																	
date 03-Sep-21 time	6.1	11.1	16.2	21.3	26.7	32.2	37.9	44.03	44.03	5 / 1							
reaction time 0.202 interval		5.00	5.10	5.10	5.40	5.50	5.70	6.13	PB	# of strides	11.10	10.20	10.90	11.83	21.30	22.73	1.43
velocity	8.20	10.00	9.80	9.80	9.26	9.09	8.77	8.16	9.08	158.5	9.01	9.80	9.17	8.45	9.39	8.80	

Omega Timing (2021) - diamond league race analysis

Taylor, Angelo (USA) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 USATF National Championships (Indianapolis, IN)																	
date 23-Jun-07 time				20.8		31.9		44.1	44.05	/ 1							
reaction time interval						11.10		12.20	PB	# of strides			11.10	12.20	20.80	23.30	2.50
velocity				9.62		9.01		8.20	9.08				9.01	8.20	9.62	8.58	

Track Newsletter (2007) - USATF men's championships

Wariner, Jeremy (USA) (1984) 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2007 ISTAF (Berlin, GER) *(TV Analysis)* — *Graubner (2009) - http://www.fgs.uni-halle.de*

date	16-Sep-07	time	11.18		21.54		32.38		44.05	44.05	4 / 1						
reaction time	0.283	interval			10.36		10.84		11.67		# of strides	11.18	10.36	10.84	11.67	21.54	22.51	0.97
		velocity	8.94		9.65		9.23		8.57	9.08	170.0	8.94	9.65	9.23	8.57	9.29	8.88	

Merritt, LaShawn (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 USATF National Championships (Indianapolis, IN)																	*Track Newsletter (2007) - USATF men's championships*
date	23-Jun-07	time			20.7		31.8		44.1	44.06	/ 2						
reaction time		interval					11.10		12.30	PB	# of strides			11.10	12.30	20.70	23.40	2.70
		velocity			9.66		9.01		8.13	9.08				9.01	8.13	9.66	8.55	

Merritt, LaShawn (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 IAAF World Championships (Berlin, GER)											Graubner (2011) - biomechanical analysis of the sprint and hurdle events at the 2009 IAAF world championships in athletics						
date	21-Aug-09	time	6.08	11.14	16.25	21.49	26.89	32.30	37.98	44.06	44.06	4 / 1						
reaction time	0.161	interval		5.06	5.11	5.24	5.40	5.41	5.68	6.08		# of strides	11.14	10.35	10.81	11.76	21.49	22.57	1.08
		velocity	8.22	9.88	9.78	9.54	9.26	9.24	8.80	8.22	9.08		8.98	9.66	9.25	8.50	9.31	8.86	

Samukonga, Muzala (ZAM) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Athletissima (Lausanne, SUI)																	*Omega Timing (2024) - diamond league race analysis*
date	22-Aug-24	time	6.17	11.00	16.03	21.33	26.77	32.41	38.08	44.06	44.06	6 / 2						
reaction time	0.207	interval		4.83	5.03	5.30	5.44	5.64	5.67	5.98		# of strides	11.00	10.33	11.08	11.65	21.33	22.73	1.40
		velocity	8.10	10.35	9.94	9.43	9.19	8.87	8.82	8.36	9.08	175.0	9.09	9.68	9.03	8.58	9.38	8.80	

Haroun, Abdalelah (QAT) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Müller Anniversary Games (London, GBR)																	*Omega Timing (2018) - diamond league race analysis*
date	21-Jul-18	time		11.3		21.5		32.5		44.07	44.07	4 / 1						
reaction time	0.189	interval				10.2		11.0		11.6	NR	# of strides	11.30	10.20	11.00	11.57	21.50	22.57	1.07
		velocity		8.85		9.80		9.09		8.64	9.08	166.7	8.85	9.80	9.09	8.64	9.30	8.86	

Hudson-Smith, Matthew (GBR) (1994

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bislett Games (Oslo, NOR)																	*Omega Timing (2024) - diamond league race analysis*
date	30-May-24	time	6.10	10.96	15.88	21.03	26.31	31.91	37.80	44.07	44.07	5 / 1						
reaction time	0.146	interval		4.86	4.92	5.15	5.28	5.60	5.89	6.27	AR	# of strides	10.96	10.07	10.88	12.16	21.03	23.04	2.01
		velocity	8.20	10.29	10.16	9.71	9.47	8.93	8.49	7.97	9.08	160.0	9.12	9.93	9.19	8.22	9.51	8.68	

Hudson-Smith, Matthew (GBR) (1994

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date	06-Aug-24	time	5.97	10.71	15.53	20.56	25.85	31.44	37.41	44.07	44.07	7 / 1						
reaction time	0.148	interval		4.74	4.82	5.03	5.29	5.59	5.97	6.66		# of strides	10.71	9.85	10.88	12.63	20.56	23.51	2.95
		velocity	8.38	10.55	10.37	9.94	9.45	8.94	8.38	7.51	9.08	161.0	9.34	10.15	9.19	7.92	9.73	8.51	

Zambrano, Anthony (COL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Olympic Games (Tokyo, JPN)																	*Omega Timing (2022) - Tokyo 2020 - race analysis - men's 400m final*
date	05-Aug-21	time	6.12	11.08	16.06	21.21	26.52	32.07	37.86	44.08	44.08	5 / 2						
reaction time	0.166	interval		4.96	4.98	5.15	5.31	5.55	5.79	6.22		# of strides	11.08	10.13	10.86	12.01	21.21	22.87	1.66
		velocity	8.17	10.08	10.04	9.71	9.42	9.01	8.64	8.04	9.07	182.7	9.03	9.87	9.21	8.33	9.43	8.75	

van Niekerk, Wayde (RSA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Kamila Skolimowska Memorial (Silesia, POL)																	*Omega Timing (2023) - diamond league race analysis*
date	16-Jul-23	time	6.11	11.00	16.01	21.21	26.68	32.28	37.95	44.08	44.08	5 / 1						
reaction time	0.241	interval		4.89	5.01	5.20	5.47	5.60	5.67	6.13		# of strides	11.00	10.21	11.07	11.80	21.21	22.87	1.66
		velocity	8.18	10.22	9.98	9.62	9.14	8.93	8.82	8.16	9.07	164.0	9.09	9.79	9.03	8.47	9.43	8.75	

Everett, Danny (USA) (1966)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1988 Olympic Games (Seoul, KOR)																	*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*
date	28-Sep-88	time		11.03		21.37		32.18		44.09	44.09	4 / 3						
reaction time	0.205	interval				10.34		10.81		11.91		# of strides	11.03	10.34	10.81	11.91	21.37	22.72	1.35
		velocity		9.07		9.67		9.25		8.40	9.07		9.07	9.67	9.25	8.40	9.36	8.80	

Harrison, Alvin (USA) (1974)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 USA Olympic Trials (Atlanta, GA)																	*USATF Women's Sprint Development (1996)*
date	19-Jun-96	time		11.44		21.77		32.24	37.80	44.09	44.09	6 / 3						
reaction time		interval				10.33		10.47	5.56	6.29	PB	# of strides	11.44	10.33	10.47	11.85	21.77	22.32	0.55
		velocity		8.74		9.68		9.55	8.99	7.95	9.07		8.74	9.68	9.55	8.44	9.19	8.96	

Young, Jerome (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1998 USATF National Championship (New Orleans, LA)																	*Track Newsletter (1998) - USATF National Championships*
date	21-Jun-98	time				21.4		32.4		44.1	44.09	/ 1						
reaction time		interval						11.00		11.70	PB	# of strides			11.00	11.70	21.40	22.70	1.30
		velocity				9.35		9.09		8.55	9.07				9.09	8.55	9.35	8.81	

Kikaya, Gary (COD) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 IAAF World Athletics Final (Stuttgart, GER) *(TV Analysis)*																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date	09-Sep-06	time		11.07		21.22		32.24		44.10	44.10	4 / 2						
reaction time	0.163	interval				10.15		11.02		11.86	AR	# of strides	11.07	10.15	11.02	11.86	21.22	22.88	1.66
		velocity		9.03		9.85		9.07		8.43	9.07		9.03	9.85	9.07	8.43	9.43	8.74	

Kerley, Fred (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 NCAA Championships (Eugene, OR)																	*Track Newsletter (2017) - NCAA men's championships*
date	09-Jun-17	time				21.4		32.1		44.1	44.10	4 / 1						
reaction time		interval						10.70		12.00		# of strides			10.70	12.00	21.40	22.70	1.30
		velocity				9.35		9.35		8.33	9.07	170.2			9.35	8.33	9.35	8.81	

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 London Athletics Meet (London, GBR)																	*Omega Timing (2024) - diamond league race analysis*
date	20-Jul-24	time	6.17	11.09	16.11	21.31	26.67	32.18	37.89	44.10	44.10	4 / 2						
reaction time	0.168	interval		4.92	5.02	5.20	5.36	5.51	5.71	6.21	PB	# of strides	11.09	10.22	10.87	11.92	21.31	22.79	1.48

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	8.10	10.16	9.96	9.62	9.33	9.07	8.76	8.05	9.07		9.02	9.78	9.20	8.39	9.39	8.78	

Norman, Michael (USA) (1997)
Heat 2 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-24	time	6.11	11.16	16.17	21.37	26.66	32.18	37.97	44.10	44.10	6 / 1							
reaction time	0.161	interval		5.05	5.01	5.20	5.29	5.52	5.79	6.13		# of strides	11.16	10.21	10.81	11.92	21.37	22.73	1.36
		velocity	8.18	9.90	9.98	9.62	9.45	9.06	8.64	8.16	9.07	171.0	8.96	9.79	9.25	8.39	9.36	8.80	

Lewis, Steve (USA) (1969)
Semi-Final 2 - 1988 USA Olympic Trials (Indianapolis, IN) — *Quercentani (2000) - athletics: a history of modern track and field athletics (1860-2000)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Jul-88	time				20.8				44.11	44.11	/ 1							
reaction time		interval								23.3	WJR	# of strides				44.11	20.80	23.31	2.51
		velocity				9.62				8.58	9.07					2.27	9.62	8.58	

Makwala, Isaac (BOT) (1986)
Semi-Final 2 - 2015 IAAF World Championships (Beijing, CHN) — *Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Aug-15	time	5.98	10.79	15.68	20.83	26.19	31.63	37.51	44.11	44.11	9 / 1							
reaction time	0.212	interval		4.81	4.89	5.15	5.36	5.44	5.88	6.60		# of strides	10.79	10.04	10.80	12.48	20.83	23.28	2.45
		velocity	8.36	10.40	10.22	9.71	9.33	9.19	8.50	7.58	9.07	179.0	9.27	9.96	9.26	8.01	9.60	8.59	

Santos, Luguelin (DOM) (1993)
FINAL - 2015 IAAF World Championships (Beijing, CHN) — *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-15	time	6.36	11.23	16.23	21.32	26.56	32.05	37.89	44.11	44.11	7 / 4							
reaction time	0.188	interval		4.87	5.00	5.09	5.24	5.49	5.84	6.22	NR	# of strides	11.23	10.09	10.73	12.06	21.32	22.79	1.47
		velocity	7.86	10.27	10.00	9.82	9.54	9.11	8.56	8.04	9.07	187.2	8.90	9.91	9.32	8.29	9.38	8.78	

Norman, Michael (USA) (1997)
FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL) — *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-22	time	5.96	10.89	15.92	21.20	26.64	32.23	38.01	44.11	44.11	5 / 1							
reaction time	0.145	interval		4.93	5.03	5.28	5.44	5.59	5.78	6.10		# of strides	10.89	10.31	11.03	11.88	21.20	22.91	1.71
		velocity	8.39	10.14	9.94	9.47	9.19	8.94	8.65	8.20	9.07	172.7	9.18	9.70	9.07	8.42	9.43	8.73	

Johnson, Michael (USA) (1967)
FINAL - 1997 IAAF World Championships (Athens, GRE) — *Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-97	time	6.01	10.99	16.19	21.47	26.75	32.15	37.81	43.95	44.12	4 / 1							
reaction time	0.167	interval		4.98	5.20	5.28	5.28	5.40	5.66	6.14		# of strides	10.99	10.48	10.68	11.80	21.47	22.48	1.01
		velocity	8.32	10.04	9.62	9.47	9.47	9.26	8.83	8.14	9.07		9.10	9.54	9.36	8.47	9.32	8.90	

Merritt, LaShawn (USA) (1986)
FINAL - 2012 USA Olympic Trials (Eugene, OR) — *Hymans (2020) - history of the US olympic trials - track and field*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-12	time				21.8		32.4		44.12	44.12	6 / 1							
reaction time	0.264	interval						10.60		11.72		# of strides			10.60	11.72	21.80	22.32	0.52
		velocity				9.17		9.43		8.53	9.07				9.43	8.53	9.17	8.96	

Reynolds, Harry (Butch) (USA) (1964)
FINAL - 1987 NCAA Championships (Baton Rouge, LA) — *Track Newsletter (1987) - NCAA Championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Jun-87	time				21.9				44.2	44.13	5 / 1							
reaction time		interval								22.30		# of strides					21.90	22.30	0.40
		velocity				9.13				8.97	9.06						9.13	8.97	

Reynolds, Harry (Butch) (USA) (1964)
FINAL - 1993 IAAF World Championships (Stuttgart, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Aug-93	time		11.18		21.39		32.22		44.13	44.13	7 / 2							
reaction time		interval				10.21		10.83		11.91		# of strides	11.18	10.21	10.83	11.91	21.39	22.74	1.35
		velocity		8.94		9.79		9.23		8.40	9.06	164.0	8.94	9.79	9.23	8.40	9.35	8.80	

Allen, Nathon (JAM) (1995)
FINAL - 2018 NCAA Championships (Eugene, OR) — *Track Newsletter (2018) - NCAA men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jun-18	time				21.1		31.9		44.1	44.13	/ 3							
reaction time		interval						10.80		12.20	PB	# of strides			10.80	12.20	21.10	23.00	1.90
		velocity				9.48		9.26		8.20	9.06				9.26	8.20	9.48	8.70	

Gardiner, Steven (BAH) (1995)
Semi-Final 2 - 2019 IAAF World Championships (Doha, QAT) — *Yamanaka (2019) - race analysis of men and women 400m competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Oct-19	time	6.09	10.98	15.91	21.09	26.40	32.00	37.88	44.13	44.13	6 / 1							
reaction time	0.154	interval		4.89	4.93	5.18	5.31	5.60	5.88	6.25		# of strides	10.98	10.11	10.91	12.13	21.09	23.04	1.95
		velocity	8.21	10.22	10.14	9.65	9.42	8.93	8.50	8.00	9.06	157.5	9.11	9.89	9.17	8.24	9.48	8.68	

Ross, Randolph (USA) (2001)
FINAL - 2022 NCAA Championships (Eugene, OR) — *Track Newsletter (2022) - NCAA championships men*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Jun-22	time				21.0		31.9		44.1	44.13	/ 1							
reaction time		interval						10.90		12.20		# of strides			10.90	12.20	21.00	23.10	2.10
		velocity				9.52		9.17		8.20	9.06				9.17	8.20	9.52	8.66	

Watson, Antonio (JAM) (2001)
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN) — *Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-23	time	6.16	11.00	15.89	20.97	26.33	31.96	37.87	44.13	44.13	5 / 1							
reaction time	0.158	interval		4.84	4.89	5.08	5.36	5.63	5.91	6.26	PB	# of strides	11.00	9.97	10.99	12.17	20.97	23.16	2.19
		velocity	8.12	10.33	10.22	9.84	9.33	8.88	8.46	7.99	9.06	169.5	9.09	10.03	9.10	8.22	9.54	8.64	

Evans, Lee (USA) (1947)
FINAL - 1968 USA Olympic Trials (Echo Summit, CA) (*Altitude*) — *Hymans (2008) - history of the US olympic trials - track and field*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Sep-68	time				21.2				44.0	44.0	6 / 1							
reaction time		interval								22.8	~~WR~~	# of strides	*illegal spikes*				21.20	22.80	1.60
		velocity				9.43				8.77	9.09	*(44.06)*					9.43	8.77	

Merritt, LaShawn (USA) (1986)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2006 IAAF World Athletics Final (Stuttgart, GER) *(TV Analysis)* — *Graubner (2009) - http://www.fgs.uni-halle.de*

date	09-Sep-06	time		11.00		21.25		32.26		44.14	44.14	6 / 3						
reaction time	0.188	interval				10.25		11.01		11.88	PB	# of strides	11.00	10.25	11.01	11.88	21.25	22.89	1.64
		velocity		9.09		9.76		9.08		8.42	9.06		9.09	9.76	9.08	8.42	9.41	8.74	

Zambrano, Anthony (COL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 IAAF World Championships (Doha, QAT)																	
Yamanaka (2019) - race analysis of men and women 400m competition																	
date 04-Oct-19	time	6.08	10.98	15.98	21.13	26.54	32.10	37.91	44.15	44.15	8 / 2							
reaction time 0.182	interval		4.90	5.00	5.15	5.41	5.56	5.81	6.24	AR PB	# of strides	10.98	10.15	10.97	12.05	21.13	23.02	1.89
	velocity	8.22	10.20	10.00	9.71	9.24	8.99	8.61	8.01	9.06	174.7	9.11	9.85	9.12	8.30	9.47	8.69	

Harris, Otis (USA) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2004 Olympic Games (Athens, GRE)																	
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016																	
date 23-Aug-04	time				21.4		32.1		44.2	44.16	5 / 2							
reaction time 0.259	interval						10.7		12.1	PB	# of strides			10.70	12.10	21.40	22.80	1.40
	velocity				9.35		9.35		8.26	9.06				9.35	8.26	9.35	8.77	

James, Kirani (GRN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2015 IAAF World Championships (Beijing, CHN)																	
Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims																	
date 24-Aug-15	time	6.18	11.04	16.03	21.21	26.60	32.18	38.00	44.16	44.16	7 / 1							
reaction time 0.143	interval		4.86	4.99	5.18	5.39	5.58	5.82	6.16		# of strides	11.04	10.17	10.97	11.98	21.21	22.95	1.74
	velocity	8.09	10.29	10.02	9.65	9.28	8.96	8.59	8.12	9.06	158.0	9.06	9.83	9.12	8.35	9.43	8.71	

Kerley, Fred (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 IAAF World Championships (Doha, QAT)																	
Yamanaka (2019) - race analysis of men and women 400m competition																	
date 04-Oct-19	time	6.03	10.87	15.78	20.87	26.16	31.79	37.74	44.17	44.17	5 / 3							
reaction time 0.144	interval		4.84	4.91	5.09	5.29	5.63	5.95	6.43		# of strides	10.87	10.00	10.92	12.38	20.87	23.30	2.43
	velocity	8.29	10.33	10.18	9.82	9.45	8.88	8.40	7.78	9.06	170.0	9.20	10.00	9.16	8.08	9.58	8.58	

Ross, Randolph (USA) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 USATF National Championships (Eugene, OR)																	
Track Newsletter (2022) - USATF championships men																	
date 25-Jun-22	time		10.94		21.29		32.29		44.17	44.17	/ ~~3~~							
reaction time	interval				10.35		11.00		11.88	DV	# of strides	10.94	10.35	11.00	11.88	21.29	22.88	1.59
	velocity		9.14		9.66		9.09		8.42	9.06		9.14	9.66	9.09	8.42	9.39	8.74	

Hall, Quincy (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 USA Olympic Trials (Eugene, OR)																	
USATF and Karmarush (2024) - USA Olympic trials results and race analysis																	
date 24-Jun-24	time		11.25		21.52		32.59		44.17	44.17	8 / 1							
reaction time	interval				10.27		11.07		11.58	PB	# of strides	11.25	10.27	11.07	11.58	21.52	22.65	1.13
	velocity		8.89		9.74		9.03		8.64	9.06		8.89	9.74	9.03	8.64	9.29	8.83	

Bailey, Chris (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)																	
Omega Timing (2025) - diamond league race analysis																	
date 03-May-25	time	6.29	11.39	16.61	21.92	27.16	32.60	38.22	44.17	44.17	7 / 1							
reaction time 0.158	interval		5.10	5.22	5.31	5.24	5.44	5.62	5.95	PB	# of strides	11.39	10.53	10.68	11.57	21.92	22.25	0.33
	velocity	7.95	9.80	9.58	9.42	9.54	9.19	8.90	8.40	9.06	178.5	8.78	9.50	9.36	8.64	9.12	8.99	

Richards, Jereem (TTO) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 London Athletics Meet (London, GBR)																	
Omega Timing (2024) - diamond league race analysis																	
date 20-Jul-24	time	6.12	10.91	15.87	21.08	26.48	32.02	37.82	44.18	44.18	8 / 3							
reaction time 0.182	interval		4.79	4.96	5.21	5.40	5.54	5.80	6.36	PB	# of strides	10.91	10.17	10.94	12.16	21.08	23.10	2.02
	velocity	8.17	10.44	10.08	9.60	9.26	9.03	8.62	7.86	9.05		9.17	9.83	9.14	8.22	9.49	8.66	

Allen, Nathon (JAM) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)																	
Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m																	
date 06-Aug-17	time			10.84		20.85		31.83	37.66	44.04	44.19	6 / 2						
reaction time 0.161	interval					10.01		10.98	5.83	6.38	PB	# of strides	10.84	10.01	10.98	12.21	20.85	23.19	2.34
	velocity			9.23		9.99		9.11	8.58	7.84	9.05	165.3	9.23	9.99	9.11	8.19	9.59	8.62	

James, Kirani (GRN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Olympic Games (Tokyo, JPN)																	
Omega Timing (2022) - Tokyo 2020 - race analysis - men's 400m final																	
date 05-Aug-21	time	6.01	10.74	15.63	20.72	26.07	31.78	37.80	44.19	44.19	4 / 3							
reaction time 0.157	interval		4.73	4.89	5.09	5.35	5.71	6.02	6.39		# of strides	10.74	9.98	11.06	12.41	20.72	23.47	2.75
	velocity	8.32	10.57	10.22	9.82	9.35	8.76	8.31	7.82	9.05	161.2	9.31	10.02	9.04	8.06	9.65	8.52	

Wariner, Jeremy (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Championships (Carson, CA)																	
USATF Women's Sprint Development (2005)																	
date 25-Jun-05	time			11.45	16.53	21.72	27.13	32.42	38.12	44.20	44.20	5 / 1						
reaction time	interval				5.08	5.19	5.41	5.29	5.70	6.08		# of strides	11.45	10.27	10.70	11.78	21.72	22.48	0.76
	velocity			8.73	9.84	9.63	9.24	9.45	8.77	8.22	9.05		8.73	9.74	9.35	8.49	9.21	8.90	

Wariner, Jeremy (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FiNAL - 2008 USA Olympic Trials (Eugene, OR)																	
USATF Women's Sprint Development with HPC (2008)																	
date 03-Jul-08	time			11.06	15.78	21.67	27.01	32.51	38.02	44.20	44.20	5 / 2						
reaction time	interval				4.72	5.89	5.34	5.50	5.51	6.18		# of strides	11.06	10.61	10.84	11.69	21.67	22.53	0.86
	velocity			9.04	10.59	8.49	9.36	9.09	9.07	8.09	9.05		9.04	9.43	9.23	8.55	9.23	8.88	

Wilson, Quincy (USA) (2008)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Holloway Pro Classic (Gainesville, FL)																	
Track Newsletter (2024) - Holloway pro classic																	
date 19-Jul-24	time			11.4		21.4		32.3		44.2	44.20	/ 1						
reaction time	interval					10.00		10.90		11.90	WYR	# of strides	11.40	10.00	10.90	11.90	21.40	22.80	1.40
	velocity			8.77		10.00		9.17		8.40	9.05		8.77	10.00	9.17	8.40	9.35	8.77	

Lewis, Steve (USA) (1969)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1992 Olympic Games (Barcelona, ESP)																	
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016																	
date 05-Aug-92	time				21.1		31.8		44.3	44.21	7 / 2							
reaction time	interval						10.70		12.50		# of strides			10.70	12.50	21.10	23.20	2.10

		velocity			9.48		9.35		8.00	9.05				9.35	8.00	9.48	8.62	

Merritt, LaShawn (USA) (1986)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2013 USATF National Championships (Des Moines, IA)																			*Track Newsletter (2013) - USATF men's championships*
date	22-Jun-13	time						32.3		44.2	44.21	/ 1							
reaction time	0.278	interval								11.90		# of strides				11.90			
		velocity						9.29		8.40	9.05					8.40			

Merritt, LaShawn (USA) (1986)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 1 - 2016 Olympic Games (Rio de Janeiro, BRA)																			*(2016.08.15) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*
date	13-Aug-16	time		11.18		21.42		32.28		44.21	44.21	6 / 2							
reaction time	0.271	interval				10.24		10.86		11.93		# of strides	11.18	10.24	10.86	11.93	21.42	22.79	1.37
		velocity		8.94		9.77		9.21		8.38	9.05		8.94	9.77	9.21	8.38	9.34	8.78	

Cherry, Michael (USA) (1995)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2020 Olympic Games (Tokyo, JPN)																			*Omega Timing (2022) - Tokyo 2020 - race analysis - men's 400m final*
date	05-Aug-21	time	6.03	10.92	16.02	21.23	26.59	32.18	37.97	44.21	44.21	6 / 4							
reaction time	0.179	interval		4.89	5.10	5.21	5.36	5.59	5.79	6.24	**PB**	# of strides	10.92	10.31	10.95	12.03	21.23	22.98	1.75
		velocity	8.29	10.22	9.80	9.60	9.33	8.94	8.64	8.01	9.05	157.5	9.16	9.70	9.13	8.31	9.42	8.70	

Gardiner, Steven (BAH) (1995)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2022 Meeting de Paris (Paris, FRA)																			*Omega Timing (2022) - diamond league race analysis*
date	16-Jun-22	time	6.25	11.17	16.19	21.33	26.55	32.07	37.94	44.21	44.21	5 / 1							
reaction time	0.160	interval		4.92	5.02	5.14	5.22	5.52	5.87	6.27		# of strides	11.17	10.16	10.74	12.14	21.33	22.88	1.55
		velocity	8.00	10.16	9.96	9.73	9.58	9.06	8.52	7.97	9.05	158.2	8.95	9.84	9.31	8.24	9.38	8.74	

Roberts, Gil (USA) (1989)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2017 USATF National Championships (Sacramento, CA)																			*Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/*
date	24-Jun-17	time		10.98		20.86		31.92		44.22	44.22	6 / 2							
reaction time		interval				9.88		11.06		12.30	**PB**	# of strides	10.98	9.88	11.06	12.30	20.86	23.36	2.50
		velocity		9.11		10.12		9.04		8.13	9.05		9.11	10.12	9.04	8.13	9.59	8.56	

van Niekerk, Wayde (RSA) (1992)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2017 IAAF World Championships (London, GBR)																			*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*
date	06-Aug-17	time		10.74		20.82		29.20	34.97	44.05	44.22	6 / 1							
reaction time	0.168	interval				10.08		8.38	5.77	9.08		# of strides	10.74	10.08	8.38	14.85	20.82	23.23	2.41
		velocity		9.31		9.92		11.93	8.67	5.51	9.05	163.0	9.31	9.92	11.93	6.73	9.61	8.61	

Deadmon, Bryce (USA) (1997)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2023 USATF National Championships (Eugene, OR)																			*Track Newsletter (2023) - USATF championships/WCT men*
date	08-Jul-23	time		11.06		21.25		32.44		44.22	44.22	7 / 1							
reaction time	0.188	interval				10.19		11.19		11.78	**PB**	# of strides	11.06	10.19	11.19	11.78	21.25	22.97	1.72
		velocity		9.04		9.81		8.94		8.49	9.05		9.04	9.81	8.94	8.49	9.41	8.71	

Watson, Antonio (JAM) (2001)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2023 World Athletics Championships (Budapest, HUN)																			*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*
date	24-Aug-23	time	6.26	11.18	16.15	21.28	26.63	32.23	38.03	44.22	44.22	7 / 1							
reaction time	0.165	interval		4.92	4.97	5.13	5.35	5.60	5.80	6.19		# of strides	11.18	10.10	10.95	11.99	21.28	22.94	1.66
		velocity	7.99	10.16	10.06	9.75	9.35	8.93	8.62	8.08	9.05	167.0	8.94	9.90	9.13	8.34	9.40	8.72	

Kebinatshipi, Collen (BOT) (2004)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2024 Athletissima (Lausanne, SUI)																			*Omega Timing (2024) - diamond league race analysis*
date	22-Aug-24	time	6.04	10.85	15.86	21.10	26.56	32.22	38.01	44.22	44.22	3 / 3							
reaction time	0.151	interval		4.81	5.01	5.24	5.46	5.66	5.79	6.21	**PB**	# of strides	10.85	10.25	11.12	12.00	21.10	23.12	2.02
		velocity	8.28	10.40	9.98	9.54	9.16	8.83	8.64	8.05	9.05		9.22	9.76	8.99	8.33	9.48	8.65	

Montgomery, Kahmari (USA) (1997)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2019 NCAA Championships (Austin, TX)																			*Track Newsletter (2019) - NCAA men's championships*
date	07-Jun-19	time				21.7		32.5		44.2	44.23	/ 1							
reaction time	0.165	interval						10.80		11.70	**PB**	# of strides			10.80	11.70	21.70	22.50	0.80
		velocity				9.22		9.26		8.55	9.04				9.26	8.55	9.22	8.89	

James, Kirani (GRN) (1992)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2019 IAAF World Championships (Doha, QAT)																			*Yamanaka (2019) - race analysis of men and women 400m competition*
date	02-Oct-19	time	6.02	10.89	15.84	21.02	26.40	32.02	37.93	44.23	44.23	5 / 2							
reaction time	0.119	interval		4.87	4.95	5.18	5.38	5.62	5.91	6.30		# of strides	10.89	10.13	11.00	12.21	21.02	23.21	2.19
		velocity	8.31	10.27	10.10	9.65	9.29	8.90	8.46	7.94	9.04	161.0	9.18	9.87	9.09	8.19	9.51	8.62	

Dobson, Charles (GBR) (1999)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2024 London Athletics Meet (London, GBR)																			*Omega Timing (2024) - diamond league race analysis*
date	20-Jul-24	time	6.10	11.14	16.33	21.65	27.05	32.60	38.30	44.23	44.23	3 / 4							
reaction time	0.142	interval		5.04	5.19	5.32	5.40	5.55	5.70	5.93	**PB**	# of strides	11.14	10.51	10.95	11.63	21.65	22.58	0.93
		velocity	8.20	9.92	9.63	9.40	9.26	9.01	8.77	8.43	9.04		8.98	9.51	9.13	8.60	9.24	8.86	

James, Larry (USA) (1947)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1968 USA Olympic Trials (Echo Summit, CA) (*Altitude*)																			*Hymans (2008) - history of the US olympic trials - track and field*
date	14-Sep-68	time				21.2				44.1	44.1	3 / 2							
reaction time		interval								22.9	**WR**	# of strides					21.20	22.90	1.70
		velocity				9.43				8.73	9.07	*(44.19)*					9.43	8.73	

Collett, Wayne (USA) (1949)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1972 USA Olympic Trials (Eugene, OR)																			*Hymans (2008) - history of the US olympic trials - track and field*
date	09-Jul-72	time				21.2				44.1	44.1	8 / 1							
reaction time		interval								22.9		# of strides					21.20	22.90	1.70
		velocity				9.43				8.73	9.07						9.43	8.73	

Kitur, Samson (KEN) (1966)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**

FINAL - 1992 Olympic Games (Barcelona, ESP) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

date	05-Aug-92	time			21.5		32.3		44.3	44.24	5 / 3					
reaction time		interval					10.80		12.00		# of strides			10.80	12.00	21.50	22.80	1.30
		velocity			9.30		9.26		8.33	9.04				9.26	8.33	9.30	8.77	

Morris, Ian (TTO) (1961)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1992 Olympic Games (Barcelona, ESP)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 05-Aug-92	time			21.7		32.5		44.3	44.25	6 / 4							
reaction time	interval					10.80		11.80		# of strides			10.80	11.80	21.70	22.60	0.90
	velocity			9.22		9.26		8.47	9.04				9.26	8.47	9.22	8.85	

Young, Jerome (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 USATF National Championship (Eugene, OR)										*Track Newsletter (1999) - USATF National Championships*							
date 26-Jun-99	time			21.8				44.2	44.24	/ 1							
reaction time	interval							22.40		# of strides					21.80	22.40	0.60
	velocity			9.17				8.93	9.04						9.17	8.93	

Sibanda, Karabo (BOT) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 14-Aug-16	time	6.25	11.22	16.35	21.67	27.11	32.62	38.25	44.25	44.25	1 / 5						
reaction time 0.164	interval		4.97	5.13	5.32	5.44	5.51	5.63	6.00	**PB**	# of strides	11.22	10.45	10.95	11.63	21.67	22.58	0.91
	velocity	8.00	10.06	9.75	9.40	9.19	9.07	8.88	8.33	9.04	165.2	8.91	9.57	9.13	8.60	9.23	8.86	

Stewart, Trevor (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 NCAA Championships (Austin, TX)										*Track Newsletter (2019) - NCAA men's championships*							
date 07-Jun-19	time			21.4		32.2		44.2	44.25	/ 2							
reaction time 0.226	interval					10.80		12.00	**PB**	# of strides			10.80	12.00	21.40	22.80	1.40
	velocity			9.35		9.26		8.33	9.04				9.26	8.33	9.35	8.77	

Kerley, Fred (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2019 IAAF World Championships (Doha, QAT)										*Yamanaka (2019) - race analysis of men and women 400m competition*							
date 02-Oct-19	time	6.06	10.83	15.73	20.81	26.16	31.81	37.77	44.25	44.25	4 / 1						
reaction time 0.152	interval		4.77	4.90	5.08	5.35	5.65	5.96	6.48		# of strides	10.83	9.98	11.00	12.44	20.81	23.44	2.63
	velocity	8.25	10.48	10.20	9.84	9.35	8.85	8.39	7.72	9.04	170.7	9.23	10.02	9.09	8.04	9.61	8.53	

Juantorena, Alberto (CUB) (1950)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1976 Olympic Games (Montreal, CAN)										*Lamare (1976) - les jeux de la XXI olympia, Montreal 1976*							
date 29-Jul-76	time		11.29		21.24		32.03		44.26	44.26	2 / 1						
reaction time	interval				9.95		10.79		12.23	**PB**	# of strides	11.29	9.95	10.79	12.23	21.24	23.02	1.78
	velocity		8.86		10.05		9.27		8.18	9.04	158.2	8.86	10.05	9.27	8.18	9.42	8.69	

Egbunike, Innocent (NGR) (1961)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1987 IAAF World Championship (Rome, ITA)										*Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*							
date 01-Sep-87	time		10.87		20.97		32.10		44.26	44.26	4 / 1						
reaction time	interval				10.10		11.13		12.16	**CR**	# of strides	10.87	10.10	11.13	12.16	20.97	23.29	2.32
	velocity		9.20		9.90		8.98		8.22	9.04	162.5	9.20	9.90	8.98	8.22	9.54	8.59	

Santos, Luguelin (DOM) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2015 IAAF World Championships (Beijing, CHN)										*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*							
date 24-Aug-15	time	6.31	11.37	16.48	21.65	26.93	32.38	38.12	44.26	44.26	6 / 2						
reaction time 0.175	interval		5.06	5.11	5.17	5.28	5.45	5.74	6.14	**NR / PB**	# of strides	11.37	10.28	10.73	11.88	21.65	22.61	0.96
	velocity	7.92	9.88	9.78	9.67	9.47	9.17	8.71	8.14	9.04	186.0	8.80	9.73	9.32	8.42	9.24	8.85	

Norman, Michael (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Memorial van Damme (Brussels, BEL)										*Omega Timing (2019) - diamond league race analysis*							
date 06-Sep-19	time	6.0	10.8	15.7	21.0	26.4	32.1	38.1	44.26	44.26	5 / 1						
reaction time 0.155	interval		4.8	4.9	5.3	5.4	5.7	6.0	6.2		# of strides	10.80	10.20	11.10	12.16	21.00	23.26	2.26
	velocity	8.33	10.42	10.20	9.43	9.26	8.77	8.33	8.12	9.04	171.0	9.26	9.80	9.01	8.22	9.52	8.60	

James, Kirani (GRN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Weltklasse (Zürich, SUI)										*Omega Timing (2022) - diamond league race analysis*							
date 08-Sep-22	time	6.15	10.97	15.93	21.01	26.28	31.90	37.90	44.26	44.26	4 / 1						
reaction time 0.169	interval		4.82	4.96	5.08	5.27	5.62	6.00	6.36		# of strides	10.97	10.04	10.89	12.36	21.01	23.25	2.24
	velocity	8.13	10.37	10.08	9.84	9.49	8.90	8.33	7.86	9.04	161.0	9.12	9.96	9.18	8.09	9.52	8.60	

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)										*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*							
date 22-Aug-23	time	6.11	11.12	16.22	21.45	26.85	32.43	38.15	44.26	44.26	7 / 2						
reaction time 0.181	interval		5.01	5.10	5.23	5.40	5.58	5.72	6.11	**PB**	# of strides	11.12	10.33	10.98	11.83	21.45	22.81	1.36
	velocity	8.18	9.98	9.80	9.56	9.26	8.96	8.74	8.18	9.04	170.0	8.99	9.68	9.11	8.45	9.32	8.77	

Hudson-Smith, Matthew (GBR) (1994

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)										*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*							
date 22-Aug-23	time	6.04	10.92	15.87	21.02	26.38	31.98	37.86	44.26	44.26	7 / 1						
reaction time 0.167	interval		4.88	4.95	5.15	5.36	5.60	5.88	6.40	**AR PB**	# of strides	10.92	10.10	10.96	12.28	21.02	23.24	2.22
	velocity	8.28	10.25	10.10	9.71	9.33	8.93	8.50	7.81	9.04	163.0	9.16	9.90	9.12	8.14	9.51	8.61	

Norman, Michael (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)										*Paris 2024 Olympic Games - Results Book (2024)*							
date 06-Aug-24	time	6.07	11.01	15.96	21.14	26.54	32.16	38.01	44.26	44.26	6 / 2						
reaction time 0.146	interval		4.94	4.95	5.18	5.40	5.62	5.85	6.25		# of strides	11.01	10.13	11.02	12.10	21.14	23.12	1.98
	velocity	8.24	10.12	10.10	9.65	9.26	8.90	8.55	8.00	9.04	171.0	9.08	9.87	9.07	8.26	9.46	8.65	

Babers, Alonzo (USA) (1961)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 Olympic Games (Los Angeles, CA)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 08-Aug-84	time				21.7		32.5		44.3	44.27	4 / 1						
reaction time 0.175	interval						10.80		11.80	**PB**	# of strides			10.80	11.80	21.70	22.60	0.90

		velocity				9.22		9.26		8.47	9.04					9.26	8.47	9.22	8.85	

Haroun, Abdalelah (QAT) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Résisprint International (La Chaux-de-Fonds, SUI)												*Vazel (2018) - historical analysis and coaching commentary - biomechanical report - London 2017 - Men's 400m*							
date	05-Jul-15	time		11.3		21.4		32.2		44.27	44.27	/ 2							
reaction time		interval				10.10		10.80		12.07	**AR / AJR**	# of strides	11.30	10.10	10.80	12.07	21.40	22.87	1.47
		velocity		8.85		9.90		9.26		8.29	9.04		8.85	9.90	9.26	8.29	9.35	8.75	

Norman, Michael (USA) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Doha Diamond League (Doha, QAT)																			*Omega Timing (2021) - diamond league race analysis*
date	28-May-21	time	6.0	10.8	15.9	21.2	26.6	32.3	38.1	44.27	44.27	5 / 1							
reaction time	0.165	interval		4.80	5.10	5.30	5.40	5.70	5.80	6.17		# of strides	10.80	10.40	11.10	11.97	21.20	23.07	1.87
		velocity	8.33	10.42	9.80	9.43	9.26	8.77	8.62	8.10	9.04	170.5	9.26	9.62	9.01	8.35	9.43	8.67	

Hall, Quincy (USA) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	04-Aug-24	time	6.30	11.20	16.14	21.29	26.66	32.26	38.07	44.28	44.28	7 / 1							
reaction time	0.209	interval		4.90	4.94	5.15	5.37	5.60	5.81	6.21		# of strides	11.20	10.09	10.97	12.02	21.29	22.99	1.70
		velocity	7.94	10.20	10.12	9.71	9.31	8.93	8.61	8.05	9.03	159.0	8.93	9.91	9.12	8.32	9.39	8.70	

Brew, Derrick (USA) (1977)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 SEC Championship (Athens, GA)																			*Track Newsletter (1999) - SEC Championships*
date	16-May-99	time				21.4				44.3	44.29	/ 1							
reaction time		interval								22.90	**PB**	# of strides					21.40	22.90	1.50
		velocity				9.35				8.73	9.03						9.35	8.73	

Parrela, Sanderlei Claro (BRA) (1974)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 IAAF World Championships (Sevilla, ESP)																			*Ferro (2001) - biomechanical analysis of the 7th world championships in athletics seville 1999*
date	26-Aug-99	time	6.22	11.12	16.03	21.13	26.54	32.10	37.93	44.29	44.29	7 / 2							
reaction time	0.169	interval		4.90	4.91	5.10	5.41	5.56	5.83	6.36	**AR**	# of strides	11.12	10.01	10.97	12.19	21.13	23.16	2.03
		velocity	8.04	10.20	10.18	9.80	9.24	8.99	8.58	7.86	9.03		8.99	9.99	9.12	8.20	9.47	8.64	

Strother, Nathan (USA) (1995)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 USATF National Championships (Des Moines, IA)																			*Track Newsletter (2019) - USATF championships men*
date	27-Jul-19	time				21.8		32.6		44.3	44.29	/ 3							
reaction time		interval						10.80		11.70	**PB**	# of strides			10.80	11.70	21.80	22.50	0.70
		velocity				9.17		9.26		8.55	9.03				9.26	8.55	9.17	8.89	

Norman, Michael (USA) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 World Athletics Championships (Eugene, OR)																			*Timing by Seiko (2022) - world athletics championships race analysis*
date	22-Jul-22	time		10.83		21.12		32.04		44.29	44.29	4 / 1							
reaction time	0.140	interval				10.29		10.92		12.25		# of strides	10.83	10.29	10.92	12.25	21.12	23.17	2.05
		velocity		9.23		9.72		9.16		8.16	9.03	175.2	9.23	9.72	9.16	8.16	9.47	8.63	

Smith, LaMont (USA) (1972)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 USA Olympic Trials (Atlanta, GA)																			*USATF Women's Sprint Development (1996)*
date	19-Jun-96	time		11.08		21.38		32.18	37.92	44.30	44.30	3 / 4							
reaction time		interval				10.30		10.80	5.74	6.38	**PB**	# of strides	11.08	10.30	10.80	12.12	21.38	22.92	1.54
		velocity		9.03		9.71		9.26	8.71	7.84	9.03		9.03	9.71	9.26	8.25	9.35	8.73	

Makwala, Isaac (BOT) (1986)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)																			*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*
date	06-Aug-17	time		10.66		20.60		31.39	37.37	44.05	44.30	5 / 1							
reaction time	0.248	interval				9.94		10.79	5.98	6.68		# of strides	10.66	9.94	10.79	12.66	20.60	23.45	2.85
		velocity		9.38		10.06		9.27	8.36	7.49	9.03	178.4	9.38	10.06	9.27	7.90	9.71	8.53	

Norman, Michael (USA) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)																			*Timing by Seiko (2022) - world athletics championships race analysis*
date	20-Jul-22	time		10.85		21.16		32.19		44.30	44.30	6 / 1							
reaction time	0.127	interval				10.31		11.03		12.11		# of strides	10.85	10.31	11.03	12.11	21.16	23.14	1.98
		velocity		9.22		9.70		9.07		8.26	9.03	173.0	9.22	9.70	9.07	8.26	9.45	8.64	

James, Kirani (GRN) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Prefontaine Classic (Eugene, OR)																			*Omega Timing (2023) - diamond league race analysis*
date	16-Sep-23	time	6.24	11.36	16.57	21.82	27.03	32.47	38.15	44.30	44.30	6 / 1							
reaction time	0.160	interval		5.12	5.21	5.25	5.21	5.44	5.68	6.15		# of strides	11.36	10.46	10.65	11.83	21.82	22.48	0.66
		velocity	8.01	9.77	9.60	9.52	9.60	9.19	8.80	8.13	9.03	158.5	8.80	9.56	9.39	8.45	9.17	8.90	

James, Kirani (GRN) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Golden Gala Pietro Mennea (Roma, ITA)																			*Omega Timing (2024) - diamond league race analysis*
date	30-Aug-24	time	6.11	11.09	16.30	21.61	27.01	32.53	38.24	44.30	44.30	5 / 2							
reaction time	0.161	interval		4.98	5.21	5.31	5.40	5.52	5.71	6.06		# of strides	11.09	10.52	10.92	11.77	21.61	22.69	1.08
		velocity	8.18	10.04	9.60	9.42	9.26	9.06	8.76	8.25	9.03	161.5	9.02	9.51	9.16	8.50	9.25	8.81	

Johnson, Michael (USA) (1967)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 Weltklasse (Zurich, SUI)																			*Track Newsletter (1997) - Zurich GP*
date	13-Aug-97	time				21.5				44.3	44.31	/ 1							
reaction time		interval								22.80		# of strides					21.50	22.80	1.30
		velocity				9.30				8.77	9.03						9.30	8.77	

Cárdenas, Alejandro (MEX) (1974)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 IAAF World Championships (Sevilla, ESP)																			*Ferro (2001) - biomechanical analysis of the 7th world championships in athletics seville 1999*
date	26-Aug-99	time	6.00	10.99	16.01	21.19	26.58	32.11	37.97	44.31	44.31	4 / 3							
reaction time	0.133	interval		4.99	5.02	5.18	5.39	5.53	5.86	6.34	**NR**	# of strides	10.99	10.20	10.92	12.20	21.19	23.12	1.93
		velocity	8.33	10.02	9.96	9.65	9.28	9.04	8.53	7.89	9.03		9.10	9.80	9.16	8.20	9.44	8.65	

van Niekerk, Wayde (RSA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 3 - 2015 IAAF World Championships (Beijing, CHN) — *Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*

date	24-Aug-15	time	6.04	10.89	15.97	21.36	26.93	32.38	38.15	44.31	44.31	7 / 1						
reaction time	0.155	interval		4.85	5.08	5.39	5.57	5.45	5.77	6.16		# of strides	10.89	10.47	11.02	11.93	21.36	22.95	1.59
		velocity	8.28	10.31	9.84	9.28	8.98	9.17	8.67	8.12	9.03	163.7	9.18	9.55	9.07	8.38	9.36	8.71	

Norman, Michael (USA) (1997)

FINAL - 2020 Olympic Games (Tokyo, JPN) — *Omega Timing (2022) - Tokyo 2020 - race analysis - men's 400m final*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-21	time	5.92	10.68	15.59	20.81	26.27	31.95	37.89	44.31	44.31	8 / 5							
reaction time	0.148	interval		4.76	4.91	5.22	5.46	5.68	5.94	6.42		# of strides	10.68	10.13	11.14	12.36	20.81	23.50	2.69
		velocity	8.45	10.50	10.18	9.58	9.16	8.80	8.42	7.79	9.03	171.2	9.36	9.87	8.98	8.09	9.61	8.51	

Hudson-Smith, Matthew (GBR) (1994

FINAL - 2023 World Athletics Championships (Budapest, HUN) — *Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Aug-23	time	5.98	10.93	15.96	21.08	26.36	31.96	37.90	44.31	44.31	5 / 2							
reaction time	0.151	interval		4.95	5.03	5.12	5.28	5.60	5.94	6.41		# of strides	10.93	10.15	10.88	12.35	21.08	23.23	2.15
		velocity	8.36	10.10	9.94	9.77	9.47	8.93	8.42	7.80	9.03	163.5	9.15	9.85	9.19	8.10	9.49	8.61	

Richards, Jereem (TTO) (1994)

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-24	time	6.15	11.01	15.94	21.05	26.43	32.07	37.95	44.31	44.31	9 / 2							
reaction time	0.188	interval		4.86	4.93	5.11	5.38	5.64	5.88	6.36		# of strides	11.01	10.04	11.02	12.24	21.05	23.26	2.21
		velocity	8.13	10.29	10.14	9.78	9.29	8.87	8.50	7.86	9.03	171.0	9.08	9.96	9.07	8.17	9.50	8.60	

Bailey, Chris (USA) (2000)

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-24	time	6.19	11.09	16.06	21.21	26.50	32.07	37.98	44.31	44.31	6 / 3							
reaction time	0.162	interval		4.90	4.97	5.15	5.29	5.57	5.91	6.33	PB	# of strides	11.09	10.12	10.86	12.24	21.21	23.10	1.89
		velocity	8.08	10.20	10.06	9.71	9.45	8.98	8.46	7.90	9.03	183.0	9.02	9.88	9.21	8.17	9.43	8.66	

Taylor, Angelo (USA) (1978)

FINAL - 2007 IAAF World Championships (Osaka, JPN) — *Mochida (2008) - biomechancial analysis of the 400m final race at ehe 2007 world championships in athletics*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	31-Aug-07	time	6.06	10.93	15.78	20.94	26.38	31.90	37.90	44.32	44.32	4 / 3							
reaction time	0.173	interval		4.87	4.85	5.16	5.44	5.52	6.00	6.42		# of strides	10.93	10.01	10.96	12.42	20.94	23.38	2.44
		velocity	8.25	10.27	10.31	9.69	9.19	9.06	8.33	7.79	9.03	168.0	9.15	9.99	9.12	8.05	9.55	8.55	

Ndori, Bayapo (BOT) (1999)

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-25	time	6.08	11.00	16.15	21.40	26.81	32.43	38.19	44.32	44.32	5 / 2							
reaction time	0.163	interval		4.92	5.15	5.25	5.41	5.62	5.76	6.13		# of strides	11.00	10.40	11.03	11.89	21.40	22.92	1.52
		velocity	8.22	10.16	9.71	9.52	9.24	8.90	8.68	8.16	9.03	174.0	9.09	9.62	9.07	8.41	9.35	8.73	

Richards, Jereem (TTO) (1994)

Long Sprints - 2025 Grand Slam Track Miami (Miramar, FL) — *Grand Slam Track (2025) - results and splits by race*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-25	time		10.94		21.17		32.31		44.32	44.32	7 / 2							
reaction time	0.190	interval				10.23		11.14		12.01		# of strides	10.94	10.23	11.14	12.01	21.17	23.15	1.98
		velocity		9.14		9.78		8.98		8.33	9.03		9.14	9.78	8.98	8.33	9.45	8.64	

Schönlebe, Thomas (GDR) (1965)

FINAL - 1987 IAAF World Championships (Rome, ITA) — *Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Sep-87	time		11.11		21.40		32.44		44.33	44.33	8 / 1							
reaction time		interval				10.29		11.04		11.89	AR	# of strides	11.11	10.29	11.04	11.89	21.40	22.93	1.53
		velocity		9.00		9.72		9.06		8.41	9.02		9.00	9.72	9.06	8.41	9.35	8.72	

Reynolds, Harry (Butch) (USA) (1964)

Semi-Final 2 - 1988 Olympic Games (Seoul, KOR) — *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Sep-88	time		11.39		21.80		32.78		44.33	44.33	6 / 1							
reaction time	0.175	interval				10.41		10.98		11.55		# of strides	11.39	10.41	10.98	11.55	21.80	22.53	0.73
		velocity		8.78		9.61		9.11		8.66	9.02		8.78	9.61	9.11	8.66	9.17	8.88	

Johnson, Michael (USA) (1967)

FINAL - 1996 Atlanta Grand Prix (Atlanta, GA) — *Track Newsletter (1996) - atlanta GP- hot debut for Olympic track*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-May-96	time				21.7		32.4		44.3	44.33	/ 1							
reaction time		interval						10.70		11.90		# of strides			10.70	11.90	21.70	22.60	0.90
		velocity				9.22		9.35		8.40	9.02				9.35	8.40	9.22	8.85	

Washington, Tyree (USA) (1976)

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-03	time				21.66		32.63	38.27	44.33	44.33	5 / 1							
reaction time		interval						10.97	5.64	6.06		# of strides			10.97	11.70	21.66	22.67	1.01
		velocity				9.23		9.12	8.87	8.25	9.02				9.12	8.55	9.23	8.82	

Roberts, Gil (USA) (1989)

Semi-Final 1 - 2017 USATF National Championships (Sacramento, CA) — *Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-17	time		11.24		21.52		32.40		44.33	44.33	/ 2							
reaction time		interval				10.28		10.88		11.93	PB	# of strides	11.24	10.28	10.88	11.93	21.52	22.81	1.29
		velocity		8.90		9.73		9.19		8.38	9.02		8.90	9.73	9.19	8.38	9.29	8.77	

Thebe, Baboloki (BOT) (1997)

Semi-Final 2 - 2017 IAAF World Championships (London, GBR) — *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-17	time		10.85		21.02		31.82	37.68	44.15	44.33	5 / 2							
reaction time	0.178	interval				10.17		10.80	5.86	6.47		# of strides	10.85	10.17	10.80	12.33	21.02	23.13	2.11
		velocity		9.22		9.83		9.26	8.53	7.73	9.02	179.0	9.22	9.83	9.26	8.11	9.51	8.65	

Richards, Jereem (TTO) (1994)

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-24	time	6.03	10.85	15.86	21.08	26.56	32.22	38.09	44.33	44.33	7 / 2							
reaction time	0.153	interval		4.82	5.01	5.22	5.48	5.66	5.87	6.24		# of strides	10.85	10.23	11.14	12.11	21.08	23.25	2.17

		velocity	8.29	10.37	9.98	9.58	9.12	8.83	8.52	8.01	9.02	172.7	9.22	9.78	8.98	8.26	9.49	8.60	

Smith, John (USA) (1950)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1971 USA National Championships (Eugene, OR) *(yards)*																	
date 26-Jun-71	time			22.0				44.2	44.2	2 / 1							
reaction time	interval							22.2	**WR** yards	# of strides					22.00	22.20	0.20
	velocity			9.09				9.01	9.05	*(44.5/440y)*					9.09	9.01	

Merritt, LaShawn (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2015 IAAF World Championships (Beijing, CHN) *Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*																	
date 24-Aug-15	time	6.17	11.02	16.05	21.37	26.92	32.44	38.22	44.34	44.34	6 / 2							
reaction time 0.187	interval		4.85	5.03	5.32	5.55	5.52	5.78	6.12		# of strides	11.02	10.35	11.07	11.90	21.37	22.97	1.60
	velocity	8.10	10.31	9.94	9.40	9.01	9.06	8.65	8.17	9.02	171.0	9.07	9.66	9.03	8.40	9.36	8.71	

Godwin, Elija (USA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 USATF National Championships (Eugene, OR) *Track Newsletter (2022) - USATF championships men*																	
date 25-Jun-22	time		10.83		21.33		32.31		44.34	44.34	/ ~~4~~ 3							
reaction time	interval				10.50		10.98		12.03	**PB**	# of strides	10.83	10.50	10.98	12.03	21.33	23.01	1.68
	velocity		9.23		9.52		9.11		8.31	9.02		9.23	9.52	9.11	8.31	9.38	8.69	

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON) *Omega Timing (2024) - diamond league race analysis*																	
date 12-Jul-24	time	6.13	10.96	15.98	21.21	26.69	32.36	38.13	44.34	44.34	7 / 2							
reaction time 0.174	interval		4.83	5.02	5.23	5.48	5.67	5.77	6.21		# of strides	10.96	10.25	11.15	11.98	21.21	23.13	1.92
	velocity	8.16	10.35	9.96	9.56	9.12	8.82	8.67	8.05	9.02	172.0	9.12	9.76	8.97	8.35	9.43	8.65	

Lewis, Steve (USA) (1969)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
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		11.16		21.54		32.53		44.35	44.35	3 / 1							
reaction time 0.199	interval				10.38		10.99		11.82		# of strides	11.16	10.38	10.99	11.82	21.54	22.81	1.27
	velocity		8.96		9.63		9.10		8.46	9.02		8.96	9.63	9.10	8.46	9.29	8.77	

Rock, Andrew (USA) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 IAAF World Championships (Helsinki, FIN) *Track Newsletter (2005) - World championships- men*																	
date 12-Aug-05	time						32.4		44.4	44.35	7 / 2							
reaction time	interval								12.0	**PB**	# of strides				12.00			
	velocity						9.26		8.33	9.02	171.2				8.33			

Hudson-Smith, Matthew (GBR) (1994

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Prefontaine Classic (Eugene, OR) *Omega Timing (2022) - diamond league race analysis*																	
date 28-May-22	time	6.08	11.00	16.16	21.46	26.80	32.19	38.05	44.35	44.35	8 / 3							
reaction time 0.138	interval		4.92	5.16	5.30	5.34	5.39	5.86	6.30	**NR PB**	# of strides	11.00	10.46	10.73	12.16	21.46	22.89	1.43
	velocity	8.22	10.16	9.69	9.43	9.36	9.28	8.53	7.94	9.02	164.0	9.09	9.56	9.32	8.22	9.32	8.74	

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 USATF National Championships (Eugene, OR) *Track Newsletter (2022) - USATF championships men*																	
date 25-Jun-22	time		11.01		21.46		32.44		44.35	44.35	/ ~~5~~ 4							
reaction time	interval				10.45		10.98		11.91	**PB**	# of strides	11.01	10.45	10.98	11.91	21.46	22.89	1.43
	velocity		9.08		9.57		9.11		8.40	9.02		9.08	9.57	9.11	8.40	9.32	8.74	

Everett, Danny (USA) (1966)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
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		11.43		22.03		32.87		44.36	44.36	5 / 2							
reaction time	interval				10.60		10.84		11.49		# of strides	11.43	10.60	10.84	11.49	22.03	22.33	0.30
	velocity		8.75		9.43		9.23		8.70	9.02		8.75	9.43	9.23	8.70	9.08	8.96	

Young, Jerome (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 IAAF World Championships (Sevilla, ESP) *Ferro (2001) - biomechanical analysis of the 7th world championships in athletics seville 1999*																	
date 26-Aug-99	time	6.15	11.16	16.16	21.33	26.59	31.95	37.77	44.36	44.36	6 / ~~4~~							
reaction time 0.171	interval		5.01	5.00	5.17	5.26	5.36	5.82	6.59	**DV**	# of strides	11.16	10.17	10.62	12.41	21.33	23.03	1.70
	velocity	8.13	9.98	10.00	9.67	9.51	9.33	8.59	7.59	9.02		8.96	9.83	9.42	8.06	9.38	8.68	

Abbas, Ali Khamis (BRN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA) *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*																	
date 14-Aug-16	time	6.17	11.05	16.08	21.29	26.62	32.15	38.02	44.36	44.36	2 / 6							
reaction time 0.148	interval		4.88	5.03	5.21	5.33	5.53	5.87	6.34	**NR**	# of strides	11.05	10.24	10.86	12.21	21.29	23.07	1.78
	velocity	8.10	10.25	9.94	9.60	9.38	9.04	8.52	7.89	9.02	169.5	9.05	9.77	9.21	8.19	9.39	8.67	

van Niekerk, Wayde (RSA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 London Athletics Meet (London, GBR) *Omega Timing (2023) - diamond league race analysis*																	
date 23-Jul-23	time	6.06	10.91	15.93	21.15	26.70	32.30	38.06	44.36	44.36	5 / 1							
reaction time 0.167	interval		4.85	5.02	5.22	5.55	5.60	5.76	6.30		# of strides	10.91	10.24	11.15	12.06	21.15	23.21	2.06
	velocity	8.25	10.31	9.96	9.58	9.01	8.93	8.68	7.94	9.02	165.2	9.17	9.77	8.97	8.29	9.46	8.62	

Lewis, Steve (USA) (1969)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1988 USA Olympic Trials (Indianapolis, IN) *Hymans (2008) - history of the US olympic trials - track and field*																	
date 20-Jul-88	time		10.5		21.1		31.9		44.37	44.37	7 / 3							
reaction time	interval				10.6		10.8		12.5		# of strides	10.50	10.60	10.80	12.47	21.10	23.27	2.17
	velocity		9.52		9.43		9.26		8.02	9.02		9.52	9.43	9.26	8.02	9.48	8.59	

Johnson, Michael (USA) (1967)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1997 IAAF World Championships (Athens, GRE) *Bondarchuk (2007) - transfer of training in sports*																	
date 04-Aug-97	time		11.09		21.75		32.50		44.37	44.37	2 / 1							
reaction time 0.160	interval				10.66		10.75		11.87		# of strides	11.09	10.66	10.75	11.87	21.75	22.62	0.87
	velocity		9.02		9.38		9.30		8.42	9.02		9.02	9.38	9.30	8.42	9.20	8.84	

Kamoga, Davis (UGA) (1968)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1997 IAAF World Championships (Athens, GRE) — *Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*

date	05-Aug-97	time	6.23	11.27	16.31	21.33	26.57	32.03	37.81	44.15	44.37	7 / 2						
reaction time	0.216	interval		5.04	5.04	5.02	5.24	5.46	5.78	6.34	NR	# of strides	11.27	10.06	10.70	12.12	21.33	22.82	1.49
		velocity	8.03	9.92	9.92	9.96	9.54	9.16	8.65	7.89	9.02		8.87	9.94	9.35	8.25	9.38	8.76	

Wariner, Jeremy (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 15-Jul-04 time		11.08		21.46	26.84	32.33	38.09	44.37	44.37	5 / 1							
reaction time		interval		10.38	5.38	5.49	5.76	6.28	PB	# of strides	11.08	10.38	10.87	12.04	21.46	22.91	1.45
		velocity	9.03	9.63	9.29	9.11	8.68	7.96	9.02	171.2	9.03	9.63	9.20	8.31	9.32	8.73	

Merritt, LaShawn (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 19-Aug-09 time		10.94		21.51		32.50		44.37	44.37	3 / 1							
reaction time 0.163		interval		10.57		10.99		11.87		# of strides	10.94	10.57	10.99	11.87	21.51	22.86	1.35
		velocity	9.14	9.46		9.10		8.42	9.02		9.14	9.46	9.10	8.42	9.30	8.75	

Korir, Emmanuel (KEN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2019 IAAF World Championships (Doha, QAT)																	*Yamanaka (2019) - race analysis of men and women 400m competition*
date 02-Oct-19 time	6.28	11.15	16.07	21.24	26.63	32.25	38.13	44.37	44.37	5 / 2							
reaction time 0.153		interval	4.87	4.92	5.17	5.39	5.62	5.88	6.24		# of strides	11.15	10.09	11.01	12.12	21.24	23.13	1.89
	7.96	velocity	10.27	10.16	9.67	9.28	8.90	8.50	8.01	9.02	176.5	8.97	9.91	9.08	8.25	9.42	8.65	

Hall, Quincy (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 World Athletics Championships (Budapest, HUN)																	*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*
date 24-Aug-23 time	6.25	11.25	16.37	21.60	26.96	32.48	38.23	44.37	44.37	6 / 3							
reaction time 0.192		interval	5.00	5.12	5.23	5.36	5.52	5.75	6.14	PB	# of strides	11.25	10.35	10.88	11.89	21.60	22.77	1.17
	8.00	velocity	10.00	9.77	9.56	9.33	9.06	8.70	8.14	9.02	160.0	8.89	9.66	9.19	8.41	9.26	8.78	

Deadmon, Bryce (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Athletissima (Lausanne, SUI)																	*Omega Timing (2024) - diamond league race analysis*
date 22-Aug-24 time	6.12	11.10	16.10	21.36	26.85	32.44	38.15	44.37	44.37	8 / 4							
reaction time 0.181		interval	4.98	5.00	5.26	5.49	5.59	5.71	6.22		# of strides	11.10	10.26	11.08	11.93	21.36	23.01	1.65
	8.17	velocity	10.04	10.00	9.51	9.11	8.94	8.76	8.04	9.02		9.01	9.75	9.03	8.38	9.36	8.69	

Hudson-Smith, Matthew (GBR) (1994

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Miami (Miramar, FL)																	*Grand Slam Track (2025) - results and splits by race*
date 03-May-25 time		11.24		21.61		32.43		44.37	44.37	6 / 3							
reaction time 0.170		interval		10.37		10.82		11.94		# of strides	11.24	10.37	10.82	11.94	21.61	22.76	1.15
		velocity	8.90	9.64		9.24		8.38	9.02	160.5	8.90	9.64	9.24	8.38	9.25	8.79	

Clark, Darren (AUS) (1965)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
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		11.15		21.58		32.55		44.38	44.38	6 / 3							
reaction time		interval		10.43		10.97		11.83	AR	# of strides	11.15	10.43	10.97	11.83	21.58	22.80	1.22
		velocity	8.97	9.59		9.12		8.45	9.01		8.97	9.59	9.12	8.45	9.27	8.77	

Washington, Tyree (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 Weltklasse (Zurich, SUI)																	*Track Newsletter (1997) - Zurich GP*
date 13-Aug-97 time				21.5				44.4	44.38	/ 2							
reaction time		interval						22.90	PB	# of strides					21.50	22.90	1.40
		velocity		9.30				8.73	9.01						9.30	8.73	

Washington, Tyree (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1998 USATF National Championship (New Orleans, LA)																	*Track Newsletter (1998) - USATF National Championships*
date 21-Jun-98 time				22.1				44.4	44.38	/ 2							
reaction time		interval						22.30	=PB	# of strides					22.10	22.30	0.20
		velocity		9.05				8.97	9.01						9.05	8.97	

van Niekerk, Wayde (RSA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 adidas (New York, NY)																	*Vazel (2016) - How van Niekerk broke the 400m world record*
date 14-Jun-14 time		10.8		20.7		31.4		43.5	44.38	/ 2							
reaction time 0.181		interval		9.9		10.7		12.1	NR	# of strides	10.80	9.90	10.70	12.10	20.70	22.80	2.10
		velocity	9.26	10.10		9.35		8.26	9.01		9.26	10.10	9.35	8.26	9.66	8.77	

Hudson-Smith, Matthew (GBR) (1994

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 20-Jul-22 time		10.95		21.06		32.02		44.38	44.38	5 / 2							
reaction time 0.160		interval		10.11		10.96		12.36		# of strides	10.95	10.11	10.96	12.36	21.06	23.32	2.26
		velocity	9.13	9.89		9.12		8.09	9.01	166.0	9.13	9.89	9.12	8.09	9.50	8.58	

James, Kirani (GRN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)																	*Omega Timing (2023) - diamond league race analysis*
date 02-Sep-23 time	6.20	11.20	16.40	21.60	27.00	32.60	38.40	44.38	44.38	4 / 1							
reaction time 0.161		interval	5.00	5.20	5.20	5.40	5.60	5.80	5.98		# of strides	11.20	10.40	11.00	11.78	21.60	22.78	1.18
	8.06	velocity	10.00	9.62	9.62	9.26	8.93	8.62	8.36	9.01	158.7	8.93	9.62	9.09	8.49	9.26	8.78	

Hall, Quincy (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)																	*Omega Timing (2023) - diamond league race analysis*
date 02-Sep-23 time	6.20	11.30	16.40	21.70	27.10	32.70	38.40	44.38	44.38	5 / 2							
reaction time 0.173		interval	5.10	5.10	5.30	5.40	5.60	5.70	5.98		# of strides	11.30	10.40	11.00	11.68	21.70	22.68	0.98
	8.06	velocity	9.80	9.80	9.43	9.26	8.93	8.77	8.36	9.01	159.5	8.85	9.62	9.09	8.56	9.22	8.82	

Dobson, Charles (GBR) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 10-Jun-24 time		11.13		21.52		32.38		44.38	44.38	6 / 2							
reaction time 0.121		interval		10.39		10.86		12.00	PB	# of strides	11.13	10.39	10.86	12.00	21.52	22.86	1.34

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		8.98		9.62		9.21		8.33	9.01	165.2	8.98	9.62	9.21	8.33	9.29	8.75	

James, Kirani (GRN) (1992)

FINAL - 2024 London Athletics Meet (London, GBR) — *Omega Timing (2024) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-24	time	6.17	11.03	16.08	21.28	26.61	32.18	38.05	44.38	44.38	7 / 5							
reaction time	0.156	interval		4.86	5.05	5.20	5.33	5.57	5.87	6.33		# of strides	11.03	10.25	10.90	12.20	21.28	23.10	1.82
		velocity	8.10	10.29	9.90	9.62	9.38	8.98	8.52	7.90	9.01	159.2	9.07	9.76	9.17	8.20	9.40	8.66	

Maybank, Anthuan (USA) (1969)

FINAL - 1996 USA Olympic Trials (Atlanta, GA) — *USATF Women's Sprint Development (1996)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Jun-96	time		11.02		21.27		32.22	38.10	44.39	44.39	8 / ~~5~~							
reaction time		interval				10.25		10.95	5.88	6.29	DQ	# of strides	11.02	10.25	10.95	12.17	21.27	23.12	1.85
		velocity		9.07		9.76		9.13	8.50	7.95	9.01		9.07	9.76	9.13	8.22	9.40	8.65	

Washington, Tyree (USA) (1976)

FINAL - 1997 IAAF World Championships (Athens, GRE) — *Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-97	time	6.07	11.07	16.17	21.47	26.93	32.33	38.13	44.23	44.39	3 / 3							
reaction time	0.161	interval		5.00	5.10	5.30	5.46	5.40	5.80	6.10	PB	# of strides	11.07	10.40	10.86	11.90	21.47	22.76	1.29
		velocity	8.24	10.00	9.80	9.43	9.16	9.26	8.62	8.20	9.01		9.03	9.62	9.21	8.40	9.32	8.79	

van Niekerk, Wayde (RSA) (1992)

National FINAL - 2022 Weltklasse (Zürich, SUI) — *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-22	time	6.12	10.98	16.01	21.31	26.88	32.55	38.30	44.39	44.39	5 / 1							
reaction time	0.185	interval		4.86	5.03	5.30	5.57	5.67	5.75	6.09		# of strides	10.98	10.33	11.24	11.84	21.31	23.08	1.77
		velocity	8.17	10.29	9.94	9.43	8.98	8.82	8.70	8.21	9.01	162.7	9.11	9.68	8.90	8.45	9.39	8.67	

Norwood, Vernon (USA) (1992)

FINAL - 2023 USATF National Championships (Eugene, OR) — *Track Newsletter (2023) - USATF championships/WCT men*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jul-23	time		11.26		21.61		32.56		44.39	44.39	5 / 2							
reaction time	0.229	interval				10.35		10.95		11.83		# of strides	11.26	10.35	10.95	11.83	21.61	22.78	1.17
		velocity		8.88		9.66		9.13		8.45	9.01		8.88	9.66	9.13	8.45	9.25	8.78	

Ingvalsen, Håvard Bentdal (NOR) (20(

Heat 3 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		11.37		21.46		32.39		44.39	44.39	8 / 1							
reaction time	0.218	interval				10.09		10.93		12.00	NR PB	# of strides	11.37	10.09	10.93	12.00	21.46	22.93	1.47
		velocity		8.80		9.91		9.15		8.33	9.01	177.2	8.80	9.91	9.15	8.33	9.32	8.72	

Norwood, Vernon (USA) (1992)

FINAL - 2023 World Athletics Championships (Budapest, HUN) — *Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Aug-23	time	6.00	11.01	16.10	21.33	26.72	32.30	38.12	44.39	44.39	8 / 4							
reaction time	0.163	interval		5.01	5.09	5.23	5.39	5.58	5.82	6.27		# of strides	11.01	10.32	10.97	12.09	21.33	23.06	1.73
		velocity	8.33	9.98	9.82	9.56	9.28	8.96	8.59	7.97	9.01	175.0	9.08	9.69	9.12	8.27	9.38	8.67	

Newhouse, Fred (USA) (1948)

FINAL - 1976 Olympic Games (Montreal, CAN) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-76	time				21.4		32.4		44.4	44.40	4 / 2							
reaction time		interval						11.00		12.00		# of strides			11.00	12.00	21.40	23.00	1.60
		velocity				9.35		9.09		8.33	9.01	168.2			9.09	8.33	9.35	8.70	

Pettigrew, Antonio (USA) (1967)

FINAL - 1998 USATF National Championship (New Orleans, LA) — *Track Newsletter (1998) - USATF National Championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-98	time				22.0				44.4	44.40	/ ~~3~~							
reaction time		interval								22.40	DV	# of strides					22.00	22.40	0.40
		velocity				9.09				8.93	9.01						9.09	8.93	

Harrison, Alvin (USA) (1974)

FINAL - 2000 Olympic Games (Sydney, AUS) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Sep-00	time		11.5		21.8		32.6		44.4	44.40	4 / 2							
reaction time		interval				10.30		10.80		11.80		# of strides	11.50	10.30	10.80	11.80	21.80	22.60	0.80
		velocity		8.70		9.71		9.26		8.47	9.01		8.70	9.71	9.26	8.47	9.17	8.85	

McQuay, Tony (USA) (1990)

FINAL - 2013 IAAF World Championships (Moscow, RUS) — (2013) - www.trackandfieldnews.com/index.php?option=com_content&view=article&id=1698

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Aug-13	time		11.1		21.7		32.7		44.4	44.40	4 / 2							
reaction time	0.155	interval				10.6		11.0		11.7	PB	# of strides	11.10	10.60	11.00	11.70	21.70	22.70	1.00
		velocity		9.01		9.43		9.09		8.55	9.01		9.01	9.43	9.09	8.55	9.22	8.81	

Al-Masrahi, Youssef (KSA) (1987)

Semi-Final 2 - 2015 IAAF World Championships (Beijing, CHN) — *Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Aug-15	time	6.15	11.09	16.17	21.44	26.82	32.35	38.19	44.40	44.40	7 / 2							
reaction time	0.144	interval		4.94	5.08	5.27	5.38	5.53	5.84	6.21		# of strides	11.09	10.35	10.91	12.05	21.44	22.96	1.52
		velocity	8.13	10.12	9.84	9.49	9.29	9.04	8.56	8.05	9.01	166.7	9.02	9.66	9.17	8.30	9.33	8.71	

Norwood, Vernon (USA) (1992)

FINAL - 2019 USATF National Championships (Des Moines, IA) — *Track Newsletter (2019) - USATF championships men*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jul-19	time				21.6		32.3		44.4	44.40	/ 4							
reaction time		interval						10.70		12.10	PB	# of strides			10.70	12.10	21.60	22.80	1.20
		velocity				9.26		9.35		8.26	9.01				9.35	8.26	9.26	8.77	

Bloomfield, Akeem (JAM) (1997)

FINAL - 2019 Müller Anniversary Games (London, GBR) — *Omega Timing (2019) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-19	time		11.1		21.0		32.1		44.40	44.40	5 / 1							
reaction time	0.184	interval				9.9		11.1		12.3		# of strides	11.10	9.90	11.10	12.30	21.00	23.40	2.40
		velocity		9.01		10.10		9.01		8.13	9.01	163.7	9.01	10.10	9.01	8.13	9.52	8.55	

Deadmon, Bryce (USA) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2023 London Athletics Meet (London, GBR) *Omega Timing (2023) - diamond league race analysis*

date	23-Jul-23	time	6.03	10.97	15.97	21.15	26.70	32.40	38.17	44.40	44.40	4 / 2						
reaction time	0.160	interval		4.94	5.00	5.18	5.55	5.70	5.77	6.23		# of strides	10.97	10.18	11.25	12.00	21.15	23.25	2.10
		velocity	8.29	10.12	10.00	9.65	9.01	8.77	8.67	8.03	9.01	169.0	9.12	9.82	8.89	8.33	9.46	8.60	

Freeman, Ron (USA) (1947)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1968 Olympic Games (Mexico City, MEX) (*Altitude*)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 18-Oct-68	time			21.6		33.0		44.4	44.41	1 / 3							
reaction time	interval					11.40		11.40	PB	# of strides		21.60	11.40	11.40	21.60	22.80	1.20
	velocity			9.26		8.77		8.77	9.01			9.26	8.77	8.77	9.26	8.77	

Black, Roger (GBR) (1966)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 Olympic Games (Atlanta, GA)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 29-Jul-96	time			21.36		32.3		44.41	44.41	3 / 2							
reaction time 0.205	interval					10.94		12.11		# of strides		21.36	10.94	12.11	21.36	23.05	1.69
	velocity			9.36		9.14		8.26	9.01			9.36	9.14	8.26	9.36	8.68	

Gardiner, Steven (BAH) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 IAAF World Championships (London, GBR)										*Yamanaka (2017) - male and female 400m analysis in the 2017 season*							
date 08-Aug-17	time	6.15	11.06	15.98	21.05	26.38	31.99	37.94	44.41	44.41	4 / 2							
reaction time 0.188	interval		4.91	4.92	5.07	5.33	5.61	5.95	6.47		# of strides	11.06	9.99	10.94	12.42	21.05	23.36	2.31
	velocity	8.13	10.18	10.16	9.86	9.38	8.91	8.40	7.73	9.01	162.2	9.04	10.01	9.14	8.05	9.50	8.56	

Cedenio, Machel (TTO) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2019 IAAF World Championships (Doha, QAT)										*Yamanaka (2019) - race analysis of men and women 400m competition*							
date 02-Oct-19	time	6.05	10.84	15.76	20.98	26.45	32.17	38.07	44.41	44.41	7 / 1							
reaction time 0.239	interval		4.79	4.92	5.22	5.47	5.72	5.90	6.34		# of strides	10.84	10.14	11.19	12.24	20.98	23.43	2.45
	velocity	8.26	10.44	10.16	9.58	9.14	8.74	8.47	7.89	9.01	166.2	9.23	9.86	8.94	8.17	9.53	8.54	

Cherry, Michael (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Weltklasse (Zürich, SUI)										*Omega Timing (2021) - diamond league race analysis*							
date 09-Sep-21	time	6.0	10.8	15.9	21.1	26.5	32.1	38.0	44.41	44.41	4 / 1							
reaction time 0.179	interval		4.80	5.10	5.20	5.40	5.60	5.90	6.41		# of strides	10.80	10.30	11.00	12.31	21.10	23.31	2.21
	velocity	8.33	10.42	9.80	9.62	9.26	8.93	8.47	7.80	9.01	158.0	9.26	9.71	9.09	8.12	9.48	8.58	

Hall, Quincy (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 USATF National Championships (Eugene, OR)										*Track Newsletter (2023) - USATF championships/WCT men*							
date 08-Jul-23	time		11.45		21.79		32.64		44.41	44.41	4 / 3							
reaction time 0.224	interval				10.34		10.85		11.77	PB	# of strides	11.45	10.34	10.85	11.77	21.79	22.62	0.83
	velocity		8.73		9.67		9.22		8.50	9.01		8.73	9.67	9.22	8.50	9.18	8.84	

Norman, Michael (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 USA Olympic Trials (Eugene, OR)										*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date 24-Jun-24	time		10.82		20.90		32.15		44.41	44.41	5 / 2							
reaction time	interval				10.08		11.25		12.26		# of strides	10.82	10.08	11.25	12.26	20.90	23.51	2.61
	velocity		9.24		9.92		8.89		8.16	9.01	176.0	9.24	9.92	8.89	8.16	9.57	8.51	

Ogazi, Samuel (NGR) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)										*Paris 2024 Olympic Games - Results Book (2024)*							
date 06-Aug-24	time	6.20	10.99	15.90	21.09	26.62	32.29	38.16	44.41	44.41	5 / 3							
reaction time 0.195	interval		4.79	4.91	5.19	5.53	5.67	5.87	6.25	PB	# of strides	10.99	10.10	11.20	12.12	21.09	23.32	2.23
	velocity	8.06	10.44	10.18	9.63	9.04	8.82	8.52	8.00	9.01	160.0	9.10	9.90	8.93	8.25	9.48	8.58	

Reynolds, Harry (Butch) (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1995 USATF National Championships (Sacramento, CA)										*Track Newsletter (1995) - USATF National Championships*							
date 16-Jun-95	time		11.5		21.7		32.8		44.5	44.42	/ 2							
reaction time	interval				10.20		11.10		11.70		# of strides	11.50	10.20	11.10	11.70	21.70	22.80	1.10
	velocity		8.70		9.80		9.01		8.55	9.00		8.70	9.80	9.01	8.55	9.22	8.77	

Brew, Derrick (USA) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2004 Olympic Games (Athens, GRE)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 23-Aug-04	time			21.5		32.4		44.4	44.42	3 / 3							
reaction time 0.262	interval					10.9		12.0		# of strides			10.90	12.00	21.50	22.90	1.40
	velocity			9.30		9.17		8.33	9.00				9.17	8.33	9.30	8.73	

James, Kirani (GRN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Weltklasse (Zürich, SUI)										*Omega Timing (2021) - diamond league race analysis*							
date 09-Sep-21	time	6.1	10.8	15.8	20.9	26.4	32.1	38.1	44.42	44.42	5 / 2							
reaction time 0.154	interval		4.70	5.00	5.10	5.50	5.70	6.00	6.32		# of strides	10.80	10.10	11.20	12.32	20.90	23.52	2.62
	velocity	8.20	10.64	10.00	9.80	9.09	8.77	8.33	7.91	9.00	161.2	9.26	9.90	8.93	8.12	9.57	8.50	

Hall, Quincy (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)										*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date 23-Jun-24	time		11.30		21.61		32.74		44.42	44.42	6 / 1							
reaction time	interval				10.31		11.13		11.68		# of strides	11.30	10.31	11.13	11.68	21.61	22.81	1.20
	velocity		8.85		9.70		8.98		8.56	9.00	158.5	8.85	9.70	8.98	8.56	9.25	8.77	

Bailey, Chris (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 USA Olympic Trials (Eugene, OR)										*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date 24-Jun-24	time		11.34		21.83		32.70		44.42	44.42	9 / 3							
reaction time	interval				10.49		10.87		11.72	=PB	# of strides	11.34	10.49	10.87	11.72	21.83	22.59	0.76
	velocity		8.82		9.53		9.20		8.53	9.00		8.82	9.53	9.20	8.53	9.16	8.85	

Harrison, Alvin (USA) (1974)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA)										*USATF Women's Sprint Development (1996)*							
date 17-Jun-96	time		11.39		21.82		32.74	38.34	44.43	44.43	3 / 1							
reaction time	interval				10.43		10.92	5.60	6.09		# of strides	11.39	10.43	10.92	11.69	21.82	22.61	0.79

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		8.78		9.59		9.16	8.93	8.21	9.00		8.78	9.59	9.16	8.55	9.17	8.85	

Kamoga, Davis (UGA) (1968)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 Weltklasse (Zurich, SUI)																			*Track Newsletter (1997) - Zurich GP*
date	13-Aug-97	time				21.7				44.4	44.43	/ 3							
reaction time		interval								22.70		# of strides					21.70	22.70	1.00
		velocity				9.22				8.81	9.00						9.22	8.81	

Borlée, Jonathan (BEL) (1988)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2012 Olympic Games (London, GBR)																			Hadley (2012) - uka 2012 olympic games report: 400m, 4x 400m
date	04-Aug-12	time				21.20				44.43	44.43	6 / 1							
reaction time	0.179	interval								23.23	NR	# of strides					21.20	23.23	2.03
		velocity				9.43				8.61	9.00	171.2					9.43	8.61	

Dedewo, Paul (USA) (1991)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Müller Anniversary Games (London, GBR)																			*Omega Timing (2018) - diamond league race analysis*
date	21-Jul-18	time		11.2		21.3		32.3		44.43	44.43	6 / 2							
reaction time	0.159	interval				10.1		11.0		12.1	PB	# of strides	11.20	10.10	11.00	12.13	21.30	23.13	1.83
		velocity		8.93		9.90		9.09		8.24	9.00	166.7	8.93	9.90	9.09	8.24	9.39	8.65	

Hall, Quincy (USA) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)																			*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*
date	22-Aug-23	time	6.22	11.22	16.28	21.51	26.86	32.44	38.22	44.43	44.43	7 / 1							
reaction time	0.176	interval		5.00	5.06	5.23	5.35	5.58	5.78	6.21		# of strides	11.22	10.29	10.93	11.99	21.51	22.92	1.41
		velocity	8.04	10.00	9.88	9.56	9.35	8.96	8.65	8.05	9.00	161.0	8.91	9.72	9.15	8.34	9.30	8.73	

Kebinatshipi, Collen (BOT) (2004)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	06-Aug-24	time	6.12	11.16	16.38	21.70	27.08	32.75	38.53	44.43	44.43	4 / 3							
reaction time	0.154	interval		5.04	5.22	5.32	5.38	5.67	5.78	5.90	PB	# of strides	11.16	10.54	11.05	11.68	21.70	22.73	1.03
		velocity	8.17	9.92	9.58	9.40	9.29	8.82	8.65	8.47	9.00	185.0	8.96	9.49	9.05	8.56	9.22	8.80	

Ndori, Bayapo (BOT) (1999)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	06-Aug-24	time	6.09	10.99	16.02	21.19	26.55	32.20	38.13	44.43	44.43	7 / 4							
reaction time	0.159	interval		4.90	5.03	5.17	5.36	5.65	5.93	6.30		# of strides	10.99	10.20	11.01	12.23	21.19	23.24	2.05
		velocity	8.21	10.20	9.94	9.67	9.33	8.85	8.43	7.94	9.00	175.5	9.10	9.80	9.08	8.18	9.44	8.61	

Smith, John (USA) (1950)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1972 USA Olympic Trials (Eugene, OR)																			*Hymans (2008) - history of the US olympic trials - track and field*
date	09-Jul-72	time				21.2				44.3	44.3	3 / 2							
reaction time		interval								23.1		# of strides					21.20	23.10	1.90
		velocity				9.43				8.66	9.03						9.43	8.66	

Christopher, Tyler (CAN) (1983)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 IAAF World Championships (Helsinki, FIN)																			*Track Newsletter (2005) - World championships- men*
date	12-Aug-05	time						32.2		44.4	44.44	4 / 3							
reaction time		interval								12.2	NR	# of strides				12.20			
		velocity						9.32		8.20	9.00	174.7				8.20			

Hall, Quincy (USA) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Prefontaine Classic (Eugene, OR)																			*Omega Timing (2023) - diamond league race analysis*
date	16-Sep-23	time	6.25	11.25	16.36	21.64	26.95	32.41	38.17	44.44	44.44	4 / 2							
reaction time	0.161	interval		5.00	5.11	5.28	5.31	5.46	5.76	6.27		# of strides	11.25	10.39	10.77	12.03	21.64	22.80	1.16
		velocity	8.00	10.00	9.78	9.47	9.42	9.16	8.68	7.97	9.00	160.0	8.89	9.62	9.29	8.31	9.24	8.77	

Deadmon, Bryce (USA) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)																			*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	23-Jun-24	time		10.85		21.10		32.41		44.44	44.44	5 / 1							
reaction time		interval				10.25		11.31		12.03		# of strides	10.85	10.25	11.31	12.03	21.10	23.34	2.24
		velocity		9.22		9.76		8.84		8.31	9.00		9.22	9.76	8.84	8.31	9.48	8.57	

Rock, Andrew (USA) (1982)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Championships (Indianapolis, IN)																			*Track Newsletter (2006) - USATF men's championships*
date	24-Jun-06	time		11.34		21.62		32.48		44.45	44.45	/ 1							
reaction time		interval				10.28		10.86		11.97		# of strides	11.34	10.28	10.86	11.97	21.62	22.83	1.21
		velocity		8.82		9.73		9.21		8.35	9.00		8.82	9.73	9.21	8.35	9.25	8.76	

Brown, Chris (BAH) (1978)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Championships (Osaka, JPN)																			*Mochida (2008) - biomechancial analysis of the 400m final race at ehe 2007 world championships in athletics*
date	31-Aug-07	time	5.93	10.66	15.53	20.74	26.14	31.81	37.88	44.45	44.45	8 / 4							
reaction time	0.168	interval		4.73	4.87	5.21	5.40	5.67	6.07	6.57	NR	# of strides	10.66	10.08	11.07	12.64	20.74	23.71	2.97
		velocity	8.43	10.57	10.27	9.60	9.26	8.82	8.24	7.61	9.00	186.2	9.38	9.92	9.03	7.91	9.64	8.44	

van Niekerk, Wayde (RSA) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2016 Olympic Games (Rio de Janeiro, BRA)																			*(2016.08.15) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*
date	13-Aug-16	time		10.88		21.09		32.36		44.45	44.45	3 / 2							
reaction time	0.156	interval				10.21		11.27		12.09		# of strides	10.88	10.21	11.27	12.09	21.09	23.36	2.27
		velocity		9.19		9.79		8.87		8.27	9.00		9.19	9.79	8.87	8.27	9.48	8.56	

Taplin, Bralon (GRN) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)																			*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date	14-Aug-16	time	6.16	11.08	16.07	21.15	26.44	31.99	37.87	44.45	44.45	4 / 7							
reaction time	0.181	interval		4.92	4.99	5.08	5.29	5.55	5.88	6.58		# of strides	11.08	10.07	10.84	12.46	21.15	23.30	2.15
		velocity	8.12	10.16	10.02	9.84	9.45	9.01	8.50	7.60	9.00	181.0	9.03	9.93	9.23	8.03	9.46	8.58	

Kebinatshipi, Collen (BOT) (2004)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-24	time	6.09	11.04	16.15	21.51	27.00	32.69	38.46	44.45	44.45	2 / 3							
reaction time	0.155	interval		4.95	5.11	5.36	5.49	5.69	5.77	5.99		# of strides	11.04	10.47	11.18	11.76	21.51	22.94	1.43
		velocity	8.21	10.10	9.78	9.33	9.11	8.79	8.67	8.35	9.00	185.2	9.06	9.55	8.94	8.50	9.30	8.72	

Reynolds, Harry (Butch) (USA) (1964)

FINAL - 1987 TAC National Championships (San Jose, CA) — *Track Newsletter (1987) - NCAA Championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-87	time				21.8				44.5	44.46	5 / 1							
reaction time		interval								22.70		# of strides					21.80	22.70	0.90
		velocity				9.17				8.81	9.00						9.17	8.81	

Santos, Luguelin (DOM) (1993)

FINAL - 2012 Olympic Games (London, GBR) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-12	time		11.1		21.4		32.2		44.5	44.46	7 / 2							
reaction time	0.185	interval				10.30		10.80		12.30		# of strides	11.10	10.30	10.80	12.30	21.40	23.10	1.70
		velocity		9.01		9.71		9.26		8.13	9.00	186.5	9.01	9.71	9.26	8.13	9.35	8.66	

Al-Masrahi, Youssef (KSA) (1987)

FINAL - 2014 Asian Games (Incheon, KOR) — *Maho (2014) - race analysis of men's 400m run in the 2014 season*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Sep-14	time	6.15	11.01	16.08	21.22	26.64	32.37	38.16	44.46	44.46	/ 1							
reaction time	0.166	interval		4.86	5.07	5.14	5.42	5.73	5.79	6.30		# of strides	11.01	10.21	11.15	12.09	21.22	23.24	2.02
		velocity	8.13	10.29	9.86	9.73	9.23	8.73	8.64	7.94	9.00		9.08	9.79	8.97	8.27	9.43	8.61	

Kerley, Fred (USA) (1995)

FINAL - 2019 Memorial van Damme (Brussels, BEL) — *Omega Timing (2019) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Sep-19	time	6.1	10.8	15.8	20.8	26.3	32.0	38.0	44.46	44.46	7 / 2							
reaction time	0.147	interval		4.7	5.0	5.0	5.5	5.7	6.0	12.5		# of strides	10.80	10.00	11.20	12.46	20.80	23.66	2.86
		velocity	8.20	10.64	10.00	10.00	9.09	8.77	8.33	8.03	9.00	173.0	9.26	10.00	8.93	8.03	9.62	8.45	

Norwood, Vernon (USA) (1992)

FINAL - 2023 London Athletics Meet (London, GBR) — *Omega Timing (2023) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jul-23	time	6.11	11.04	16.11	21.31	26.72	32.35	38.15	44.46	44.46	3 / 3							
reaction time	0.161	interval		4.93	5.07	5.20	5.41	5.63	5.80	6.31		# of strides	11.04	10.27	11.04	12.11	21.31	23.15	1.84
		velocity	8.18	10.14	9.86	9.62	9.24	8.88	8.62	7.92	9.00	175.0	9.06	9.74	9.06	8.26	9.39	8.64	

Richardson, Mark (GBR) (1972)

FINAL - 1997 IAAF World Championships (Athens, GRE) — *Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-97	time	5.91	10.89	16.09	21.33	26.71	32.25	37.97	44.23	44.47	5 / 4							
reaction time	0.245	interval		4.98	5.20	5.24	5.38	5.54	5.72	6.26	PB	# of strides	10.89	10.44	10.92	11.98	21.33	22.90	1.57
		velocity	8.46	10.04	9.62	9.54	9.29	9.03	8.74	7.99	8.99		9.18	9.58	9.16	8.35	9.38	8.73	

London, Wil (USA) (1997)

FINAL - 2017 USATF National Championships (Sacramento, CA) — *Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-17	time		11.41		21.82		32.67		44.47	44.47	1 / 3							
reaction time		interval				10.41		10.85		11.80	PB	# of strides	11.41	10.41	10.85	11.80	21.82	22.65	0.83
		velocity		8.76		9.61		9.22		8.47	8.99		8.76	9.61	9.22	8.47	9.17	8.83	

Deadmon, Bryce (USA) (1997)

FINAL - 2022 Weltklasse (Zürich, SUI) — *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-22	time	6.16	11.20	16.35	21.61	27.04	32.66	38.42	44.47	44.47	3 / 2							
reaction time	0.135	interval		5.04	5.15	5.26	5.43	5.62	5.76	6.05		# of strides	11.20	10.41	11.05	11.81	21.61	22.86	1.25
		velocity	8.12	9.92	9.71	9.51	9.21	8.90	8.68	8.26	8.99		8.93	9.61	9.05	8.47	9.25	8.75	

Robinson, Justin (USA) (2002)

FINAL - 2023 USATF National Championships (Eugene, OR) — *Track Newsletter (2023) - USATF championships/WCT men*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jul-23	time		11.23		21.63		32.73		44.47	44.47	6 / 4							
reaction time	0.244	interval				10.40		11.10		11.74	PB	# of strides	11.23	10.40	11.10	11.74	21.63	22.84	1.21
		velocity		8.90		9.62		9.01		8.52	8.99		8.90	9.62	9.01	8.52	9.25	8.76	

Norwood, Vernon (USA) (1992)

FINAL - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-24	time		11.40		21.91		33.03		44.47	44.47	7 / 4							
reaction time		interval				10.51		11.12		11.44		# of strides	11.40	10.51	11.12	11.44	21.91	22.56	0.65
		velocity		8.77		9.51		8.99		8.74	8.99		8.77	9.51	8.99	8.74	9.13	8.87	

Brown, Chris (BAH) (1978)

FINAL - 2005 IAAF World Championships (Helsinki, FIN) — *Track Newsletter (2005) - World championships- men*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Aug-05	time						32.5		44.5	44.48	8 / 4							
reaction time		interval								12.0	NR	# of strides				12.00			
		velocity						9.23		8.33	8.99	184.2				8.33			

Haroun, Abdalelah (QAT) (1997)

FINAL - 2017 IAAF World Championships (London, GBR) — *Yamanaka (2017) - male and female 400m analysis in the 2017 season*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-17	time	6.17	11.24	16.35	21.62	27.06	32.66	38.45	44.48	44.48	3 / 3							
reaction time	0.190	interval		5.07	5.11	5.27	5.44	5.60	5.79	6.03		# of strides	11.24	10.38	11.04	11.82	21.62	22.86	1.24
		velocity	8.10	9.86	9.78	9.49	9.19	8.93	8.64	8.29	8.99	167.4	8.90	9.63	9.06	8.46	9.25	8.75	

James, Kirani (GRN) (1992)

FINAL - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jul-22	time		10.81		20.95		31.98		44.48	44.48	3 / 2							
reaction time	0.140	interval				10.14		11.03		12.50		# of strides	10.81	10.14	11.03	12.50	20.95	23.53	2.58
		velocity		9.25		9.86		9.07		8.00	8.99	162.5	9.25	9.86	9.07	8.00	9.55	8.50	

Dobson, Charles (GBR) (1999)

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-24	time	6.00	10.97	16.10	21.38	26.80	32.47	38.35	44.48	44.48	8 / 4							
reaction time	0.143	interval		4.97	5.13	5.28	5.42	5.67	5.88	6.13		# of strides	10.97	10.41	11.09	12.01	21.38	23.10	1.72

	velocity	8.33	10.06	9.75	9.47	9.23	8.82	8.50	8.16	8.99	165.0	9.12	9.61	9.02	8.33	9.35	8.66	

McQuay, Tony (USA) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 USA Olympic Trials (Eugene, OR)										*Hymans (2020) - history of the US olympic trials - track and field*							
date 24-Jun-12 time				21.6		32.4		44.49	44.49	5 / 2							
reaction time 0.206 interval						10.80		12.09		# of strides			10.80	12.09	21.60	22.89	1.29
velocity				9.26		9.26		8.27	8.99				9.26	8.27	9.26	8.74	

Dobson, Charles (GBR) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Memorial van damme (Brussels, BEL)										*Omega Timing (2024) - diamond league race analysis*							
date 13-Sep-24 time	6.08	11.11	16.31	21.64	27.17	32.85	38.60	44.49	44.49	7 / 1							
reaction time 0.130 interval		5.03	5.20	5.33	5.53	5.68	5.75	5.89		# of strides	11.11	10.53	11.21	11.64	21.64	22.85	1.21
velocity	8.22	9.94	9.62	9.38	9.04	8.80	8.70	8.49	8.99	164.0	9.00	9.50	8.92	8.59	9.24	8.75	

Cameron, Bert (JAM) (1959)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
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		11.20		21.58		32.52		44.50	44.50	8 / 4							
reaction time interval				10.38		10.94		11.98	PB	# of strides	11.20	10.38	10.94	11.98	21.58	22.92	1.34
velocity		8.93		9.63		9.14		8.35	8.99		8.93	9.63	9.14	8.35	9.27	8.73	

Young, Jerome (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 IAAF World Championships (Paris, FRA)										*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*							
date 26-Aug-03 time				21.4		32.1		44.50	44.50	6 / ~~4~~							
reaction time 0.160 interval						10.7		12.4	DV	# of strides			10.70	12.40	21.40	23.10	1.70
velocity				9.35		9.35		8.06	8.99				9.35	8.06	9.35	8.66	

Merritt, LaShawn (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Championships (Indianapolis, IN)										*Track Newsletter (2006) - USATF men's championships*							
date 24-Jun-06 time		10.91		21.24		32.38		44.50	44.50	/ 2							
reaction time interval				10.33		11.14		12.12	PB	# of strides	10.91	10.33	11.14	12.12	21.24	23.26	2.02
velocity		9.17		9.68		8.98		8.25	8.99		9.17	9.68	8.98	8.25	9.42	8.60	

Merritt, LaShawn (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 IAAF World Athletic Final (Stuttgart, GER)										*Graubner (2009) - http://www.fgs.uni-halle.de*							
date 13-Sep-08 time		11.21		21.55		32.56		44.50	44.50	5 / 1							
reaction time 0.144 interval				10.34		11.01		11.94		# of strides	11.21	10.34	11.01	11.94	21.55	22.95	1.40
velocity		8.92		9.67		9.08		8.38	8.99		8.92	9.67	9.08	8.38	9.28	8.71	

Merritt, LaShawn (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 USATF National Championships (Eugene, OR)										*Track Newsletter (2009) - USATF men's championships*							
date 24-Jun-09 time		11.1		21.7		32.8		44.5	44.50	/ 1							
reaction time interval				10.60		11.10		11.70		# of strides	11.10	10.60	11.10	11.70	21.70	22.80	1.10
velocity		9.01		9.43		9.01		8.55	8.99		9.01	9.43	9.01	8.55	9.22	8.77	

Nellum, Bryshon (USA) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 USATF National Championships (Sacramento, CA)										*Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/*							
date 24-Jun-17 time		11.09		21.15		32.31		44.50	44.50	7 / 4							
reaction time interval				10.06		11.16		12.19	PB	# of strides	11.09	10.06	11.16	12.19	21.15	23.35	2.20
velocity		9.02		9.94		8.96		8.20	8.99		9.02	9.94	8.96	8.20	9.46	8.57	

James, Kirani (GRN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Müller Anniversary Games (London, GBR)										*Omega Timing (2018) - diamond league race analysis*							
date 21-Jul-18 time		11.0		21.0		32.2		44.50	44.50	7 / 3							
reaction time 0.154 interval				10.0		11.2		12.3		# of strides	11.00	10.00	11.20	12.30	21.00	23.50	2.50
velocity		9.09		10.00		8.93		8.13	8.99	162.2	9.09	10.00	8.93	8.13	9.52	8.51	

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)										*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date 23-Jun-24 time		10.78		21.05		32.23		44.50	44.50	7 / 2							
reaction time interval				10.27		11.18		12.27		# of strides	10.78	10.27	11.18	12.27	21.05	23.45	2.40
velocity		9.28		9.74		8.94		8.15	8.99		9.28	9.74	8.94	8.15	9.50	8.53	

Ogazi, Samuel (NGR) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2024 Olympic Games (Paris, FRA)										*Paris 2024 Olympic Games - Results Book (2024)*							
date 04-Aug-24 time	6.35	11.26	16.30	21.57	27.00	32.61	38.42	44.50	44.50	5 / 2							
reaction time 0.223 interval		4.91	5.04	5.27	5.43	5.61	5.81	6.08	PB	# of strides	11.26	10.31	11.04	11.89	21.57	22.93	1.36
velocity	7.87	10.18	9.92	9.49	9.21	8.91	8.61	8.22	8.99	160.5	8.88	9.70	9.06	8.41	9.27	8.72	

Smith, LaMont (USA) (1972)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)										*USATF Women's Sprint Development (1996)*							
date 17-Jun-96 time		11.42		21.48		33.00	38.54	44.51	44.51	5 / 1							
reaction time interval				10.06		11.52	5.54	5.97	PB	# of strides	11.42	10.06	11.52	11.51	21.48	23.03	1.55
velocity		8.76		9.94		8.68	9.03	8.38	8.99		8.76	9.94	8.68	8.69	9.31	8.68	

Young, Jerome (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 IAAF World Championships (Athens, GRE)										*Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*							
date 05-Aug-97 time	6.16	11.16	16.24	21.32	26.72	32.20	38.06	44.32	44.51	6 / 5							
reaction time 0.185 interval		5.00	5.08	5.08	5.40	5.48	5.86	6.26		# of strides	11.16	10.16	10.88	12.12	21.32	23.00	1.68
velocity	8.12	10.00	9.84	9.84	9.26	9.12	8.53	7.99	8.99		8.96	9.84	9.19	8.25	9.38	8.70	

Williamson, Darold (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 NCAA Championships (Sacramento, CA)										*Track Newsletter (2005) - NCAA men's championships*							
date 11-Jun-05 time		11.3		21.3		32.2		44.5	44.51	/ 1							
reaction time interval				10.00		10.90		12.30		# of strides	11.30	10.00	10.90	12.30	21.30	23.20	1.90
velocity		8.85		10.00		9.17		8.13	8.99		8.85	10.00	9.17	8.13	9.39	8.62	

Wariner, Jeremy (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

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

date	13-Sep-08	time	11.12	21.53	32.41	44.51	44.51	4 / 2							
reaction time	0.175	interval		10.41	10.88	12.10		# of strides	11.12	10.41	10.88	12.10	21.53	22.98	1.45
		velocity	8.99	9.61	9.19	8.26	8.99		8.99	9.61	9.19	8.26	9.29	8.70	

McQuay, Tony (USA) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 USATF National Championships (Sacramento, CA)										*Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/*							
date	24-Jun-17	time	11.04	21.04	32.04	44.51	44.51	2 / 5									
reaction time		interval		10.00	11.00	12.47		# of strides	11.04	10.00	11.00	12.47	21.04	23.47	2.43		
		velocity	9.06	10.00	9.09	8.02	8.99		9.06	10.00	9.09	8.02	9.51	8.52			

Kerley, Fred (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)										*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*							
date	06-Aug-17	time	10.73	20.64	31.63	37.72	44.37	44.51	7 / 3								
reaction time	0.137	interval		9.91	10.99	6.09	6.65		# of strides	10.73	9.91	10.99	12.74	20.64	23.73	3.09	
		velocity	9.32	10.09	9.10	8.21	7.52	8.99	175.8	9.32	10.09	9.10	7.85	9.69	8.43		

Gardiner, Steven (BAH) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Herculis Meeting International d'Athlétisme (Monaco, MON)										*Omega Timing (2019) - diamond league race analysis*							
date	12-Jul-19	time	11.2	21.4	32.6	44.51	44.51	5 / 1									
reaction time	0.128	interval		10.2	11.2	11.9		# of strides	11.20	10.20	11.20	11.91	21.40	23.11	1.71		
		velocity	8.93	9.80	8.93	8.40	8.99	158.0	8.93	9.80	8.93	8.40	9.35	8.65			

James, Kirani (GRN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Memorial van Damme (Brussels, BEL)										*Omega Timing (2021) - diamond league race analysis*							
date	03-Sep-21	time	6.2	11.0	16.0	21.1	26.5	32.2	38.2	44.51	44.51	4 / 2							
reaction time	0.159	interval		4.80	5.00	5.10	5.40	5.70	6.00	6.31		# of strides	11.00	10.10	11.10	12.31	21.10	23.41	2.31
		velocity	8.06	10.42	10.00	9.80	9.26	8.77	8.33	7.92	8.99	161.0	9.09	9.90	9.01	8.12	9.48	8.54	

Hernández, Roberto (CUB) (1967)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1992 Olympic Games (Barcelona, ESP)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date	05-Aug-92	time		21.2		32		44.6	44.52	2 / 5							
reaction time		interval				10.80		12.60		# of strides			10.80	12.60	21.20	23.40	2.20	
		velocity		9.43		9.26		7.94	8.98				9.26	7.94	9.43	8.55	

Haughton, Gregory (JAM) (1973)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1995 NCAA Championships (Knoxville, TN)										*Track Newsletter (1995) - NCAA Championships*							
date	03-Jun-95	time		21.5				44.6	44.52	/ 1							
reaction time		interval						23.10	**PB**	# of strides					21.50	23.10	1.60
		velocity		9.30				8.66	8.98						9.30	8.66	

Thomas, Iwan (GBR) (1974)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 IAAF World Championships (Athens, GRE)										*Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*							
date	05-Aug-97	time	5.72	10.74	15.68	20.84	26.24	31.92	37.90	44.36	44.52	2 / 6							
reaction time	0.165	interval		5.02	4.94	5.16	5.40	5.68	5.98	6.46		# of strides	10.74	10.10	11.08	12.44	20.84	23.52	2.68
		velocity	8.74	9.96	10.12	9.69	9.26	8.80	8.36	7.74	8.98		9.31	9.90	9.03	8.04	9.60	8.50	

Gordon, Lalonde (TTO) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Olympic Games (London, GBR)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date	06-Aug-12	time		11.2		21.6		32.5		44.5	44.52	4 / 3							
reaction time	0.159	interval				10.40		10.90		12.00	**PB**	# of strides	11.20	10.40	10.90	12.00	21.60	22.90	1.30
		velocity		8.93		9.62		9.17		8.33	8.98	160.7	8.93	9.62	9.17	8.33	9.26	8.73	

Santos, Luguelín (DOM) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 IAAF World Championships (Moscow, RUS)										(2013) - www.trackandfieldnews.com/index.php?option=com_content&view=article&id=1698							
date	13-Aug-13	time		11.6		22.0		32.7		44.5	44.52	7 / 3							
reaction time	0.350	interval				10.4		10.7		11.8		# of strides	11.60	10.40	10.70	11.80	22.00	22.50	0.50
		velocity		8.62		9.62		9.35		8.47	8.98		8.62	9.62	9.35	8.47	9.09	8.89	

James, Kirani (GRN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date	24-Aug-23	time		11.13		21.34		32.18		44.52	44.52	4 / ~~5~~							
reaction time	0.133	interval				10.21		10.84		12.34	**DQ**	# of strides	11.13	10.21	10.84	12.34	21.34	23.18	1.84
		velocity		8.98		9.79		9.23		8.10	8.98	160.5	8.98	9.79	9.23	8.10	9.37	8.63	

Kamoga, Davis (UGA) (1968)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 Olympic Games (Atlanta, GA)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date	29-Jul-96	time		21.76		32.5		44.53	44.53	2 / 3							
reaction time	0.264	interval				10.74		12.03		# of strides			10.74	12.03	21.76	22.77	1.01	
		velocity		9.19		9.31		8.31	8.98				9.31	8.31	9.19	8.78	

Kikaya, Gary (COD) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 NCAA Championships (Baton Rouge, LA)										*Track Newsletter (2002) - NCAA championships*							
date	01-Jun-02	time		21.5		32.5		44.5	44.53	/ 1							
reaction time		interval				11.00		12.00	**NR**	# of strides			11.00	12.00	21.50	23.00	1.50
		velocity		9.30		9.09		8.33	8.98				9.09	8.33	9.30	8.70	

Carter, Xavier (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 NCAA Championships (Sacramento, CA)										*Track Newsletter (2006) - NCAA men's championships*							
date	10-Jun-06	time		11.3		21.6		32.7		44.5	44.53	/ 1							
reaction time		interval				10.30		11.10		11.80	**PB**	# of strides	11.30	10.30	11.10	11.80	21.60	22.90	1.30
		velocity		8.85		9.71		9.01		8.47	8.98		8.85	9.71	9.01	8.47	9.26	8.73	

Quow, Rennie (TTO) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)										Graubner (2011) - biomechanical analysis of the sprint and hurdle events at the 2009 IAAF world championships in athletics							
date	19-Aug-09	time	6.34	11.54	16.81	22.09	27.57	32.97	38.59	44.53	44.53	4 / 2							
reaction time	0.248	interval		5.20	5.27	5.28	5.48	5.40	5.62	5.94	**PB**	# of strides	11.54	10.55	10.88	11.56	22.09	22.44	0.35

		velocity	7.89	9.62	9.49	9.47	9.12	9.26	8.90	8.42	8.98		8.67	9.48	9.19	8.65	9.05	8.91	

Roberts, Gil (USA) (1989)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 USATF National Championships (Sacramento, CA)																		*Track Newsletter (2014) - USATF men's championships*	
date	28-Jun-14	time		11.0		21.5		32.8		44.5	44.53	/ 1							
reaction time		interval				10.5		11.3		11.7	PB	# of strides	11.00	10.50	11.30	11.70	21.50	23.00	1.50
		velocity		9.09		9.52		8.85		8.55	8.98		9.09	9.52	8.85	8.55	9.30	8.70	

Norman, Michael (USA) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Bauhaus Galan (Stockholm, SWE)																		*Omega Timing (2019) - diamond league race analysis*	
date	30-May-19	time		11.0		21.8		32.6		44.53	44.53	5 / 1							
reaction time	0.158	interval				10.8		10.8		11.9		# of strides	11.00	10.80	10.80	11.93	21.80	22.73	0.93
		velocity		9.09		9.26		9.26		8.38	8.98	172.7	9.09	9.26	9.26	8.38	9.17	8.80	

Hudson-Smith, Matthew (GBR) (1994

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 European Athletics Championships (Munich, GER)																		*European Athletics (2022) - european athletics championships race analysis*	
date	17-Aug-22	time		11.06		21.40		32.36		44.53	44.53	4 / 1							
reaction time	0.213	interval				10.34		10.96		12.17		# of strides	11.06	10.34	10.96	12.17	21.40	23.13	1.73
		velocity		9.04		9.67		9.12		8.22	8.98	165.0	9.04	9.67	9.12	8.22	9.35	8.65	

Holder, Reece (AUS) (2002)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2024 Olympic Games (Paris, FRA)																		*Paris 2024 Olympic Games - Results Book (2024)*	
date	04-Aug-24	time	6.07	10.86	15.76	20.88	26.28	31.99	38.05	44.53	44.53	6 / 3							
reaction time	0.144	interval		4.79	4.90	5.12	5.40	5.71	6.06	6.48	PB	# of strides	10.86	10.02	11.11	12.54	20.88	23.65	2.77
		velocity	8.24	10.44	10.20	9.77	9.26	8.76	8.25	7.72	8.98	171.0	9.21	9.98	9.00	7.97	9.58	8.46	

Dobson, Charles (GBR) (1999)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Athletissima (Lausanne, SUI)																		*Omega Timing (2024) - diamond league race analysis*	
date	22-Aug-24	time	6.04	10.98	16.03	21.31	26.76	32.46	38.31	44.53	44.53	4 / 5							
reaction time	0.147	interval		4.94	5.05	5.28	5.45	5.70	5.85	6.22		# of strides	10.98	10.33	11.15	12.07	21.31	23.22	1.91
		velocity	8.28	10.12	9.90	9.47	9.17	8.77	8.55	8.04	8.98		9.11	9.68	8.97	8.29	9.39	8.61	

dos Santos, Alison (BRA) (2000)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Miami (Miramar, FL)																		*Grand Slam Track (2025) - results and splits by race*	
date	04-May-25	time		11.04		21.28		32.37		44.53	44.53	5 / 1							
reaction time	0.190	interval				10.24		11.09		12.16	PB	# of strides	11.04	10.24	11.09	12.16	21.28	23.25	1.97
		velocity		9.06		9.77		9.02		8.22	8.98	159.0	9.06	9.77	9.02	8.22	9.40	8.60	

Matthews, Vince (USA) (1947)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1968 Pre-Olympic Test (Echo Summit, CA) (*Altitude*)																		*Hymans (2015) - progression of IAAF world records - 2015 edition*	
date	31-Aug-68	time				21.3				44.4	44.4	/ 1							
reaction time		interval								23.1	~~WR~~	# of strides	*illegal "brush" spikes*				21.30	23.10	1.80
		velocity				9.39				8.66	9.01						9.39	8.66	

Mills, Curtis (USA) (1948)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1969 NCAA Championships (Knoxville, TN) (*yards*)																		*Hymans (2015) - progression of IAAF world records - 2015 edition*	
date	21-Jun-69	time				21.6				44.4	44.4	/ 1							
reaction time		interval								22.8	WRy (44.93)	# of strides					21.60	22.80	1.20
		velocity				9.26				8.77	9.01	*(44.7/440y)*					9.26	8.77	

Collett, Wayne (USA) (1949)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1972 UCLA Meet of Champions (Westwood, CA) (*yards*)																		*Hymans (2015) - progression of IAAF world records - 2015 edition*	
date	15-Apr-72	time				21.3				44.4	44.4	7 / 2							
reaction time		interval								23.1	*(44.7/440y)*	# of strides					21.30	23.10	1.80
		velocity				9.39				8.66	9.01						9.39	8.66	

Tiacoh, Gabriel (CIV) (1963)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 Olympic Games (Los Angeles, CA)																		*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*	
date	08-Aug-84	time				21.6		32.4		44.6	44.54	7 / 2							
reaction time	0.191	interval						10.80		12.20	PB	# of strides			10.80	12.20	21.60	23.00	1.40
		velocity				9.26		9.26		8.20	8.98				9.26	8.20	9.26	8.70	

Kitur, Samson (KEN) (1966)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1993 IAAF World Championships (Stuttgart, GER)																		*Smith (1994) - 400m pace control*	
date	17-Aug-93	time				21.83		32.69		44.54	44.54	4 / 3							
reaction time		interval						10.86		11.85		# of strides			10.86	11.85	21.83	22.71	0.88
		velocity				9.16		9.21		8.44	8.98	167.0			9.21	8.44	9.16	8.81	

Pettigrew, Antonio (USA) (1967)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 IAAF World Championships (Sevilla, ESP)																		*Ferro (2001) - biomechanical analysis of the 7th world championships in athletics seville 1999*	
date	26-Aug-99	time	6.09	11.00	16.02	21.19	26.57	31.15	38.05	44.54	44.54	3 / ~~5~~							
reaction time	0.284	interval		4.91	5.02	5.17	5.38	4.58	6.90	6.49	DV	# of strides	11.00	10.19	9.96	13.39	21.19	23.35	2.16
		velocity	8.21	10.18	9.96	9.67	9.29	10.92	7.25	7.70	8.98		9.09	9.81	10.04	7.47	9.44	8.57	

Borlée, Jonathan (BEL) (1988)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 IAAF World Championships (Moscow, RUS)																		(2013) - www.trackandfieldnews.com/index.php?option=com_content&view=article&id=1698	
date	13-Aug-13	time		11.1		21.4		32.4		44.5	44.54	8 / 4							
reaction time	0.224	interval				10.3		11.0		12.1		# of strides	11.10	10.30	11.00	12.10	21.40	23.10	1.70
		velocity		9.01		9.71		9.09		8.26	8.98		9.01	9.71	9.09	8.26	9.35	8.66	

Yousif, Rabah (GBR) (1986)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2015 IAAF World Championships (Beijing, CHN)																		*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*	
date	24-Aug-15	time	6.18	11.32	16.45	21.75	27.14	32.68	38.51	44.54	44.54	4 / 3							
reaction time	0.142	interval		5.14	5.13	5.30	5.39	5.54	5.83	6.03	PB	# of strides	11.32	10.43	10.93	11.86	21.75	22.79	1.04
		velocity	8.09	9.73	9.75	9.43	9.28	9.03	8.58	8.29	8.98	162.5	8.83	9.59	9.15	8.43	9.20	8.78	

Thebe, Baboloki (BOT) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2018 Müller Anniversary Games (London, GBR) *Omega Timing (2018) - diamond league race analysis*

date	21-Jul-18	time	11.6	21.9	32.8	44.54	44.54	9 / 4							
reaction time	0.165	interval		10.3	10.9	11.7		# of strides	11.60	10.30	10.90	11.74	21.90	22.64	0.74
		velocity	8.62	9.71	9.17	8.52	8.98	174.5	8.62	9.71	9.17	8.52	9.13	8.83	

Deadmon, Bryce (USA) (1997)

FINAL - 2022 USATF National Championships (Eugene, OR) *Track Newsletter (2022) - USATF championships men*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-22	time		10.97		21.29		32.48		44.54	44.54	/ ~~6~~ 5							
reaction time		interval				10.32		11.19		12.06		# of strides	10.97	10.32	11.19	12.06	21.29	23.25	1.96
		velocity		9.12		9.69		8.94		8.29	8.98		9.12	9.69	8.94	8.29	9.39	8.60	

James, Kirani (GRN) (1992)

FINAL - 2022 Golden Gala Pietro Mennea (Rome, ITA) *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-22	time	6.19	11.13	16.24	21.49	26.88	32.54	38.41	44.54	44.54	5 / 1							
reaction time	0.151	interval		4.94	5.11	5.25	5.39	5.66	5.87	6.13		# of strides	11.13	10.36	11.05	12.00	21.49	23.05	1.56
		velocity	8.08	10.12	9.78	9.52	9.28	8.83	8.52	8.16	8.98		8.98	9.65	9.05	8.33	9.31	8.68	

Clark, Darren (AUS) (1965)

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Sep-88	time		11.22		21.61		32.55		44.55	44.55	5 / 4							
reaction time	0.176	interval				10.39		10.94		12.00		# of strides	11.22	10.39	10.94	12.00	21.61	22.94	1.33
		velocity		8.91		9.62		9.14		8.33	8.98		8.91	9.62	9.14	8.33	9.25	8.72	

Gaye, Demish (JAM) (1993)

Semi-Final 3 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-17	time		10.88		20.84		31.88	37.88	44.39	44.55	6 / 2							
reaction time	0.157	interval				9.96		11.04	6.00	6.51	PB	# of strides	10.88	9.96	11.04	12.51	20.84	23.55	2.71
		velocity		9.19		10.04		9.06	8.33	7.68	8.98	181.4	9.19	10.04	9.06	7.99	9.60	8.49	

Zambrano, Anthony (COL) (1998)

Semi-Final 3 - 2019 IAAF World Championships (Doha, QAT) *Yamanaka (2019) - race analysis of men and women 400m competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Oct-19	time	6.15	11.09	16.19	21.56	27.07	32.67	38.42	44.55	44.55	8 / 2							
reaction time	0.183	interval		4.94	5.10	5.37	5.51	5.60	5.75	6.13	NR PB	# of strides	11.09	10.47	11.11	11.88	21.56	22.99	1.43
		velocity	8.13	10.12	9.80	9.31	9.07	8.93	8.70	8.16	8.98	177.2	9.02	9.55	9.00	8.42	9.28	8.70	

James, Kirani (GRN) (1992)

FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL) *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-22	time	6.10	11.04	16.19	21.46	26.88	32.51	38.41	44.55	44.55	6 / 2							
reaction time	0.152	interval		4.94	5.15	5.27	5.42	5.63	5.90	6.14		# of strides	11.04	10.42	11.05	12.04	21.46	23.09	1.63
		velocity	8.20	10.12	9.71	9.49	9.23	8.88	8.47	8.14	8.98	159.2	9.06	9.60	9.05	8.31	9.32	8.66	

Norwood, Vernon (USA) (1992)

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-24	time	6.10	10.94	15.98	21.20	26.57	32.18	38.03	44.55	44.55	7 / 6							
reaction time	0.173	interval		4.84	5.04	5.22	5.37	5.61	5.85	6.52		# of strides	10.94	10.26	10.98	12.37	21.20	23.35	2.15
		velocity	8.20	10.33	9.92	9.58	9.31	8.91	8.55	7.67	8.98		9.14	9.75	9.11	8.08	9.43	8.57	

Richards, Jereem (TTO) (1994)

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Aug-24	time	6.11	11.01	16.13	21.49	27.03	32.72	38.46	44.55	44.55	6 / 3							
reaction time	0.145	interval		4.90	5.12	5.36	5.54	5.69	5.74	6.09		# of strides	11.01	10.48	11.23	11.83	21.49	23.06	1.57
		velocity	8.18	10.20	9.77	9.33	9.03	8.79	8.71	8.21	8.98	171.0	9.08	9.54	8.90	8.45	9.31	8.67	

Egbunike, Innocent (NGR) (1961)

FINAL - 1987 IAAF World Championship (Rome, ITA) *Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Sep-87	time		10.91		21.14		32.32		44.56	44.56	2 / 2							
reaction time		interval				10.23		11.18		12.24		# of strides	10.91	10.23	11.18	12.24	21.14	23.42	2.28
		velocity		9.17		9.78		8.94		8.17	8.98		9.17	9.78	8.94	8.17	9.46	8.54	

Hall, Darrell (USA) (1971)

FINAL - 1995 USATF National Championships (Sacramento, CA) *Track Newsletter (1995) - USATF National Championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Jun-95	time		11.0		21.2		32.3		44.6	44.56	/ 3							
reaction time		interval				10.20		11.10		12.30		# of strides	11.00	10.20	11.10	12.30	21.20	23.40	2.20
		velocity		9.09		9.80		9.01		8.13	8.98		9.09	9.80	9.01	8.13	9.43	8.55	

Haughton, Gregory (JAM) (1973)

FINAL - 1995 IAAF World Championships (Göteborg, SWE) *Track Newsletter (1995) - World Championships V*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Aug-95	time		11.4		21.5		32.2		44.6	44.56	3 / 3							
reaction time		interval				10.10		10.70		12.40		# of strides	11.40	10.10	10.70	12.40	21.50	23.10	1.60
		velocity		8.77		9.90		9.35		8.06	8.98		8.77	9.90	9.35	8.06	9.30	8.66	

Samukonga, Muzala (ZAM) (2002)

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-24	time	6.10	10.83	15.83	21.09	26.51	32.15	38.03	44.56	44.56	3 / 1							
reaction time	0.151	interval		4.73	5.00	5.26	5.42	5.64	5.88	6.53		# of strides	10.83	10.26	11.06	12.41	21.09	23.47	2.38
		velocity	8.20	10.57	10.00	9.51	9.23	8.87	8.50	7.66	8.98	177.0	9.23	9.75	9.04	8.06	9.48	8.52	

Ndori, Bayapo (BOT) (1999)

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Aug-24	time	6.08	11.05	16.18	21.48	26.94	32.58	38.36	44.56	44.56	7 / 4							
reaction time	0.153	interval		4.97	5.13	5.30	5.46	5.64	5.78	6.20		# of strides	11.05	10.43	11.10	11.98	21.48	23.08	1.60
		velocity	8.22	10.06	9.75	9.43	9.16	8.87	8.65	8.06	8.98	175.0	9.05	9.59	9.01	8.35	9.31	8.67	

Samukonga, Muzala (ZAM) (2002)

Long Sprints - 2025 Grand Slam Track Miami (Miramar, FL) *Grand Slam Track (2025) - results and splits by race*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-25	time		13.18		21.54		32.74		44.56	44.56	5 / 4							
reaction time	0.210	interval				8.36		11.20		11.82		# of strides	13.18	8.36	11.20	11.82	21.54	23.02	1.48

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		7.59		11.96		8.93		8.46	8.98		7.59	11.96	8.93	8.46	9.29	8.69	

Pettigrew, Antonio (USA) (1967)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1991 IAAF World Championships (Tokyo, JPN)																			*Mochida (2008) - about the race pattern of the men's 400m in the world's top level*
date	29-Aug-91	time		11.35		21.39		32.22		44.57	44.57	4 / 1							
reaction time		interval				10.04		10.83		12.35		# of strides	11.35	10.04	10.83	12.35	21.39	23.18	1.79
		velocity		8.81		9.96		9.23		8.10	8.97	168.7	8.81	9.96	9.23	8.10	9.35	8.63	

Pettigrew, Antonio (USA) (1967)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 IAAF World Championships (Athens, GRE)																			*Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*
date	05-Aug-97	time	6.30	11.26	16.44	21.72	27.00	32.50	38.22	44.30	44.57	8 / ~~7~~							
reaction time	0.275	interval		4.96	5.18	5.28	5.28	5.50	5.72	6.08	DV	# of strides	11.26	10.46	10.78	11.80	21.72	22.58	0.86
		velocity	7.94	10.08	9.65	9.47	9.47	9.09	8.74	8.22	8.97		8.88	9.56	9.28	8.47	9.21	8.86	

Zambrano, Anthony (COL) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Doha Diamond League (Doha, QAT)																			*Omega Timing (2021) - diamond league race analysis*
date	28-May-21	time	6.2	11.3	16.5	22.0	27.5	33.1	38.8	44.57	44.57	3 / 2							
reaction time	0.139	interval		5.10	5.20	5.50	5.50	5.60	5.70	5.77		# of strides	11.30	10.70	11.10	11.47	22.00	22.57	0.57
		velocity	8.06	9.80	9.62	9.09	9.09	8.93	8.77	8.67	8.97		8.85	9.35	9.01	8.72	9.09	8.86	

van Niekerk, Wayde (RSA) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)																			*Seiko Timing (2023) - world championship race analysis*
date	20-Aug-23	time		11.17		21.31		32.56		44.57	44.57	4 / 1							
reaction time	0.185	interval				10.14		11.25		12.01		# of strides	11.17	10.14	11.25	12.01	21.31	23.26	1.95
		velocity		8.95		9.86		8.89		8.33	8.97	162.0	8.95	9.86	8.89	8.33	9.39	8.60	

Mills, Derek (USA) (1972)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1995 USATF National Championships (Sacramento, CA)																			*Track Newsletter (1995) - USATF National Championships*
date	16-Jun-95	time		11.2		21.5		32.4		44.6	44.58	/ 4							
reaction time		interval				10.30		10.90		12.20		# of strides	11.20	10.30	10.90	12.20	21.50	23.10	1.60
		velocity		8.93		9.71		9.17		8.20	8.97		8.93	9.71	9.17	8.20	9.30	8.66	

Reynolds, Harry (Butch) (USA) (1964)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)																			*USATF Women's Sprint Development (1996)*
date	17-Jun-96	time		11.12		21.84		32.96	38.65	44.58	44.58	3 / 2							
reaction time		interval				10.72		11.12	5.69	5.93		# of strides	11.12	10.72	11.12	11.62	21.84	22.74	0.90
		velocity		8.99		9.33		8.99	8.79	8.43	8.97		8.99	9.33	8.99	8.61	9.16	8.80	

Merritt, LaShawn (USA) (1986)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Athletic Final (Stuttgart, GER)																			*Graubner (2007) - http://www.fgs.uni-halle.de*
date	22-Sep-07	time		10.92		21.24		38.35		44.58	44.58	5 / 1							
reaction time	0.169	interval				10.32		17.11		6.23		# of strides	10.92	10.32	17.11	6.23	21.24	23.34	2.10
		velocity		9.16		9.69		5.84		16.05	8.97		9.16	9.69	5.84	16.05	9.42	8.57	

Montgomery, Kahmari (USA) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 USATF National Championships (Des Moines, IA)																			*Track Newsletter (2018) - USATF championships men*
date	23-Jun-18	time				21.8		32.8		44.6	44.58	/ 1							
reaction time		interval						11.00		11.80	PB	# of strides			11.00	11.80	21.80	22.80	1.00
		velocity				9.17		9.09		8.47	8.97				9.09	8.47	9.17	8.77	

James, Kirani (GRN) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)																			*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*
date	22-Aug-23	time	5.95	10.76	15.68	20.84	26.32	32.10	38.13	44.58	44.58	5 / 2							
reaction time	0.147	interval		4.81	4.92	5.16	5.48	5.78	6.03	6.45		# of strides	10.76	10.08	11.26	12.48	20.84	23.74	2.90
		velocity	8.40	10.40	10.16	9.69	9.12	8.65	8.29	7.75	8.97	162.0	9.29	9.92	8.88	8.01	9.60	8.42	

James, Kirani (GRN) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bislett Games (Oslo, NOR)																			*Omega Timing (2024) - diamond league race analysis*
date	30-May-24	time	6.14	11.03	16.10	21.37	26.66	32.37	38.30	44.58	44.58	7 / 2							
reaction time	0.162	interval		4.89	5.07	5.27	5.29	5.71	5.93	6.28		# of strides	11.03	10.34	11.00	12.21	21.37	23.21	1.84
		velocity	8.14	10.22	9.86	9.49	9.45	8.76	8.43	7.96	8.97	158.7	9.07	9.67	9.09	8.19	9.36	8.62	

Pillay, Lythe (RSA) (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)																			*Omega Timing (2024) - diamond league race analysis*
date	12-Jul-24	time	6.21	11.14	16.18	21.38	26.87	32.49	38.33	44.58	44.58	3 / 3							
reaction time	0.150	interval		4.93	5.04	5.20	5.49	5.62	5.84	6.25		# of strides	11.14	10.24	11.11	12.09	21.38	23.20	1.82
		velocity	8.05	10.14	9.92	9.62	9.11	8.90	8.56	8.00	8.97	172.2	8.98	9.77	9.00	8.27	9.35	8.62	

Bailey, Chris (USA) (2000)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	07-Aug-24	time	6.34	11.38	16.57	21.89	27.34	32.89	38.61	44.58	44.58	2 / 6							
reaction time	0.178	interval		5.04	5.19	5.32	5.45	5.55	5.72	5.97		# of strides	11.38	10.51	11.00	11.69	21.89	22.69	0.80
		velocity	7.89	9.92	9.63	9.40	9.17	9.01	8.74	8.38	8.97	179.0	8.79	9.51	9.09	8.55	9.14	8.81	

Pettigrew, Antonio (USA) (1967)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 USATF National Championship (Eugene, OR)																			*Track Newsletter (1999) - USATF National Championships*
date	26-Jun-99	time				22.0				44.6	44.59	/ ~~2~~							
reaction time		interval								22.60	DV	# of strides					22.00	22.60	0.60
		velocity				9.09				8.85	8.97						9.09	8.85	

Potter, Mitchell (USA) (1980)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 NCAA Championships (Sacramento, CA)																			*Track Newsletter (2003) - NCAA championships*
date	14-Jun-03	time				21.4		32.4		44.6	44.59	/ 3							
reaction time		interval						11.00		12.20	PB	# of strides			11.00	12.20	21.40	23.20	1.80
		velocity				9.35		9.09		8.20	8.97				9.09	8.20	9.35	8.62	

Djhone, Leslie (FRA) (1981)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2007 IAAF World Championships (Osaka, JPN) — *Mochida (2008) - biomechancial analysis of the 400m final race at ehe 2007 world championships in athletics*

date	31-Aug-07	time	6.18	10.96	15.90	21.09	26.49	32.16	38.17	44.59	44.59	7 / 5						
reaction time	0.151	interval		4.78	4.94	5.19	5.40	5.67	6.01	6.42		# of strides	10.96	10.13	11.07	12.43	21.09	23.50	2.41
		velocity	8.09	10.46	10.12	9.63	9.26	8.82	8.32	7.79	8.97	164.5	9.12	9.87	9.03	8.05	9.48	8.51	

James, Kirani (GRN) (1992)

Semi-Final 2 - 2012 Olympic Games (London, GBR) — Hadley (2012) - uka 2012 olympic games report: 400m, 4x 400m

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 05-Aug-12	time			21.40		32.13		44.59	44.59	7 / 1							
reaction time 0.170	interval					10.73		12.46		# of strides			10.73	12.46	21.40	23.19	1.79
	velocity			9.35		9.32		8.03	8.97	158.7			9.32	8.03	9.35	8.62	

Wilson, Quincy (USA) (2008)

Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 23-Jun-24	time		11.00		21.37		32.54		44.59	44.59	6 / 3							
reaction time	interval				10.37		11.17		12.05	WU18B PB	# of strides	11.00	10.37	11.17	12.05	21.37	23.22	1.85
	velocity		9.09		9.64		8.95		8.30	8.97		9.09	9.64	8.95	8.30	9.36	8.61	

Markin, Viktor (URS) (1957)

FINAL - 1980 Olympic Games (Moscow, URS) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 30-Jul-80	time			21.2		32.6		44.6	44.60	2 / 1							
reaction time 0.173	interval					11.4		12.00	NR	# of strides			11.40	12.00	21.20	23.40	2.20
	velocity			9.43		8.77		8.33	8.97	175.0			8.77	8.33	9.43	8.55	

Schönlebe, Thomas (GDR) (1965)

Semi-Final 1 - 1987 IAAF World Championship (Rome, ITA) — *Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 01-Sep-87	time		11.09		21.27		32.28		44.60	44.60	3 / 2						
reaction time	interval				10.18		11.01		12.32		# of strides	11.09	10.18	11.01	12.32	21.27	23.33	2.06
	velocity		9.02		9.82		9.08		8.12	8.97		9.02	9.82	9.08	8.12	9.40	8.57	

Morris, Ian (TTO) (1961)

Semi-Final 2 - 1988 Olympic Games (Seoul, KOR) — *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 26-Sep-88	time		11.31		21.83		32.69		44.60	44.60	3 / 2						
reaction time 0.211	interval				10.52		10.86		11.91	PB	# of strides	11.31	10.52	10.86	11.91	21.83	22.77	0.94
	velocity		8.84		9.51		9.21		8.40	8.97		8.84	9.51	9.21	8.40	9.16	8.78	

Wariner, Jeremy (USA) (1984)

FINAL - 2009 IAAF World Championships (Berlin, GER) — Graubner (2011) - biomechanical analysis of the sprint and hurdle events at the 2009 IAAF world championships in athletics

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 21-Aug-09	time	6.01	10.98	16.13	21.41	26.86	32.34	38.11	44.60	44.60	6 / 2						
reaction time 0.162	interval		4.97	5.15	5.28	5.45	5.48	5.77	6.49		# of strides	10.98	10.43	10.93	12.26	21.41	23.19	1.78
	velocity	8.32	10.06	9.71	9.47	9.17	9.12	8.67	7.70	8.97		9.11	9.59	9.15	8.16	9.34	8.62	

James, Kirani (GRN) (1992)

FINAL - 2011 IAAF World Championships (Daegu, KOR) — *Butler (2013) - IAAF world athletic results 2008-2011 full results*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 30-Aug-11	time			21.6		32.5		44.6	44.60	5 / 1							
reaction time 0.137	interval					10.9		12.1	PB	# of strides			10.90	12.10	21.60	23.00	1.40
	velocity			9.26		9.17		8.26	8.97	162.0			9.17	8.26	9.26	8.70	

Kerley, Fred (USA) (1995)

FINAL - 2021 Doha Diamond League (Doha, QAT) — *Omega Timing (2021) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 28-May-21	time	6.1	11.1	16.1	21.4	26.9	32.5	38.3	44.60	44.60	4 / 3						
reaction time 0.140	interval		5.00	5.00	5.30	5.50	5.60	5.80	6.30		# of strides	11.10	10.30	11.10	12.10	21.40	23.20	1.80
	velocity	8.20	10.00	10.00	9.43	9.09	8.93	8.62	7.94	8.97		9.01	9.71	9.01	8.26	9.35	8.62	

Hall, Quincy (USA) (1998)

Heat 1 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 21-Jun-24	time		11.18		21.40		32.50		44.60	44.60	7 / 1						
reaction time	interval				10.22		11.10		12.10		# of strides	11.18	10.22	11.10	12.10	21.40	23.20	1.80
	velocity		8.94		9.78		9.01		8.26	8.97	158.0	8.94	9.78	9.01	8.26	9.35	8.62	

Neville, David (USA) (1984)

FiNAL - 2008 USA Olympic Trials (Eugene, OR) — *USATF Women's Sprint Development with HPC (2008)*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 03-Jul-08	time		10.99	15.65	21.25	26.56	32.28	38.18	44.61	44.61	8 / 3						
reaction time	interval			4.66	5.60	5.31	5.72	5.90	6.43	PB	# of strides	10.99	10.26	11.03	12.33	21.25	23.36	2.11
	velocity		9.10	10.73	8.93	9.42	8.74	8.47	7.78	8.97		9.10	9.75	9.07	8.11	9.41	8.56	

Hudson-Smith, Matthew (GBR) (1994

FINAL - 2016 Olympic Games (Rio de Janeiro, BRA) — *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 14-Aug-16	time	6.20	11.19	16.25	21.53	26.98	32.50	38.28	44.61	44.61	7 / 8						
reaction time 0.138	interval		4.99	5.06	5.28	5.45	5.52	5.78	6.33		# of strides	11.19	10.34	10.97	12.11	21.53	23.08	1.55
	velocity	8.06	10.02	9.88	9.47	9.17	9.06	8.65	7.90	8.97	159.0	8.94	9.67	9.12	8.26	9.29	8.67	

Godwin, Elija (USA) (1999)

FINAL - 2021 South Eastern Conference Championships (College Station, TX) — *Vazel (2021) - https://twitter.com/pjvazel/status/1393829441172803591?s=21*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 15-May-21	time		10.6		20.4		31.5		44.61	44.61	4 / 3						
reaction time	interval				9.80		11.10		13.11	PB	# of strides	10.60	9.80	11.10	13.11	20.40	24.21	3.81
	velocity		9.43		10.20		9.01		7.63	8.97	180.0	9.43	10.20	9.01	7.63	9.80	8.26	

James, Kirani (GRN) (1992)

FINAL - 2021 Doha Diamond League (Doha, QAT) — *Omega Timing (2021) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 28-May-21	time	6.2	11.1	16.2	21.5	26.9	32.5	38.4	44.61	44.61	6 / 4						
reaction time 0.159	interval		4.90	5.10	5.30	5.40	5.60	5.90	6.21		# of strides	11.10	10.40	11.00	12.11	21.50	23.11	1.61
	velocity	8.06	10.20	9.80	9.43	9.26	8.93	8.47	8.05	8.97	162.0	9.01	9.62	9.09	8.26	9.30	8.65	

Ndori, Bayapo (BOT) (1999)

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 16-Jul-23	time	6.12	11.12	16.21	21.41	26.89	32.61	38.49	44.61	44.61	2 / 2						
reaction time 0.162	interval		5.00	5.09	5.20	5.48	5.72	5.88	6.12	=PB	# of strides	11.12	10.29	11.20	12.00	21.41	23.20	1.79

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	8.17	10.00	9.82	9.62	9.12	8.74	8.50	8.17	8.97		8.99	9.72	8.93	8.33	9.34	8.62	

Norwood, Vernon (USA) (1992)

FINAL - 2023 Prefontaine Classic (Eugene, OR) — *Omega Timing (2023) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Sep-23	time	6.12	11.05	16.18	21.54	26.94	32.54	38.31	44.61	44.61	7 / 3							
reaction time	0.164	interval		4.93	5.13	5.36	5.40	5.60	5.77	6.30		# of strides	11.05	10.49	11.00	12.07	21.54	23.07	1.53
		velocity	8.17	10.14	9.75	9.33	9.26	8.93	8.67	7.94	8.97		9.05	9.53	9.09	8.29	9.29	8.67	

Deadmon, Bryce (USA) (1997)

FINAL - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-24	time		11.04		21.58		32.78		44.61	44.61	6 / 5							
reaction time		interval				10.54		11.20		11.83		# of strides	11.04	10.54	11.20	11.83	21.58	23.03	1.45
		velocity		9.06		9.49		8.93		8.45	8.97	167.0	9.06	9.49	8.93	8.45	9.27	8.68	

Black, Roger (GBR) (1966)

FINAL - 1991 IAAF World Championships (Tokyo, JPN) — *Mochida (2008) - about the race pattern of the men's 400m in the world's top level*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Aug-91	time		11.00		21.15		32.05		44.62	44.62	3 / 2							
reaction time		interval				10.15		10.90		12.57		# of strides	11.00	10.15	10.90	12.57	21.15	23.47	2.32
		velocity		9.09		9.85		9.17		7.96	8.96	164.5	9.09	9.85	9.17	7.96	9.46	8.52	

Harrison, Alvin (USA) (1974)

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-96	time				21.41		32.4		44.62	44.62	1 / 4							
reaction time	0.237	interval						10.99		12.22		# of strides			10.99	12.22	21.41	23.21	1.80
		velocity				9.34		9.10		8.18	8.96				9.10	8.18	9.34	8.62	

Harrison, Calvin (USA) (1974)

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-03	time				21.65		32.55	38.36	44.62	44.62	2 / ~~2~~							
reaction time		interval						10.90	5.81	6.26	DV	# of strides			10.90	12.07	21.65	22.97	1.32
		velocity				9.24		9.17	8.61	7.99	8.96				9.17	8.29	9.24	8.71	

Williamson, Darold (USA) (1983)

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-05	time		11.61	16.72	21.90	27.14	32.58	38.41	44.62	44.62	4 / 2							
reaction time		interval			5.11	5.18	5.24	5.44	5.83	6.21		# of strides	11.61	10.29	10.68	12.04	21.90	22.72	0.82
		velocity		8.61	9.78	9.65	9.54	9.19	8.58	8.05	8.96		8.61	9.72	9.36	8.31	9.13	8.80	

Samba, Abderrahman (QAT) (1995)

FINAL - 2018 Müller Anniversary Games (London, GBR) — *Omega Timing (2018) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-18	time		11.4		21.8		32.8		44.62	44.62	2 / 5							
reaction time	0.179	interval				10.4		11.0		11.8	PB	# of strides	11.40	10.40	11.00	11.82	21.80	22.82	1.02
		velocity		8.77		9.62		9.09		8.46	8.96	179.7	8.77	9.62	9.09	8.46	9.17	8.76	

Everett, Danny (USA) (1966)

FINAL - 1991 IAAF World Championships (Tokyo, JPN) — *Mochida (2008) - about the race pattern of the men's 400m in the world's top level*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Aug-91	time		11.18		21.52		32.33		44.63	44.63	5 / 3							
reaction time		interval				10.34		10.81		12.30		# of strides	11.18	10.34	10.81	12.30	21.52	23.11	1.59
		velocity		8.94		9.67		9.25		8.13	8.96	172.2	8.94	9.67	9.25	8.13	9.29	8.65	

Harrison, Alvin (USA) (1974)

FINAL - 2000 USA Olympic Trials (Sacramento, CA) — *Hymans (2008) - history of the US olympic trials - track and field*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Jul-00	time		11.4		21.7		32.5		44.6	44.63	4 / 2							
reaction time		interval				10.3		10.8		12.1		# of strides	11.40	10.30	10.80	12.10	21.70	22.90	1.20
		velocity		8.77		9.71		9.26		8.26	8.96		8.77	9.71	9.26	8.26	9.22	8.73	

Merritt, LaShawn (USA) (1986)

FINAL - 2011 IAAF World Championships (Daegu, KOR) — *Butler (2013) - IAAF world athletic results 2008-2011 full results*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Aug-11	time				21.5		32.5		44.63	44.63	4 / 2							
reaction time	0.263	interval						11.0		12.1		# of strides			11.00	12.13	21.50	23.13	1.63
		velocity				9.30		9.09		8.24	8.96	172.7			9.09	8.24	9.30	8.65	

Verburg, David (USA) (1991)

FINAL - 2015 USATF National Championships (Eugene, OR) — *Track Newsletter (2015) - USATF men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-15	time				21.6		32.8		44.6	44.63	/ 1							
reaction time		interval						11.2		11.8		# of strides			11.20	11.80	21.60	23.00	1.40
		velocity				9.26		8.93		8.47	8.96				8.93	8.47	9.26	8.70	

Makwala, Isaac (BOT) (1986)

FINAL - 2015 IAAF World Championships (Beijing, CHN) — *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-15	time	6.14	10.91	15.85	20.98	26.22	31.71	37.80	44.63	44.63	4 / 5							
reaction time	0.218	interval		4.77	4.94	5.13	5.24	5.49	6.09	6.83		# of strides	10.91	10.07	10.73	12.92	20.98	23.65	2.67
		velocity	8.14	10.48	10.12	9.75	9.54	9.11	8.21	7.32	8.96		9.17	9.93	9.32	7.74	9.53	8.46	

Roberts, Gil (USA) (1989)

Heat 2 - 2017 USATF National Championships (Sacramento, CA) — *Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-17	time		11.08		21.19		32.32		44.63	44.63	/ 1							
reaction time		interval				10.11		11.13		12.31		# of strides	11.08	10.11	11.13	12.31	21.19	23.44	2.25
		velocity		9.03		9.89		8.98		8.12	8.96		9.03	9.89	8.98	8.12	9.44	8.53	

Hudson-Smith, Matthew (GBR) (1994

FINAL - 2018 Müller Anniversary Games (London, GBR) — *Omega Timing (2018) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-18	time		11.2		21.5		32.6		44.63	44.63	8 / 6							
reaction time	0.151	interval				10.3		11.1		12.0		# of strides	11.20	10.30	11.10	12.03	21.50	23.13	1.63
		velocity		8.93		9.71		9.01		8.31	8.96	163.0	8.93	9.71	9.01	8.31	9.30	8.65	

London, Wil (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2019 NCAA Championships (Austin, TX) *Track Newsletter (2019) - NCAA men's championships*

date	07-Jun-19	time			21.8		32.7		44.6	44.63	/ 3					
reaction time	0.218	interval					10.90		11.90		# of strides			10.90	11.90	21.80	22.80	1.00
		velocity			9.17		9.17		8.40	8.96				9.17	8.40	9.17	8.77	

Jones, Jonathan (BAR) (1999)

FINAL - 2019 Müller Anniversary Games (London, GBR) *Omega Timing (2019) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 21-Jul-19 time		11.2		21.3		32.3		44.63	44.63	8 / 2							
reaction time 0.185 interval				10.1		11.0		12.3	NR	# of strides	11.20	10.10	11.00	12.33	21.30	23.33	2.03
velocity		8.93		9.90		9.09		8.11	8.96	174.2	8.93	9.90	9.09	8.11	9.39	8.57	

James, Kirani (GRN) (1992)

FINAL - 2021 Bauhaus Galan (Stockholm, SWE) *Omega Timing (2021) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 04-Jul-21 time	6.1	10.9	15.9	21.0	26.4	32.2	38.2	44.63	44.63	5 / 1							
reaction time 0.158 interval		4.80	5.00	5.10	5.40	5.80	6.00	6.43		# of strides	10.90	10.10	11.20	12.43	21.00	23.63	2.63
velocity	8.20	10.42	10.00	9.80	9.26	8.62	8.33	7.78	8.96	161.0	9.17	9.90	8.93	8.05	9.52	8.46	

James, Kirani (GRN) (1992)

FINAL - 2024 Memorial van damme (Brussels, BEL) *Omega Timing (2024) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 13-Sep-24 time	6.13	10.93	15.99	21.27	26.74	32.45	38.38	44.63	44.63	4 / 2							
reaction time 0.140 interval		4.80	5.06	5.28	5.47	5.71	5.93	6.25		# of strides	10.93	10.34	11.18	12.18	21.27	23.36	2.09
velocity	8.16	10.42	9.88	9.47	9.14	8.76	8.43	8.00	8.96	161.0	9.15	9.67	8.94	8.21	9.40	8.56	

Kebinatshipi, Collen (BOT) (2004)

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 03-May-25 time	6.11	11.12	16.34	21.73	27.19	32.84	38.62	44.63	44.63	3 / 3							
reaction time 0.171 interval		5.01	5.22	5.39	5.46	5.65	5.78	6.01		# of strides	11.12	10.61	11.11	11.79	21.73	22.90	1.17
velocity	8.18	9.98	9.58	9.28	9.16	8.85	8.65	8.32	8.96	182.0	8.99	9.43	9.00	8.48	9.20	8.73	

Smith, Tommie (USA) (1944)

FINAL - 1967 San Jose State Invitaional (San Jose, CA) (*yards*) *Drake (1967) - der schnellste sprint der geschichte*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 20-May-67 time		11.0		21.6		33.3		44.5	44.5	/ 1							
reaction time interval				10.6		11.7		11.2	WR yards	# of strides	11.00	10.60	11.70	11.20	21.60	22.90	1.30
velocity		9.09		9.43		8.55		8.93	8.99	*(44.8/440y)*	9.09	9.43	8.55	8.93	9.26	8.73	

Smith, John (USA) (1950)

FINAL - 1972 NCAA Championships (Eugene, OR) *Robinson (1974) - modern techniques of track and field*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 03-Jun-72 time				22.1				44.5	44.5	5 / 1							
reaction time interval								22.4		# of strides					22.10	22.40	0.30
velocity				9.05				8.93	8.99						9.05	8.93	

Cedenio, Machel (TTO) (1995)

Semi-Final 3 - 2015 IAAF World Championships (Beijing, CHN) *Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 24-Aug-15 time	6.23	11.20	16.23	21.47	27.00	32.54	38.37	44.64	44.64	5 / 3							
reaction time 0.219 interval		4.97	5.03	5.24	5.53	5.54	5.83	6.27		# of strides	11.20	10.27	11.07	12.10	21.47	23.17	1.70
velocity	8.03	10.06	9.94	9.54	9.04	9.03	8.58	7.97	8.96	162.0	8.93	9.74	9.03	8.26	9.32	8.63	

Haroun, Abdalelah (QAT) (1997)

Semi-Final 2 - 2017 IAAF World Championships (London, GBR) *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 06-Aug-17 time		11.03		21.41		32.41	38.30	44.46	44.64	9 / 3							
reaction time 0.179 interval				10.38		11.00	5.89	6.16		# of strides	11.03	10.38	11.00	12.05	21.41	23.05	1.64
velocity		9.07		9.63		9.09	8.49	8.12	8.96	168.1	9.07	9.63	9.09	8.30	9.34	8.68	

Dedewo, Paul (USA) (1991)

FINAL - 2018 USATF National Championships (Des Moines, IA) *Track Newsletter (2018) - USATF championships men*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 23-Jun-18 time				21.6		32.7		44.7	44.64	/ 2							
reaction time interval						11.10		12.00		# of strides			11.10	12.00	21.60	23.10	1.50
velocity				9.26		9.01		8.33	8.96				9.01	8.33	9.26	8.66	

Jones, Jonathan (BAR) (1999)

FINAL - 2019 NCAA Championships (Austin, TX) *Track Newsletter (2019) - NCAA men's championships*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 07-Jun-19 time				21.6		32.4		44.6	44.64	/ 4							
reaction time 0.353 interval						10.80		12.20	NR	# of strides			10.80	12.20	21.60	23.00	1.40
velocity				9.26		9.26		8.20	8.96				9.26	8.20	9.26	8.70	

Yahia Ibrahim, Ammar Ismail (QAT) (1

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 06-Aug-24 time	6.31	11.29	16.31	21.46	26.74	32.33	38.24	44.64	44.64	3 / 5							
reaction time 0.163 interval		4.98	5.02	5.15	5.28	5.59	5.91	6.40	PB	# of strides	11.29	10.17	10.87	12.31	21.46	23.18	1.72
velocity	7.92	10.04	9.96	9.71	9.47	8.94	8.46	7.81	8.96	176.0	8.86	9.83	9.20	8.12	9.32	8.63	

Mills, Derek (USA) (1972)

Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA) *USATF Women's Sprint Development (1996)*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 17-Jun-96 time		10.92		21.66		32.58	38.36	44.65	44.65	1 / 3							
reaction time interval				10.74		10.92	5.78	6.29		# of strides	10.92	10.74	10.92	12.07	21.66	22.99	1.33
velocity		9.16		9.31		9.16	8.65	7.95	8.96		9.16	9.31	9.16	8.29	9.23	8.70	

Pettigrew, Antonio (USA) (1967)

FINAL - 1997 USATF Championships (Indianapolis, IN) *Track Newsletter (1997) - USATF National Championships*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 14-Jun-97 time				22.1				44.7	44.65	/ 1							
reaction time interval								22.60		# of strides					22.10	22.60	0.50
velocity				9.05				8.85	8.96						9.05	8.85	

Richardson, Mark (GBR) (1972)

FINAL - 1999 IAAF World Championships (Sevilla, ESP) *Ferro (2001) - biomechanical analysis of the 7th world championships in athletics seville 1999*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 26-Aug-99 time	6.08	10.98	16.02	21.28	26.66	32.27	38.16	44.65	44.65	1 / ~~6~~ 4							
reaction time 0.218 interval		4.90	5.04	5.26	5.38	5.61	5.89	6.49		# of strides	10.98	10.30	10.99	12.38	21.28	23.37	2.09

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	8.22	10.20	9.92	9.51	9.29	8.91	8.49	7.70	8.96		9.11	9.71	9.10	8.08	9.40	8.56	

Gardiner, Steven (BAH) (1995)

Heat 1 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		11.16		21.29		32.34		44.65	44.65	7 / 1							
reaction time	0.197	interval				10.13		11.05		12.31		# of strides	11.16	10.13	11.05	12.31	21.29	23.36	2.07
		velocity		8.96		9.87		9.05		8.12	8.96	160.0	8.96	9.87	9.05	8.12	9.39	8.56	

van Niekerk, Wayde (RSA) (1992)

Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN) — *Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-23	time	6.06	10.89	15.83	20.99	26.46	32.16	38.11	44.65	44.65	8 / 3							
reaction time	0.178	interval		4.83	4.94	5.16	5.47	5.70	5.95	6.54		# of strides	10.89	10.10	11.17	12.49	20.99	23.66	2.67
		velocity	8.25	10.35	10.12	9.69	9.14	8.77	8.40	7.65	8.96	163.0	9.18	9.90	8.95	8.01	9.53	8.45	

Dobson, Charles (GBR) (1999)

Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA) — *European Athletics (2024) - 2024 european athletics championships - results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-24	time		11.06		21.46		32.70		44.65	44.65	8 / 1							
reaction time	0.151	interval				10.40		11.24		11.95		# of strides	11.06	10.40	11.24	11.95	21.46	23.19	1.73
		velocity		9.04		9.62		8.90		8.37	8.96	165.0	9.04	9.62	8.90	8.37	9.32	8.62	

Matthews, Vince (USA) (1947)

FINAL - 1972 Olympic Games (Munich, FRG) — *Sultanov (1982) - probleme der vorbereitung für den 400m-lauf*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Sep-72	time		10.8		21.2		32.0		44.66	44.66	2 / 1							
reaction time		interval				10.40		10.80		12.66	PB	# of strides	10.80	10.40	10.80	12.66	21.20	23.46	2.26
		velocity		9.26		9.62		9.26		7.90	8.96	175.2	9.26	9.62	9.26	7.90	9.43	8.53	

Pettigrew, Antonio (USA) (1967)

FINAL - 2000 USA Olympic Trials (Sacramento, CA) — *Hymans (2008) - history of the US olympic trials - track and field*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Jul-00	time		11.4		22.0		32.8		44.7	44.66	2 / ~~3~~							
reaction time		interval				10.6		10.8		11.9	DV	# of strides	11.40	10.60	10.80	11.90	22.00	22.70	0.70
		velocity		8.77		9.43		9.26		8.40	8.96		8.77	9.43	9.26	8.40	9.09	8.81	

Francique, Alleyne (GRN) (1976)

FINAL - 2004 Olympic Games (Athens, GRE) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Aug-04	time				21.4		32.5		44.7	44.66	8 / 4							
reaction time	0.352	interval						11.1		12.2		# of strides			11.10	12.20	21.40	23.30	1.90
		velocity				9.35		9.01		8.20	8.96				9.01	8.20	9.35	8.58	

Chambers, Ricardo (JAM) (1984)

FINAL - 2007 NCAA Championships (Sacramento, CA) — *Track Newsletter (2006) - NCAA men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-07	time		11.1		21.3		32.4		44.7	44.66	/ 1							
reaction time		interval				10.20		11.10		12.30		# of strides	11.10	10.20	11.10	12.30	21.30	23.40	2.10
		velocity		9.01		9.80		9.01		8.13	8.96		9.01	9.80	9.01	8.13	9.39	8.55	

Wariner, Jeremy (USA) (1984)

Semi-Final 2 - 2008 USA Olympic Trials (Eugene, OR) — *USATF Women's Sprint Development with HPC (2008)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jun-08	time		10.94	16.16	21.65	27.12	32.78	38.40	44.66	44.66	4 / 1							
reaction time		interval			5.22	5.49	5.47	5.66	5.62	6.26		# of strides	10.94	10.71	11.13	11.88	21.65	23.01	1.36
		velocity		9.14	9.58	9.11	9.14	8.83	8.90	7.99	8.96		9.14	9.34	8.98	8.42	9.24	8.69	

Merritt, LaShawn (USA) (1986)

FINAL - 2015 USATF National Championships (Eugene, OR) — *Track Newsletter (2015) - USATF men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-15	time				21.4		32.7		44.7	44.66	/ 2							
reaction time		interval						11.3		12.0		# of strides			11.30	12.00	21.40	23.30	1.90
		velocity				9.35		8.85		8.33	8.96				8.85	8.33	9.35	8.58	

Thebe, Baboloki (BOT) (1997)

FINAL - 2017 IAAF World Championships (London, GBR) — *Yamanaka (2017) - male and female 400m analysis in the 2017 season*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-17	time	6.09	10.97	15.93	21.06	26.36	31.86	37.83	44.66	44.66	9 / 4							
reaction time	0.182	interval		4.88	4.96	5.13	5.30	5.50	5.97	6.83		# of strides	10.97	10.09	10.80	12.80	21.06	23.60	2.54
		velocity	8.21	10.25	10.08	9.75	9.43	9.09	8.38	7.32	8.96	182.2	9.12	9.91	9.26	7.81	9.50	8.47	

Gaye, Demish (JAM) (1993)

Semi-Final 2 - 2019 IAAF World Championships (Doha, QAT) — *Yamanaka (2019) - race analysis of men and women 400m competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Oct-19	time	6.07	10.89	15.82	21.07	26.58	32.33	38.25	44.66	44.66	7 / 3							
reaction time	0.188	interval		4.82	4.93	5.25	5.51	5.75	5.92	6.41		# of strides	10.89	10.18	11.26	12.33	21.07	23.59	2.52
		velocity	8.24	10.37	10.14	9.52	9.07	8.70	8.45	7.80	8.96	180.2	9.18	9.82	8.88	8.11	9.49	8.48	

Norwood, Vernon (USA) (1992)

FINAL - 2022 Prefontaine Classic (Eugene, OR) — *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-22	time	6.12	11.09	16.26	21.67	27.14	32.71	38.44	44.66	44.66	2 / 4							
reaction time	0.177	interval		4.97	5.17	5.41	5.47	5.57	5.73	6.22		# of strides	11.09	10.58	11.04	11.95	21.67	22.99	1.32
		velocity	8.17	10.06	9.67	9.24	9.14	8.98	8.73	8.04	8.96	173.2	9.02	9.45	9.06	8.37	9.23	8.70	

Hudson-Smith, Matthew (GBR) (1994

FINAL - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jul-22	time		10.98		21.14		32.13		44.66	44.66	5 / 3							
reaction time	0.169	interval				10.16		10.99		12.53		# of strides	10.98	10.16	10.99	12.53	21.14	23.52	2.38
		velocity		9.11		9.84		9.10		7.98	8.96	165.5	9.11	9.84	9.10	7.98	9.46	8.50	

Samukonga, Muzala (ZAM) (2002)

FINAL - 2022 Commonwealth Games (Birmingham, GBR) — *Longines Timing (2022) - commonwealth games race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-22	time	6.3	11.3	16.5	21.9	27.3	32.9	38.5	44.66	44.66	8 / 1							
reaction time	0.195	interval		5.00	5.20	5.40	5.40	5.60	5.60	6.16	NR PB	# of strides	11.30	10.60	11.00	11.76	21.90	22.76	0.86
		velocity	7.94	10.00	9.62	9.26	9.26	8.93	8.93	8.12	8.96	172.7	8.85	9.43	9.09	8.50	9.13	8.79	

Norwood, Vernon (USA) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2022 Weltklasse (Zürich, SUI) *Omega Timing (2022) - diamond league race analysis*

date	08-Sep-22	time	6.11	10.97	16.01	21.21	26.53	32.18	38.13	44.66	44.66	6 / 3						
reaction time	0.199	interval		4.86	5.04	5.20	5.32	5.65	5.95	6.53		# of strides	10.97	10.24	10.97	12.48	21.21	23.45	2.24
		velocity	8.18	10.29	9.92	9.62	9.40	8.85	8.40	7.66	8.96	175.0	9.12	9.77	9.12	8.01	9.43	8.53	

Wilson, Quincy (USA) (2008)

Heat 2 - 2024 USA Olympic Trials (Eugene, OR) *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 21-Jun-24 time		11.15		21.33		32.66		44.66	44.66	7 / 1							
reaction time	interval			10.18		11.33		12.00	WU18B PB	# of strides	11.15	10.18	11.33	12.00	21.33	23.33	2.00
	velocity	8.97		9.82		8.83		8.33	8.96	173.5	8.97	9.82	8.83	8.33	9.38	8.57	

Yahia Ibrahim, Ammar Ismail (QAT) (1

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 04-Aug-24 time	6.25	11.13	16.05	21.08	26.43	32.08	38.14	44.66	44.66	8 / 4							
reaction time 0.171	interval	4.88	4.92	5.03	5.35	5.65	6.06	6.52		# of strides	11.13	9.95	11.00	12.58	21.08	23.58	2.50
	velocity 8.00	10.25	10.16	9.94	9.35	8.85	8.25	7.67	8.96	176.0	8.98	10.05	9.09	7.95	9.49	8.48	

Mills, Derek (USA) (1972)

FINAL - 1996 USA Olympic Trials (Atlanta, GA) *USATF Women's Sprint Development (1996)*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 19-Jun-96 time		11.12		21.32		32.16	38.12	44.67	44.67	7 / ~~6~~ 5							
reaction time	interval			10.20		10.84	5.96	6.55		# of strides	11.12	10.20	10.84	12.51	21.32	23.35	2.03
	velocity	8.99		9.80		9.23	8.39	7.63	8.95		8.99	9.80	9.23	7.99	9.38	8.57	

Harris, Otis (USA) (1982)

FINAL - 2004 USA Olympic Trials (Sacramento, CA) *USATF Women's Sprint Development (2004)*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 15-Jul-04 time		11.38		21.57	27.11	32.67	38.67	44.67	44.67	8 / 2							
reaction time	interval			10.19	5.54	5.56	6.00	6.00		# of strides	11.38	10.19	11.10	12.00	21.57	23.10	1.53
	velocity	8.79		9.81	9.03	8.99	8.33	8.33	8.95	167.7	8.79	9.81	9.01	8.33	9.27	8.66	

Cherry, Michael (USA) (1995)

FINAL - 2017 USATF National Championships (Sacramento, CA) *Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 24-Jun-17 time		11.08		21.28		32.33		44.67	44.67	5 / 6							
reaction time	interval			10.20		11.05		12.34	PB	# of strides	11.08	10.20	11.05	12.34	21.28	23.39	2.11
	velocity	9.03		9.80		9.05		8.10	8.95		9.03	9.80	9.05	8.10	9.40	8.55	

Bloomfield, Akeem (JAM) (1997)

FINAL - 2019 Memorial van Damme (Brussels, BEL) *Omega Timing (2019) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 06-Sep-19 time	6.2	10.9	15.8	20.8	26.2	32.0	38.0	44.67	44.67	6 / 3							
reaction time 0.184	interval	4.7	4.9	5.0	5.4	5.8	6.0	12.7		# of strides	10.90	9.90	11.20	12.67	20.80	23.87	3.07
	velocity 8.06	10.64	10.20	10.00	9.26	8.62	8.33	7.89	8.95	164.0	9.17	10.10	8.93	7.89	9.62	8.38	

Kebinatshipi, Collen (BOT) (2004)

FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON) *Omega Timing (2024) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 12-Jul-24 time	6.15	11.02	16.21	21.61	27.21	32.83	38.62	44.67	44.67	8 / 4							
reaction time 0.166	interval	4.87	5.19	5.40	5.60	5.62	5.79	6.05	PB	# of strides	11.02	10.59	11.22	11.84	21.61	23.06	1.45
	velocity 8.13	10.27	9.63	9.26	8.93	8.90	8.64	8.26	8.95	185.5	9.07	9.44	8.91	8.45	9.25	8.67	

Larry, Lionel (USA) (1986)

FINAL - 2007 NCAA Championships (Sacramento, CA) *Track Newsletter (2006) - NCAA men's championships*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 09-Jun-07 time		11.0		21.0		32.4		44.7	44.68	/ 2							
reaction time	interval			10.00		11.40		12.30	PB	# of strides	11.00	10.00	11.40	12.30	21.00	23.70	2.70
	velocity	9.09		10.00		8.77		8.13	8.95		9.09	10.00	8.77	8.13	9.52	8.44	

McQuay, Tony (USA) (1990)

FINAL - 2011 USATF National Championships (Eugene, OR) *Track Newsletter (2011) - USATF men's championships*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 25-Jun-11 time		11.0		21.9		32.9		44.7	44.68	/ 1							
reaction time 0.213	interval			10.90		11.00		11.80	PB	# of strides	11.00	10.90	11.00	11.80	21.90	22.80	0.90
	velocity	9.09		9.17		9.09		8.47	8.95		9.09	9.17	9.09	8.47	9.13	8.77	

Yousif, Rabah (GBR) (1986)

FINAL - 2015 IAAF World Championships (Beijing, CHN) *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 26-Aug-15 time	6.28	11.35	16.47	21.74	27.21	32.80	38.64	44.68	44.68	3 / 6							
reaction time 0.134	interval	5.07	5.12	5.27	5.47	5.59	5.84	6.04		# of strides	11.35	10.39	11.06	11.88	21.74	22.94	1.20
	velocity 7.96	9.86	9.77	9.49	9.14	8.94	8.56	8.28	8.95		8.81	9.62	9.04	8.42	9.20	8.72	

Deadmon, Bryce (USA) (1997)

FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL) *Omega Timing (2022) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 06-Aug-22 time	6.28	11.29	16.37	21.60	27.08	32.72	38.50	44.68	44.68	2 / 3							
reaction time 0.164	interval	5.01	5.08	5.23	5.48	5.64	5.78	6.18		# of strides	11.29	10.31	11.12	11.96	21.60	23.08	1.48
	velocity 7.96	9.98	9.84	9.56	9.12	8.87	8.65	8.09	8.95	157.0	8.86	9.70	8.99	8.36	9.26	8.67	

Norwood, Vernon (USA) (1992)

FINAL - 2024 Bislett Games (Oslo, NOR) *Omega Timing (2024) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 30-May-24 time	6.22	11.20	16.32	21.64	27.12	32.79	38.51	44.68	44.68	3 / 3							
reaction time 0.167	interval	4.98	5.12	5.32	5.48	5.67	5.72	6.17		# of strides	11.20	10.44	11.15	11.89	21.64	23.04	1.40
	velocity 8.04	10.04	9.77	9.40	9.12	8.82	8.74	8.10	8.95	173.0	8.93	9.58	8.97	8.41	9.24	8.68	

Hall, Quincy (USA) (1998)

FINAL - 2024 Bauhaus Galan (Stockholm, SWE) *Omega Timing (2024) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 02-Jun-24 time	6.35	11.42	16.50	21.73	27.24	32.89	38.62	44.68	44.68	5 / 1							
reaction time 0.211	interval	5.07	5.08	5.23	5.51	5.65	5.73	6.06		# of strides	11.42	10.31	11.16	11.79	21.73	22.95	1.22
	velocity 7.87	9.86	9.84	9.56	9.07	8.85	8.73	8.25	8.95		8.76	9.70	8.96	8.48	9.20	8.71	

Bailey, Sean (JAM) (1997)

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 04-Aug-24 time	6.21	11.15	16.14	21.31	26.70	32.36	38.32	44.68	44.68	5 / 5							
reaction time 0.197	interval	4.94	4.99	5.17	5.39	5.66	5.96	6.36		# of strides	11.15	10.16	11.05	12.32	21.31	23.37	2.06

		velocity	8.05	10.12	10.02	9.67	9.28	8.83	8.39	7.86	8.95	175.5	8.97	9.84	9.05	8.12	9.39	8.56	

Al-Malky, Mohamed (OMA) (1962)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
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		11.35		21.78		32.75		44.69	44.69	5 / 3							
reaction time	0.207	interval				10.43		10.97		11.94		# of strides	11.35	10.43	10.97	11.94	21.78	22.91	1.13
		velocity		8.81		9.59		9.12		8.38	8.95		8.81	9.59	9.12	8.38	9.18	8.73	

Brew, Derrick (USA) (1977)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2004 USA Olympic Trials (Sacramento, CA)																			*USATF Women's Sprint Development (2004)*
date	15-Jul-04	time		10.99		21.44	26.80	32.45	38.32	44.69	44.69	3 / 3							
reaction time		interval				10.45	5.36	5.65	5.87	6.37		# of strides	10.99	10.45	11.01	12.24	21.44	23.25	1.81
		velocity		9.10		9.57	9.33	8.85	8.52	7.85	8.95	177.0	9.10	9.57	9.08	8.17	9.33	8.60	

Wariner, Jeremy (USA) (1984)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)																			*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date	19-Aug-09	time		11.11		21.63		32.48		44.69	44.69	4 / 1							
reaction time	0.189	interval				10.52		10.85		12.21		# of strides	11.11	10.52	10.85	12.21	21.63	23.06	1.43
		velocity		9.00		9.51		9.22		8.19	8.95		9.00	9.51	9.22	8.19	9.25	8.67	

Allen, Nathon (JAM) (1995)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2017 NCAA Championships (Eugene, OR)																			*Track Newsletter (2017) - NCAA men's championships*
date	09-Jun-17	time				20.8		32.1		44.7	44.69	6 / 2							
reaction time		interval						11.30		12.60		# of strides			11.30	12.60	20.80	23.90	3.10
		velocity				9.62		8.85		7.94	8.95	165.2			8.85	7.94	9.62	8.37	

Hudson-Smith, Matthew (GBR) (1994			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)																			*Seiko Timing (2023) - world championship race analysis*
date	20-Aug-23	time		11.16		21.26		32.36		44.69	44.69	3 / 2							
reaction time	0.177	interval				10.10		11.10		12.33		# of strides	11.16	10.10	11.10	12.33	21.26	23.43	2.17
		velocity		8.96		9.90		9.01		8.11	8.95	165.0	8.96	9.90	9.01	8.11	9.41	8.54	

Samukonga, Muzala (ZAM) (2002)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2024 Memorial van damme (Brussels, BEL)																			*Omega Timing (2024) - diamond league race analysis*
date	13-Sep-24	time	6.16	10.92	15.92	21.25	26.85	32.62	38.54	44.69	44.69	6 / 3							
reaction time	0.172	interval		4.76	5.00	5.33	5.60	5.77	5.92	6.15		# of strides	10.92	10.33	11.37	12.07	21.25	23.44	2.19
		velocity	8.12	10.50	10.00	9.38	8.93	8.67	8.45	8.13	8.95	177.7	9.16	9.68	8.80	8.29	9.41	8.53	

Honz, Karl (FRG) (1951)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1972 West German National Championships (Munich, FRG)																			*Vazel (2015) - Van Niekerk and Merritt were on for the record at 300m*
date	21-Jul-72	time				20.7				44.70	44.70	/ 1							
reaction time		interval								24.0	PB	# of strides					20.70	24.00	3.30
		velocity				9.66				8.33	8.95						9.66	8.33	

Haley, Roddie (USA) (1965)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1985 NCAA Championships (Austin, TX)																			*Track Newsletter (1985) - NCAA Championships*
date	01-Jun-85	time				21.3		32.5		44.7	44.70	6 / 1							
reaction time		interval						11.20		12.20		# of strides			11.20	12.20	21.30	23.40	2.10
		velocity				9.39		8.93		8.20	8.95				8.93	8.20	9.39	8.55	

Thomas, Iwan (GBR) (1974)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1996 Olympic Games (Atlanta, GA)																			*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date	29-Jul-96	time				21.30		32.4		44.70	44.70	8 / 5							
reaction time	0.365	interval						11.10		12.30		# of strides			11.10	12.30	21.30	23.40	2.10
		velocity				9.39		9.01		8.13	8.95				9.01	8.13	9.39	8.55	

Young, Jerome (USA) (1976)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2000 USA Olympic Trials (Sacramento, CA)																			*Hymans (2008) - history of the US olympic trials - track and field*
date	19-Jul-00	time		11.4		21.7		32.4		44.7	44.70	1 / ~~4~~							
reaction time		interval				10.3		10.7		12.3	DV	# of strides	11.40	10.30	10.70	12.30	21.70	23.00	1.30
		velocity		8.77		9.71		9.35		8.13	8.95		8.77	9.71	9.35	8.13	9.22	8.70	

Haughton, Gregory (JAM) (1973)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2000 Olympic Games (Sydney, AUS)																			*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date	25-Sep-00	time		10.9		21.2		32.1		44.7	44.70	8 / 3							
reaction time		interval				10.30		10.90		12.60		# of strides	10.90	10.30	10.90	12.60	21.20	23.50	2.30
		velocity		9.17		9.71		9.17		7.94	8.95		9.17	9.71	9.17	7.94	9.43	8.51	

Williamson, Darold (USA) (1983)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2004 USA Olympic Trials (Sacramento, CA)																			*USATF Women's Sprint Development (2004)*
date	15-Jul-04	time		11.28		21.75	26.02	32.53	38.36	44.70	44.70	2 / 4							
reaction time		interval				10.47	4.27	6.51	5.83	6.34		# of strides	11.28	10.47	10.78	12.17	21.75	22.95	1.20
		velocity		8.87		9.55	11.71	7.68	8.58	7.89	8.95	165.5	8.87	9.55	9.28	8.22	9.20	8.71	

Rock, Andrew (USA) (1982)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2005 USATF National Championships (Carson, CA)																			*USATF Women's Sprint Development (2005)*
date	25-Jun-05	time			16.47	21.74	27.06	32.62	38.53	44.70	44.70	7 / 3							
reaction time		interval				5.27	5.32	5.56	5.91	6.17		# of strides			10.88	12.08	21.74	22.96	1.22
		velocity			9.11	9.49	9.40	8.99	8.46	8.10	8.95				9.19	8.28	9.20	8.71	

Gordon, Lalonde (TTO) (1988)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2015 IAAF World Championships (Beijing, CHN)																			*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date	24-Aug-15	time	6.24	11.19	16.17	21.45	26.94	32.45	38.36	44.70	44.70	3 / 4							
reaction time	0.150	interval		4.95	4.98	5.28	5.49	5.51	5.91	6.34		# of strides	11.19	10.26	11.00	12.25	21.45	23.25	1.80
		velocity	8.01	10.10	10.04	9.47	9.11	9.07	8.46	7.89	8.95	160.7	8.94	9.75	9.09	8.16	9.32	8.60	

Gardiner, Steven (BAH) (1995)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**

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

date	28-May-23	time	6.22	11.21	16.38	21.73	27.20	32.83	38.56	44.70	44.70	5 / 1						
reaction time	0.160	interval		4.99	5.17	5.35	5.47	5.63	5.73	6.14		# of strides	11.21	10.52	11.10	11.87	21.73	22.97	1.24
		velocity	8.04	10.02	9.67	9.35	9.14	8.88	8.73	8.14	8.95	158.5	8.92	9.51	9.01	8.42	9.20	8.71	

Ingvalsen, Håvard Bentdal (NOR) (20(

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)																	
Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season																	
date 22-Aug-23 time	6.20	11.10	16.07	21.28	26.73	32.45	38.34	44.70	44.70	8 / 3							
reaction time 0.190 interval		4.90	4.97	5.21	5.45	5.72	5.89	6.36		# of strides	11.10	10.18	11.17	12.25	21.28	23.42	2.14
velocity	8.06	10.20	10.06	9.60	9.17	8.74	8.49	7.86	8.95	183.0	9.01	9.82	8.95	8.16	9.40	8.54	

Reardon, Samuel (GBR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 London Athletics Meet (London, GBR)																	
Omega Timing (2024) - diamond league race analysis																	
date 20-Jul-24 time	6.28	11.32	16.43	21.70	27.15	32.72	38.49	44.70	44.70	7 / 1							
reaction time 0.181 interval		5.04	5.11	5.27	5.45	5.57	5.77	6.21	PB	# of strides	11.32	10.38	11.02	11.98	21.70	23.00	1.30
velocity	7.96	9.92	9.78	9.49	9.17	8.98	8.67	8.05	8.95		8.83	9.63	9.07	8.35	9.22	8.70	

McKay, Antonio (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 Olympic Games (Los Angeles, CA)																	
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016																	
date 08-Aug-84 time				21.8		32.7		44.8	44.71	1 / 3							
reaction time 0.281 interval						10.90		12.10	PB	# of strides			10.90	12.10	21.80	23.00	1.20
velocity				9.17		9.17		8.26	8.95				9.17	8.26	9.17	8.70	

Black, Roger (GBR) (1966)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1991 KVP-Galan (Malmo, SWE)																	
Behm (1995) - colloque 400m haies																	
date 05-Aug-91 time		11.23		21.53		32.63		44.71	44.71	/ 1							
reaction time interval				10.30		11.10		12.08		# of strides	11.23	10.30	11.10	12.08	21.53	23.18	1.65
velocity		8.90		9.71		9.01		8.28	8.95		8.90	9.71	9.01	8.28	9.29	8.63	

Kitur, Samson (KEN) (1966)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1995 IAAF World Championships (Göteborg, SWE)																	
Track Newsletter (1995) - World Championships V																	
date 09-Aug-95 time				21.6				44.7	44.71	7 / 4							
reaction time interval								23.10		# of strides					21.60	23.10	1.50
velocity				9.26				8.66	8.95						9.26	8.66	

Wariner, Jeremy (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2004 NCAA Championships (Sacramento, CA)																	
Track Newsletter (2004) - NCAA championships																	
date 12-Jun-04 time				21.9		33.4		44.7	44.71	/ 1							
reaction time interval						11.5		11.3		# of strides			11.50	11.30	21.90	22.80	0.90
velocity				9.13		8.70		8.85	8.95				8.70	8.85	9.13	8.77	

Chambers, Ricardo (JAM) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 NCAA Championships (Sacramento, CA)																	
Track Newsletter (2006) - NCAA men's championships																	
date 10-Jun-06 time		11.0		21.3		32.6		44.7	44.71	/ 2							
reaction time interval				10.30		11.30		12.10	PB	# of strides	11.00	10.30	11.30	12.10	21.30	23.40	2.10
velocity		9.09		9.71		8.85		8.26	8.95		9.09	9.71	8.85	8.26	9.39	8.55	

Christopher, Tyler (CAN) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Championships (Osaka, JPN)																	
Mochida (2008) - biomechancial analysis of the 400m final race at ehe 2007 world championships in athletics																	
date 31-Aug-07 time	6.02	10.86	15.83	21.05	26.54	32.38	38.40	44.71	44.71	3 / 6							
reaction time 0.169 interval		4.84	4.97	5.22	5.49	5.84	6.02	6.31		# of strides	10.86	10.19	11.33	12.33	21.05	23.66	2.61
velocity	8.31	10.33	10.06	9.58	9.11	8.56	8.31	7.92	8.95	183.7	9.21	9.81	8.83	8.11	9.50	8.45	

Verburg, David (USA) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2015 IAAF World Championships (Beijing, CHN)																	
Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims																	
date 24-Aug-15 time	6.03	11.01	16.08	21.35	26.76	32.43	38.37	44.71	44.71	5 / 3							
reaction time 0.178 interval		4.98	5.07	5.27	5.41	5.67	5.94	6.34		# of strides	11.01	10.34	11.08	12.28	21.35	23.36	2.01
velocity	8.29	10.04	9.86	9.49	9.24	8.82	8.42	7.89	8.95	183.7	9.08	9.67	9.03	8.14	9.37	8.56	

Allison, Champion (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)																	
Timing by Seiko (2022) - world athletics championships race analysis																	
date 20-Jul-22 time		11.34		21.72		32.86		44.71	44.71	6 / 1							
reaction time 0.155 interval				10.38		11.14		11.85		# of strides	11.34	10.38	11.14	11.85	21.72	22.99	1.27
velocity		8.82		9.63		8.98		8.44	8.95	168.0	8.82	9.63	8.98	8.44	9.21	8.70	

Ndori, Bayapo (BOT) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)																	
Omega Timing (2024) - diamond league race analysis																	
date 12-Jul-24 time	6.18	11.12	16.20	21.46	26.95	32.58	38.46	44.71	44.71	4 / 5							
reaction time 0.170 interval		4.94	5.08	5.26	5.49	5.63	5.88	6.25		# of strides	11.12	10.34	11.12	12.13	21.46	23.25	1.79
velocity	8.09	10.12	9.84	9.51	9.11	8.88	8.50	8.00	8.95	173.2	8.99	9.67	8.99	8.24	9.32	8.60	

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Golden Gala Pietro Mennea (Roma, ITA)																	
Omega Timing (2024) - diamond league race analysis																	
date 30-Aug-24 time	6.25	11.36	16.58	21.95	27.47	33.02	38.60	44.71	44.71	8 / 5							
reaction time 0.175 interval		5.11	5.22	5.37	5.52	5.55	5.58	6.11		# of strides	11.36	10.59	11.07	11.69	21.95	22.76	0.81
velocity	8.00	9.78	9.58	9.31	9.06	9.01	8.96	8.18	8.95	171.2	8.80	9.44	9.03	8.55	9.11	8.79	

Weber, Hartmut (FRG) (1960)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1982 European Championships (Athens, GRE)																	
Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazyklus 1981/84																	
date 09-Sep-82 time		11.30		21.74		32.86		44.72	44.72	/ 1							
reaction time interval				10.44		11.12		11.86	CR / PB	# of strides	11.30	10.44	11.12	11.86	21.74	22.98	1.24
velocity		8.85		9.58		8.99		8.43	8.94		8.85	9.58	8.99	8.43	9.20	8.70	

Egbunike, Innocent (NGR) (1961)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1988 Olympic Games (Seoul, KOR)																	
Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988																	
date 28-Sep-88 time		11.29		21.76		32.74		44.72	44.72	7 / 5							
reaction time 0.255 interval				10.47		10.98		11.98		# of strides	11.29	10.47	10.98	11.98	21.76	22.96	1.20

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		8.86		9.55		9.11		8.35	8.94		8.86	9.55	9.11	8.35	9.19	8.71	

Wissman, Johan (SWE) (1982)
FINAL - 2007 IAAF World Championships (Osaka, JPN)
Mochida (2008) - biomechancial analysis of the 400m final race at ehe 2007 world championships in athletics

date	31-Aug-07	time	6.13	10.86	15.72	20.97	26.36	32.07	38.20	44.72	44.72	9 / 7							
reaction time	0.181	interval		4.73	4.86	5.25	5.39	5.71	6.13	6.52		# of strides	10.86	10.11	11.10	12.65	20.97	23.75	2.78
		velocity	8.16	10.57	10.29	9.52	9.28	8.76	8.16	7.67	8.94	177.2	9.21	9.89	9.01	7.91	9.54	8.42	

Allen, Nathon (JAM) (1995)
FINAL - 2018 Müller Anniversary Games (London, GBR)
Omega Timing (2018) - diamond league race analysis

date	21-Jul-18	time		11.2		21.3		32.2		44.72	44.72	5 / 7							
reaction time	0.186	interval				10.1		10.9		12.5		# of strides	11.20	10.10	10.90	12.52	21.30	23.42	2.12
		velocity		8.93		9.90		9.17		7.99	8.94	164.0	8.93	9.90	9.17	7.99	9.39	8.54	

Hudson-Smith, Matthew (GBR) (1994
FINAL - 2023 London Athletics Meet (London, GBR)
Omega Timing (2023) - diamond league race analysis

date	23-Jul-23	time	6.20	11.19	16.28	21.48	26.90	32.47	38.34	44.72	44.72	6 / 4							
reaction time	0.185	interval		4.99	5.09	5.20	5.42	5.57	5.87	6.38		# of strides	11.19	10.29	10.99	12.25	21.48	23.24	1.76
		velocity	8.06	10.02	9.82	9.62	9.23	8.98	8.52	7.84	8.94	162.0	8.94	9.72	9.10	8.16	9.31	8.61	

Ndori, Bayapo (BOT) (1999)
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)
Seiko Timing (2023) - world championship race analysis

date	20-Aug-23	time		11.05		21.19		32.32		44.72	44.72	8 / 1							
reaction time	0.155	interval				10.14		11.13		12.40		# of strides	11.05	10.14	11.13	12.40	21.19	23.53	2.34
		velocity		9.05		9.86		8.98		8.06	8.94	172.5	9.05	9.86	8.98	8.06	9.44	8.50	

Merritt, LaShawn (USA) (1986)
FINAL - 2005 USATF National Championships (Carson, CA)
USATF Women's Sprint Development (2005)

date	25-Jun-05	time		11.34	16.30	21.47	26.86	32.48	38.33	44.73	44.73	6 / 4							
reaction time		interval			4.96	5.17	5.39	5.62	5.85	6.40		# of strides	11.34	10.13	11.01	12.25	21.47	23.26	1.79
		velocity		8.82	10.08	9.67	9.28	8.90	8.55	7.81	8.94		8.82	9.87	9.08	8.16	9.32	8.60	

Nellum, Bryshon (USA) (1989)
FINAL - 2013 NCAA Championships (Eugene, OR)
Track Newsletter (2013) - NCAA men's championships

date	07-Jun-13	time				22.0		33.1		44.7	44.73	/ 1							
reaction time		interval						11.10		11.60	PB	# of strides			11.10	11.60	22.00	22.70	0.70
		velocity				9.09		9.01		8.62	8.94				9.01	8.62	9.09	8.81	

Roberts, Gil (USA) (1989)
FINAL - 2016 USA Olympic Trials (Eugene, OR)
Track Newsletter (2016) - US olympic trials men

date	03-Jul-16	time		10.7		21.0		32.1		44.7	44.73	6 / 2							
reaction time	0.171	interval				10.30		11.10		12.60		# of strides	10.70	10.30	11.10	12.60	21.00	23.70	2.70
		velocity		9.35		9.71		9.01		7.94	8.94		9.35	9.71	9.01	7.94	9.52	8.44	

Lendore, Deon (TTO) (1992)
FINAL - 2021 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2021) - diamond league race analysis

date	04-Jul-21	time	6.3	11.3	16.2	21.2	26.6	32.2	38.2	44.73	44.73	8 / 2							
reaction time	0.204	interval		5.00	4.90	5.00	5.40	5.60	6.00	6.53		# of strides	11.30	9.90	11.00	12.53	21.20	23.53	2.33
		velocity	7.94	10.00	10.20	10.00	9.26	8.93	8.33	7.66	8.94		8.85	10.10	9.09	7.98	9.43	8.50	

dos Santos, Alison (BRA) (2000)
FINAL - 2023 Kamila Skolimowska Memorial (Silesia, POL)
Omega Timing (2023) - diamond league race analysis

date	16-Jul-23	time	6.19	11.05	16.04	21.27	26.69	32.42	38.37	44.73	44.73	4 / 3							
reaction time	0.165	interval		4.86	4.99	5.23	5.42	5.73	5.95	6.36		# of strides	11.05	10.22	11.15	12.31	21.27	23.46	2.19
		velocity	8.08	10.29	10.02	9.56	9.23	8.73	8.40	7.86	8.94	157.0	9.05	9.78	8.97	8.12	9.40	8.53	

Ogazi, Samuel (NGR) (2006)
FINAL - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

date	07-Aug-24	time	6.33	11.19	16.20	21.46	27.08	32.92	38.74	44.73	44.73	3 / 7							
reaction time	0.225	interval		4.86	5.01	5.26	5.62	5.84	5.82	5.99		# of strides	11.19	10.27	11.46	11.81	21.46	23.27	1.81
		velocity	7.90	10.29	9.98	9.51	8.90	8.56	8.59	8.35	8.94	161.0	8.94	9.74	8.73	8.47	9.32	8.59	

Plummer, Adolph (USA) (1938)
FINAL - 1963 Western Athletic Conference Championships (Tempe, AZ) (*yards*)
Drake (1967) - der schnellste sprint der geschichte

date	18-May-63	time				21.6				44.6	44.6	/ 1							
reaction time		interval								23.0	=WR yards	# of strides					21.60	23.00	1.40
		velocity				9.26				8.70	8.97	*(44.9/440y)*					9.26	8.70	

Egbunike, Innocent (NGR) (1961)
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		11.11		21.44		32.79		44.74	44.74	4 / 4							
reaction time	0.253	interval				10.33		11.35		11.95		# of strides	11.11	10.33	11.35	11.95	21.44	23.30	1.86
		velocity		9.00		9.68		8.81		8.37	8.94		9.00	9.68	8.81	8.37	9.33	8.58	

Wariner, Jeremy (USA) (1984)
FINAL - 2008 Olympic Games (Beijing, CHN)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

date	21-Aug-08	time				20.9		31.6		44.7	44.74	7 / 2							
reaction time	0.209	interval						10.70		13.10		# of strides		20.90	10.70	13.10	20.90	23.80	2.90
		velocity				9.57		9.35		7.63	8.94	172.0		9.57	9.35	7.63	9.57	8.40	

Bingham, Michael (GBR) (1983)
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

date	19-Aug-09	time		11.15		21.84		32.76		44.74	44.74	8 / 2							
reaction time	0.173	interval				10.69		10.92		11.98	PB	# of strides	11.15	10.69	10.92	11.98	21.84	22.90	1.06
		velocity		8.97		9.35		9.16		8.35	8.94		8.97	9.35	9.16	8.35	9.16	8.73	

McQuay, Tony (USA) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2013 USATF National Championships (Des Moines, IA) *Track Newsletter (2013) - USATF men's championships*

date	22-Jun-13	time					32.6		44.7	44.74	/ 2							
reaction time	0.190	interval							12.10		# of strides				12.10			
		velocity					9.20		8.26	8.94					8.26			

Borlée, Kevin (BEL) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2015 IAAF World Championships (Beijing, CHN)										*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*							
date 24-Aug-15 time	6.07	11.10	16.20	21.44	26.91	32.51	38.41	44.74	44.74	8 / 4							
reaction time 0.158 interval		5.03	5.10	5.24	5.47	5.60	5.90	6.33		# of strides	11.10	10.34	11.07	12.23	21.44	23.30	1.86
velocity	8.24	9.94	9.80	9.54	9.14	8.93	8.47	7.90	8.94	174.7	9.01	9.67	9.03	8.18	9.33	8.58	

Hudson-Smith, Matthew (GBR) (1994

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2017 IAAF World Championships (London, GBR)										*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*							
date 06-Aug-17 time		10.81		21.03		32.09	38.14	44.60	44.74	2 / 4							
reaction time 0.142 interval				10.22		11.06	6.05	6.46		# of strides	10.81	10.22	11.06	12.51	21.03	23.57	2.54
velocity		9.25		9.78		9.04	8.26	7.74	8.94	164.0	9.25	9.78	9.04	7.99	9.51	8.49	

James, Kirani (GRN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)										*Timing by Seiko (2022) - world athletics championships race analysis*							
date 20-Jul-22 time		10.99		21.35		32.64		44.74	44.74	3 / 1							
reaction time 0.148 interval				10.36		11.29		12.10		# of strides	10.99	10.36	11.29	12.10	21.35	23.39	2.04
velocity		9.10		9.65		8.86		8.26	8.94	160.0	9.10	9.65	8.86	8.26	9.37	8.55	

Nene, Zakhiti (RSA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Weltklasse (Zürich, SUI)										*Omega Timing (2022) - diamond league race analysis*							
date 08-Sep-22 time	6.08	11.06	16.20	21.49	26.87	32.50	38.39	44.74	44.74	7 / 4							
reaction time 0.137 interval		4.98	5.14	5.29	5.38	5.63	5.89	6.35	PB	# of strides	11.06	10.43	11.01	12.24	21.49	23.25	1.76
velocity	8.22	10.04	9.73	9.45	9.29	8.88	8.49	7.87	8.94	177.0	9.04	9.59	9.08	8.17	9.31	8.60	

Nene, Zakhiti (RSA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Kamila Skolimowska Memorial (Silesia, POL)										*Omega Timing (2023) - diamond league race analysis*							
date 16-Jul-23 time	6.07	10.93	15.98	21.29	26.72	32.37	38.23	44.74	44.74	9 / 4							
reaction time 0.150 interval		4.86	5.05	5.31	5.43	5.65	5.86	6.51	=PB	# of strides	10.93	10.36	11.08	12.37	21.29	23.45	2.16
velocity	8.24	10.29	9.90	9.42	9.21	8.85	8.53	7.68	8.94	176.2	9.15	9.65	9.03	8.08	9.39	8.53	

Clark, Darren (AUS) (1965)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 Olympic Games (Los Angeles, CA)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 08-Aug-84 time				21.2		32.3		44.8	44.75	5 / 4							
reaction time 0.269 interval						11.10		12.50	AJR	# of strides			11.10	12.50	21.20	23.60	2.40
velocity				9.43		9.01		8.00	8.94				9.01	8.00	9.43	8.47	

Nix, Sunder (USA) (1961)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 Olympic Games (Los Angeles, CA)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 08-Aug-84 time				21.6		32.5		44.8	44.75	6 / 5							
reaction time 0.243 interval						10.90		12.30		# of strides			10.90	12.30	21.60	23.20	1.60
velocity				9.26		9.17		8.13	8.94				9.17	8.13	9.26	8.62	

Grindley, David (GBR) (1972)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1992 Olympic Games (Barcelona, ESP)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 05-Aug-92 time				21.3		32.2		44.8	44.75	3 / 6							
reaction time interval						10.90		12.60		# of strides			10.90	12.60	21.30	23.50	2.20
velocity				9.39		9.17		7.94	8.94				9.17	7.94	9.39	8.51	

Mills, Derek (USA) (1972)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 Atlanta Grand Prix (Atlanta, GA)										*Track Newsletter (1996) - atlanta GP- hot debut for Olympic track*							
date 18-May-96 time				22.0		32.7		44.8	44.75	/ 2							
reaction time interval						10.70		12.10		# of strides			10.70	12.10	22.00	22.80	0.80
velocity				9.09		9.35		8.26	8.94				9.35	8.26	9.09	8.77	

Ashley, Jamel (USA) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 NCAA Championships (Sacramento, CA)										*Track Newsletter (2005) - NCAA men's championships*							
date 11-Jun-05 time		11.2		21.2		32.3		44.8	44.75	/ 2							
reaction time interval				10.00		11.10		12.50	PB	# of strides	11.20	10.00	11.10	12.50	21.20	23.60	2.40
velocity		8.93		10.00		9.01		8.00	8.94		8.93	10.00	9.01	8.00	9.43	8.47	

Neville, David (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Championships (Indianapolis, IN)										*Track Newsletter (2006) - USATF men's championships*							
date 24-Jun-06 time		11.46		21.78		32.67		44.75	44.75	/ 3							
reaction time interval				10.32		10.89		12.08	PB	# of strides	11.46	10.32	10.89	12.08	21.78	22.97	1.19
velocity		8.73		9.69		9.18		8.28	8.94		8.73	9.69	9.18	8.28	9.18	8.71	

van Niekerk, Wayde (RSA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)										*Timing by Seiko (2022) - world athletics championships race analysis*							
date 20-Jul-22 time		10.84		20.97		32.35		44.75	44.75	4 / 2							
reaction time 0.168 interval				10.13		11.38		12.40		# of strides	10.84	10.13	11.38	12.40	20.97	23.78	2.81
velocity		9.23		9.87		8.79		8.06	8.94	164.5	9.23	9.87	8.79	8.06	9.54	8.41	

Sito, Luca (ITA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)										*European Athletics (2024) - 2024 european athletics championships - results book*							
date 09-Jun-24 time		11.20		21.53		32.60		44.75	44.75	5 / 1							
reaction time 0.153 interval				10.33		11.07		12.15	NR PB	# of strides	11.20	10.33	11.07	12.15	21.53	23.22	1.69
velocity		8.93		9.68		9.03		8.23	8.94	172.0	8.93	9.68	9.03	8.23	9.29	8.61	

Singhapurage, Aruna Dharshana (SR

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)										*Paris 2024 Olympic Games - Results Book (2024)*							
date 06-Aug-24 time	6.30	11.33	16.39	21.65	27.18	32.90	38.75	44.75	44.75	4 / ~~5~~							
reaction time 0.178 interval		5.03	5.06	5.26	5.53	5.72	5.85	6.00	DQ	# of strides	11.33	10.32	11.25	11.85	21.65	23.10	1.45

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	7.94	9.94	9.88	9.51	9.04	8.74	8.55	8.33	8.94		8.83	9.69	8.89	8.44	9.24	8.66	

Dobson, Charles (GBR) (1999)

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Aug-24	time	6.13	11.22	16.45	21.80	27.29	32.94	38.77	44.75	44.75	2 / 6							
reaction time	0.145	interval		5.09	5.23	5.35	5.49	5.65	5.83	5.98		# of strides	11.22	10.58	11.14	11.81	21.80	22.95	1.15
		velocity	8.16	9.82	9.56	9.35	9.11	8.85	8.58	8.36	8.94	164.2	8.91	9.45	8.98	8.47	9.17	8.71	

Simpson, Brandon (JAM) (1981)

FINAL - 2004 Olympic Games (Athens, GRE) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Aug-04	time				21.6		32.4		44.7	44.76	6 / 5							
reaction time	0.277	interval						10.8		12.3		# of strides			10.80	12.30	21.60	23.10	1.50
		velocity				9.26		9.26		8.13	8.94				9.26	8.13	9.26	8.66	

Merritt, LaShawn (USA) (1986)

Semi-Final 2 - 2008 USA Olympic Trials (Eugene, OR) — *USATF Women's Sprint Development with HPC (2008)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jun-08	time		10.97	16.06	21.56	26.98	32.84	38.55	44.76	44.76	5 / 2							
reaction time		interval			5.09	5.50	5.42	5.86	5.71	6.21		# of strides	10.97	10.59	11.28	11.92	21.56	23.20	1.64
		velocity		9.12	9.82	9.09	9.23	8.53	8.76	8.05	8.94		9.12	9.44	8.87	8.39	9.28	8.62	

Zambrano, Anthony (COL) (1998)

FINAL - 2021 Golden Gala Pietro Mennea (Florence, ITA) — *Omega Timing (2021) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Jun-21	time	6.3	11.4	16.7	22.1	27.5	33.1	38.8	44.76	44.76	5 / 1							
reaction time	0.152	interval		5.10	5.30	5.40	5.40	5.60	5.70	5.96		# of strides	11.40	10.70	11.00	11.66	22.10	22.66	0.56
		velocity	7.94	9.80	9.43	9.26	9.26	8.93	8.77	8.39	8.94		8.77	9.35	9.09	8.58	9.05	8.83	

Richards, Jereem (TTO) (1994)

Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-23	time		10.92		20.91		32.20		44.76	44.76	4 / 4							
reaction time	0.160	interval				9.99		11.29		12.56		# of strides	10.92	9.99	11.29	12.56	20.91	23.85	2.94
		velocity		9.16		10.01		8.86		7.96	8.94	176.0	9.16	10.01	8.86	7.96	9.56	8.39	

Gardiner, Steven (BAH) (1995)

FINAL - 2024 Seashore Doha Meeting (Doha, QAT) — *Omega Timing (2024) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-May-24	time	6.11	11.02	16.16	21.52	27.02	32.80	38.68	44.76	44.76	5 / 1							
reaction time	0.128	interval		4.91	5.14	5.36	5.50	5.78	5.88	6.08		# of strides	11.02	10.50	11.28	11.96	21.52	23.24	1.72
		velocity	8.18	10.18	9.73	9.33	9.09	8.65	8.50	8.22	8.94	158.2	9.07	9.52	8.87	8.36	9.29	8.61	

Rouser, Jason (USA) (1970)

Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA) — *USATF Women's Sprint Development (1996)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jun-96	time		11.04		21.76		32.80	38.50	44.77	44.77	2 / 4							
reaction time		interval				10.72		11.04	5.70	6.27	PB	# of strides	11.04	10.72	11.04	11.97	21.76	23.01	1.25
		velocity		9.06		9.33		9.06	8.77	7.97	8.93		9.06	9.33	9.06	8.35	9.19	8.69	

Rouser, Jason (USA) (1970)

FINAL - 1996 USA Olympic Trials (Atlanta, GA) — *USATF Women's Sprint Development (1996)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Jun-96	time		10.98		21.40		32.59	38.39	44.77	44.77	1 / ~~7~~ 6							
reaction time		interval				10.42		11.19	5.80	6.38	=PB	# of strides	10.98	10.42	11.19	12.18	21.40	23.37	1.97
		velocity		9.11		9.60		8.94	8.62	7.84	8.93		9.11	9.60	8.94	8.21	9.35	8.56	

Martin, Roxbert (JAM) (1969)

FINAL - 1997 NCAA Championships (Bloomington, IN) — *Track Newsletter (1997) - NCAA Championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Jun-97	time				21.9		33.6		44.8	44.77	/ 1							
reaction time		interval						11.70		11.20		# of strides			11.70	11.20	21.90	22.90	1.00
		velocity				9.13		8.55		8.93	8.93				8.55	8.93	9.13	8.73	

Washington, Tyree (USA) (1976)

FINAL - 2003 IAAF World Championships (Paris, FRA) — *Bonvin (2003) - Compte-rendu 400m et relais 4x 400m*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-03	time				21.3		32.10		44.77	44.77	4 / ~~2~~ 1							
reaction time	0.182	interval						10.8		12.7		# of strides			10.80	12.67	21.30	23.47	2.17
		velocity				9.39		9.26		7.89	8.93				9.26	7.89	9.39	8.52	

Nellum, Bryshon (USA) (1989)

Semi-Final 2 - 2015 IAAF World Championships (Beijing, CHN) — *Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Aug-15	time	6.09	11.04	16.13	21.40	26.90	32.50	38.47	44.77	44.77	8 / 5							
reaction time	0.169	interval		4.95	5.09	5.27	5.50	5.60	5.97	6.30		# of strides	11.04	10.36	11.10	12.27	21.40	23.37	1.97
		velocity	8.21	10.10	9.82	9.49	9.09	8.93	8.38	7.94	8.93	172.2	9.06	9.65	9.01	8.15	9.35	8.56	

Francis, Javon (JAM) (1994)

Semi-Final 3 - 2015 IAAF World Championships (Beijing, CHN) — *Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Aug-15	time	6.26	11.19	16.22	21.50	27.09	32.62	38.46	44.77	44.77	4 / 4							
reaction time	0.177	interval		4.93	5.03	5.28	5.59	5.53	5.84	6.31		# of strides	11.19	10.31	11.12	12.15	21.50	23.27	1.77
		velocity	7.99	10.14	9.94	9.47	8.94	9.04	8.56	7.92	8.93	170.0	8.94	9.70	8.99	8.23	9.30	8.59	

Cherry, Michael (USA) (1995)

FINAL - 2017 NCAA Championships (Eugene, OR) — *Track Newsletter (2017) - NCAA men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-17	time				22.0		33.0		44.8	44.77	3 / 3							
reaction time		interval						11.00		11.80		# of strides			11.00	11.80	22.00	22.80	0.80
		velocity				9.09		9.09		8.47	8.93	163.5			9.09	8.47	9.09	8.77	

Bloomfield, Akeem (JAM) (1997)

Semi-Final 3 - 2019 IAAF World Championships (Doha, QAT) — *Yamanaka (2019) - race analysis of men and women 400m competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Oct-19	time	6.24	11.14	16.12	21.25	26.66	32.34	38.29	44.77	44.77	6 / 3							
reaction time	0.207	interval		4.90	4.98	5.13	5.41	5.68	5.95	6.48		# of strides	11.14	10.11	11.09	12.43	21.25	23.52	2.27
		velocity	8.01	10.20	10.04	9.75	9.24	8.80	8.40	7.72	8.93	162.5	8.98	9.89	9.02	8.05	9.41	8.50	

Allison, Champion (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2022 World Athletics Championships (Eugene, OR) *Timing by Seiko (2022) - world athletics championships race analysis*

date	22-Jul-22	time		11.22		21.57		32.76		44.77	44.77	6 / 4						
reaction time	0.148	interval				10.35		11.19		12.01		# of strides	11.22	10.35	11.19	12.01	21.57	23.20	1.63
		velocity		8.91		9.66		8.94		8.33	8.93	169.0	8.91	9.66	8.94	8.33	9.27	8.62	

Willie, Ryan (USA) (2002)

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 16-Jul-23	time	6.09	11.01	16.07	21.42	26.96	32.66	38.53	44.77	44.77	8 / 5							
reaction time 0.153	interval		4.92	5.06	5.35	5.54	5.70	5.87	6.24		# of strides	11.01	10.41	11.24	12.11	21.42	23.35	1.93
	velocity	8.21	10.16	9.88	9.35	9.03	8.77	8.52	8.01	8.93	172.0	9.08	9.61	8.90	8.26	9.34	8.57	

Sato, Kentaro (JPN) (1994)

Heat 1 - 2023 World Athletics Championships (Budapest, HUN) *Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 20-Aug-23	time	6.24	11.31	16.46	21.71	27.07	32.71	38.59	44.77	44.77	6 / 2							
reaction time 0.172	interval		5.07	5.15	5.25	5.36	5.64	5.88	6.18	NR PB	# of strides	11.31	10.40	11.00	12.06	21.71	23.06	1.35
	velocity	8.01	9.86	9.71	9.52	9.33	8.87	8.50	8.09	8.93	174.5	8.84	9.62	9.09	8.29	9.21	8.67	

Watson, Antonio (JAM) (2001)

Heat 5 - 2023 World Athletics Championships (Budapest, HUN) *Seiko Timing (2023) - world championship race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 20-Aug-23	time		11.40		21.56		32.77		44.77	44.77	3 / 1							
reaction time 0.169	interval				10.16		11.21		12.00		# of strides	11.40	10.16	11.21	12.00	21.56	23.21	1.65
	velocity		8.77		9.84		8.92		8.33	8.93	166.2	8.77	9.84	8.92	8.33	9.28	8.62	

Yahia Ibrahim, Ammar Ismail (QAT) (1

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 05-Aug-24	time	6.45	11.57	16.75	22.00	27.37	32.89	38.66	44.77	44.77	3 / 1							
reaction time 0.158	interval		5.12	5.18	5.25	5.37	5.52	5.77	6.11		# of strides	11.57	10.43	10.89	11.88	22.00	22.77	0.77
	velocity	7.75	9.77	9.65	9.52	9.31	9.06	8.67	8.18	8.93	174.0	8.64	9.59	9.18	8.42	9.09	8.78	

Deadmon, Bryce (USA) (1997)

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 30-Aug-24	time	6.09	11.13	16.22	21.43	26.96	32.63	38.46	44.77	44.77	1 / 7							
reaction time 0.160	interval		5.04	5.09	5.21	5.53	5.67	5.83	6.31		# of strides	11.13	10.30	11.20	12.14	21.43	23.34	1.91
	velocity	8.21	9.92	9.82	9.60	9.04	8.82	8.58	7.92	8.93	167.0	8.98	9.71	8.93	8.24	9.33	8.57	

Harrison, Calvin (USA) (1974)

Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA) *USATF Women's Sprint Development (1996)*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 17-Jun-96	time		11.50		21.38		33.08	38.62	44.78	44.78	6 / 5							
reaction time	interval				9.88		11.70	5.54	6.16		# of strides	11.50	9.88	11.70	11.70	21.38	23.40	2.02
	velocity		8.70		10.12		8.55	9.03	8.12	8.93		8.70	10.12	8.55	8.55	9.35	8.55	

James, Kirani (GRN) (1992)

FINAL - 2022 Bislett Games (Oslo, NOR) *Omega Timing (2022) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 16-Jun-22	time	6.10	11.05	16.18	21.43	26.87	32.66	38.59	44.78	44.78	6 / 1							
reaction time 0.142	interval		4.95	5.13	5.25	5.44	5.79	5.93	6.19		# of strides	11.05	10.38	11.23	12.12	21.43	23.35	1.92
	velocity	8.20	10.10	9.75	9.52	9.19	8.64	8.43	8.08	8.93	160.0	9.05	9.63	8.90	8.25	9.33	8.57	

Jones, Jonathan (BAR) (1999)

Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR) *Timing by Seiko (2022) - world athletics championships race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 20-Jul-22	time		11.27		21.49		32.57		44.78	44.78	3 / 3							
reaction time 0.149	interval				10.22		11.08		12.21		# of strides	11.27	10.22	11.08	12.21	21.49	23.29	1.80
	velocity		8.87		9.78		9.03		8.19	8.93	173.2	8.87	9.78	9.03	8.19	9.31	8.59	

London, Wil (USA) (1997)

National FINAL - 2022 Weltklasse (Zürich, SUI) *Omega Timing (2022) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 08-Sep-22	time	6.10	11.12	16.36	21.75	27.28	32.88	38.60	44.78	44.78	7 / 2							
reaction time 0.150	interval		5.02	5.24	5.39	5.53	5.60	5.72	6.18		# of strides	11.12	10.63	11.13	11.90	21.75	23.03	1.28
	velocity	8.20	9.96	9.54	9.28	9.04	8.93	8.74	8.09	8.93	178.0	8.99	9.41	8.98	8.40	9.20	8.68	

Bonevacia, Liemarvin (NED) (1989)

Heat 2 - 2023 World Athletics Championships (Budapest, HUN) *Seiko Timing (2023) - world championship race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 20-Aug-23	time		11.53		21.88		33.13		44.78	44.78	7 / 3							
reaction time 0.186	interval				10.35		11.25		11.65		# of strides	11.53	10.35	11.25	11.65	21.88	22.90	1.02
	velocity		8.67		9.66		8.89		8.58	8.93	178.0	8.67	9.66	8.89	8.58	9.14	8.73	

Hudson-Smith, Matthew (GBR) (1994

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 04-Aug-24	time	6.12	11.04	16.11	21.37	26.84	32.49	38.41	44.78	44.78	6 / 1							
reaction time 0.165	interval		4.92	5.07	5.26	5.47	5.65	5.92	6.37		# of strides	11.04	10.33	11.12	12.29	21.37	23.41	2.04
	velocity	8.17	10.16	9.86	9.51	9.14	8.85	8.45	7.85	8.93	161.0	9.06	9.68	8.99	8.14	9.36	8.54	

James, Kirani (GRN) (1992)

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 04-Aug-24	time	6.07	10.94	16.01	21.27	26.77	32.59	38.52	44.78	44.78	6 / 1							
reaction time 0.159	interval		4.87	5.07	5.26	5.50	5.82	5.93	6.26		# of strides	10.94	10.33	11.32	12.19	21.27	23.51	2.24
	velocity	8.24	10.27	9.86	9.51	9.09	8.59	8.43	7.99	8.93	158.2	9.14	9.68	8.83	8.20	9.40	8.51	

Norwood, Vernon (USA) (1992)

FINAL - 2024 Memorial van damme (Brussels, BEL) *Omega Timing (2024) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 13-Sep-24	time	6.13	11.00	15.97	21.16	26.65	32.39	38.35	44.78	44.78	3 / 4							
reaction time 0.142	interval		4.87	4.97	5.19	5.49	5.74	5.96	6.43		# of strides	11.00	10.16	11.23	12.39	21.16	23.62	2.46
	velocity	8.16	10.27	10.06	9.63	9.11	8.71	8.39	7.78	8.93	175.7	9.09	9.84	8.90	8.07	9.45	8.47	

Ogando, Alexander (DOM) (2000)

Long Sprints - 2025 Grand Slam Track Miami (Miramar, FL) *Grand Slam Track (2025) - results and splits by race*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 03-May-25	time		10.96		21.09		32.43		44.78	44.78	2 / 5							
reaction time 0.210	interval				10.13		11.34		12.35		# of strides	10.96	10.13	11.34	12.35	21.09	23.69	2.60

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		9.12		9.87		8.82		8.10	8.93		9.12	9.87	8.82	8.10	9.48	8.44	

Washington, Tyree (USA) (1976)
FINAL - 1997 USATF Championships (Indianapolis, IN)
Track Newsletter (1997) - USATF National Championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Jun-97	time				22.7				44.8	44.79	/ 2							
reaction time		interval								22.10		# of strides					22.70	22.10	-0.60
		velocity				8.81				9.05	8.93						8.81	9.05	

Chukwu, Clement (NGR) (1973)
FINAL - 1999 NCAA Championships (Boise, ID)
Track Newsletter (1999) - NCAA Championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Jun-99	time				21.8				44.8	44.79	/ 1							
reaction time		interval								23.00		# of strides					21.80	23.00	1.20
		velocity				9.17				8.70	8.93						9.17	8.70	

Young, Jerome (USA) (1976)
FINAL - 2003 USATF National Championships (Palo Alto, CA)
USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-03	time				21.67		32.59	38.42	44.79	44.79	6 / ~~3~~							
reaction time		interval						10.92	5.83	6.37	DV	# of strides			10.92	12.20	21.67	23.12	1.45
		velocity				9.23		9.16	8.58	7.85	8.93				9.16	8.20	9.23	8.65	

Raquil, Marc (FRA) (1977)
FINAL - 2003 IAAF World Championships (Paris, FRA)
Bonvin (2003) - Compte-rendu 400m et relais 4x 400m

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-03	time				21.8		33.0		44.79	44.79	5 / ~~3~~ 2							
reaction time	0.174	interval						11.2		11.8	NR	# of strides			11.20	11.79	21.80	22.99	1.19
		velocity				9.17		8.93		8.48	8.93				8.93	8.48	9.17	8.70	

Brown, Chris (BAH) (1978)
FINAL - 2012 Olympic Games (London, GBR)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-12	time		11.1		21.5		32.4		44.8	44.79	6 / 4							
reaction time	0.166	interval				10.40		10.90		12.40		# of strides	11.10	10.40	10.90	12.40	21.50	23.30	1.80
		velocity		9.01		9.62		9.17		8.06	8.93	187.7	9.01	9.62	9.17	8.06	9.30	8.58	

Taylor, Christopher (JAM) (1999)
FINAL - 2020 Olympic Games (Tokyo, JPN)
Omega Timing (2022) - Tokyo 2020 - race analysis - men's 400m final

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-21	time	6.14	10.98	15.99	21.28	26.77	32.47	38.42	44.79	44.79	9 / 6							
reaction time	0.158	interval		4.84	5.01	5.29	5.49	5.70	5.95	6.37	PB	# of strides	10.98	10.30	11.19	12.32	21.28	23.51	2.23
		velocity	8.14	10.33	9.98	9.45	9.11	8.77	8.40	7.85	8.93	181.0	9.11	9.71	8.94	8.12	9.40	8.51	

Richards, Jereem (TTO) (1994)
FINAL - 2022 Prefontaine Classic (Eugene, OR)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-22	time	5.98	10.72	15.76	21.07	26.58	32.28	38.26	44.79	44.79	7 / 5							
reaction time	0.159	interval		4.74	5.04	5.31	5.51	5.70	5.98	6.53	PB	# of strides	10.72	10.35	11.21	12.51	21.07	23.72	2.65
		velocity	8.36	10.55	9.92	9.42	9.07	8.77	8.36	7.66	8.93	175.5	9.33	9.66	8.92	7.99	9.49	8.43	

Collett, Wayne (USA) (1949)
FINAL - 1972 Olympic Games (Munich, FRG)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Sep-72	time				21.4		32.5		44.8	44.80	3 / 2							
reaction time		interval						11.10		12.30		# of strides			11.10	12.30	21.40	23.40	2.00
		velocity				9.35		9.01		8.13	8.93	176.7			9.01	8.13	9.35	8.55	

Reynolds, Harry (Butch) (USA) (1964)
FINAL - 1987 IAAF World Championship (Rome, ITA)
Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Sep-87	time		11.22		21.71		32.74		44.80	44.80	7 / 3							
reaction time		interval				10.49		11.03		12.06		# of strides	11.22	10.49	11.03	12.06	21.71	23.09	1.38
		velocity		8.91		9.53		9.07		8.29	8.93		8.91	9.53	9.07	8.29	9.21	8.66	

Blackwood, Michael (JAM) (1976)
FINAL - 2003 IAAF World Championships (Paris, FRA)
Bonvin (2003) - Compte-rendu 400m et relais 4x 400m

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-03	time				21.4		32.4		44.80	44.80	2 / ~~4~~ 3							
reaction time	0.158	interval						11.0		12.4		# of strides			11.00	12.40	21.40	23.40	2.00
		velocity				9.35		9.09		8.06	8.93				9.09	8.06	9.35	8.55	

Neville, David (USA) (1984)
FINAL - 2008 Olympic Games (Beijing, CHN)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Aug-08	time				21.1		31.7		44.8	44.80	9 / 3							
reaction time	0.293	interval						10.60		13.10		# of strides			10.60	13.10	21.10	23.70	2.60
		velocity				9.48		9.43		7.63	8.93	166.2			9.43	7.63	9.48	8.44	

Djhone, Leslie (FRA) (1981)
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Aug-09	time		11.32		21.87		32.85		44.80	44.80	3 / 3							
reaction time	0.165	interval				10.55		10.98		11.95		# of strides	11.32	10.55	10.98	11.95	21.87	22.93	1.06
		velocity		8.83		9.48		9.11		8.37	8.93		8.83	9.48	9.11	8.37	9.14	8.72	

Nellum, Bryshon (USA) (1989)
FINAL - 2012 USA Olympic Trials (Eugene, OR)
Hymans (2020) - history of the US olympic trials - track and field

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-12	time				21.9		32.9		44.80	44.80	7 / 3							
reaction time	0.225	interval						11.00		11.90		# of strides			11.00	11.90	21.90	22.90	1.00
		velocity				9.13		9.09		8.40	8.93				9.09	8.40	9.13	8.73	

Norwood, Vernon (USA) (1992)
FINAL - 2015 USATF National Championships (Eugene, OR)
Track Newsletter (2015) - USATF men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-15	time				22.0		33.0		44.8	44.80	/ 3							
reaction time		interval						11.0		11.8		# of strides			11.00	11.80	22.00	22.80	0.80
		velocity				9.09		9.09		8.47	8.93				9.09	8.47	9.09	8.77	

Norman, Michael (USA) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2017 USATF National Championships (Sacramento, CA) — *Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/*

date	24-Jun-17	time	11.05		21.25		32.52		44.80	44.80	3 / 7					
reaction time		interval			10.20		11.27		12.28		# of strides	11.05	10.20	11.27	12.28	21.25	23.55	2.30
		velocity	9.05		9.80		8.87		8.14	8.93		9.05	9.80	8.87	8.14	9.41	8.49	

Kerley, Fred (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Weltklasse (Zürich, SUI) — *Omega Timing (2018) - diamond league race analysis*																	
date 30-Aug-18	time	11.1		21.3		32.5		44.80	44.80	5 / 1							
reaction time 0.140	interval			10.2		11.2		12.3		# of strides	11.10	10.20	11.20	12.30	21.30	23.50	2.20
	velocity	9.01		9.80		8.93		8.13	8.93	173.5	9.01	9.80	8.93	8.13	9.39	8.51	

Bonevacia, Liemarvin (NED) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Bauhaus Galan (Stockholm, SWE) — *Omega Timing (2021) - diamond league race analysis*																	
date 04-Jul-21	time	6.5	11.5	16.4	21.5	26.8	32.5	38.4	44.80	44.80	3 / 3						
reaction time 0.202	interval		5.00	4.90	5.10	5.30	5.70	5.90	6.40		# of strides	11.50	10.00	11.00	12.30	21.50	23.30	1.80
	velocity	7.69	10.00	10.20	9.80	9.43	8.77	8.47	7.81	8.93		8.70	10.00	9.09	8.13	9.30	8.58	

Kebinatshipi, Collen (BOT) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*																	
date 20-Aug-23	time		10.92		21.37		32.68		44.80	44.80	6 / 4						
reaction time 0.155	interval				10.45		11.31		12.12	AJR PB	# of strides	10.92	10.45	11.31	12.12	21.37	23.43	2.06
	velocity		9.16		9.57		8.84		8.25	8.93	189.0	9.16	9.57	8.84	8.25	9.36	8.54	

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bauhaus Galan (Stockholm, SWE) — *Omega Timing (2024) - diamond league race analysis*																	
date 02-Jun-24	time	6.15	11.09	16.18	21.47	26.96	32.68	38.49	44.80	44.80	6 / 2						
reaction time 0.160	interval		4.94	5.09	5.29	5.49	5.72	5.81	6.31		# of strides	11.09	10.38	11.21	12.12	21.47	23.33	1.86
	velocity	8.13	10.12	9.82	9.45	9.11	8.74	8.61	7.92	8.93		9.02	9.63	8.92	8.25	9.32	8.57	

Schönlebe, Thomas (GDR) (1965)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 2 - 1987 IAAF World Championship (Rome, ITA) — *Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*																	
date 31-Aug-87	time		11.52		21.79		32.76		44.81	44.81	/ 1						
reaction time	interval				10.27		10.97		12.05	CR	# of strides	11.52	10.27	10.97	12.05	21.79	23.02	1.23
	velocity		8.68		9.74		9.12		8.30	8.93		8.68	9.74	9.12	8.30	9.18	8.69	

Johnson, Michael (USA) (1967)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA) — *USATF Women's Sprint Development (1996)*																	
date 17-Jun-96	time		11.52		21.85		32.70	38.40	44.81	44.81	6 / 2						
reaction time	interval				10.33		10.85	5.70	6.41		# of strides	11.52	10.33	10.85	12.11	21.85	22.96	1.11
	velocity		8.68		9.68		9.22	8.77	7.80	8.93		8.68	9.68	9.22	8.26	9.15	8.71	

Borlée, Kevin (BEL) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Olympic Games (London, GBR) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*																	
date 06-Aug-12	time		11.2		21.9		32.8		44.8	44.81	9 / 5						
reaction time 0.151	interval				10.70		10.90		12.00		# of strides	11.20	10.70	10.90	12.00	21.90	22.90	1.00
	velocity		8.93		9.35		9.17		8.33	8.93	173.2	8.93	9.35	9.17	8.33	9.13	8.73	

Haroun, Abdalelah (QAT) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL) — *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*																	
date 22-Jul-16	time	6.22	11.06	16.05	21.25	26.68	32.38	38.36	44.81	44.81	6 / 1						
reaction time 0.202	interval		4.84	4.99	5.20	5.43	5.70	5.98	6.45		# of strides	11.06	10.19	11.13	12.43	21.25	23.56	2.31
	velocity	8.04	10.33	10.02	9.62	9.21	8.77	8.36	7.75	8.93		9.04	9.81	8.98	8.05	9.41	8.49	

Kerley, Fred (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shanghai (Shanghai, CHN) — *Omega Timing (2019) - diamond league race analysis*																	
date 18-May-19	time		10.6		20.8		32.3		44.81	44.81	5 / 1						
reaction time 0.158	interval				10.2		11.5		12.5		# of strides	10.60	10.20	11.50	12.51	20.80	24.01	3.21
	velocity		9.43		9.80		8.70		7.99	8.93	173.5	9.43	9.80	8.70	7.99	9.62	8.33	

Lendore, Deon (TTO) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Weltklasse (Zürich, SUI) — *Omega Timing (2021) - diamond league race analysis*																	
date 09-Sep-21	time	6.2	11.1	16.1	21.3	26.6	32.3	38.3	44.81	44.81	6 / 3						
reaction time 0.187	interval		4.90	5.00	5.20	5.30	5.70	6.00	6.51		# of strides	11.10	10.20	11.00	12.51	21.30	23.51	2.21
	velocity	8.06	10.20	10.00	9.62	9.43	8.77	8.33	7.68	8.93	168.5	9.01	9.80	9.09	7.99	9.39	8.51	

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Golden Gala Pietro Mennea (Rome, ITA) — *Omega Timing (2022) - diamond league race analysis*																	
date 09-Jun-22	time	6.14	11.13	16.35	21.63	27.05	32.68	38.46	44.81	44.81	6 / 2						
reaction time 0.168	interval		4.99	5.22	5.28	5.42	5.63	5.78	6.35		# of strides	11.13	10.50	11.05	12.13	21.63	23.18	1.55
	velocity	8.14	10.02	9.58	9.47	9.23	8.88	8.65	7.87	8.93		8.98	9.52	9.05	8.24	9.25	8.63	

Hudson-Smith, Matthew (GBR) (1994

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Commonwealth Games (Birmingham, GBR) — *Longines Timing (2022) - commonwealth games race analysis*																	
date 07-Aug-22	time	6.0	10.8	15.8	20.9	26.4	32.2	38.2	44.81	44.81	7 / 2						
reaction time 0.157	interval		4.80	5.00	5.10	5.50	5.80	6.00	6.61		# of strides	10.80	10.10	11.30	12.61	20.90	23.91	3.01
	velocity	8.33	10.42	10.00	9.80	9.09	8.62	8.33	7.56	8.93	168.0	9.26	9.90	8.85	7.93	9.57	8.36	

Deadmon, Bryce (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Kamila Skolimowska Memorial (Silesia, POL) — *Omega Timing (2023) - diamond league race analysis*																	
date 16-Jul-23	time	6.07	11.03	16.08	21.36	26.92	32.69	38.54	44.81	44.81	6 / 6						
reaction time 0.155	interval		4.96	5.05	5.28	5.56	5.77	5.85	6.27		# of strides	11.03	10.33	11.33	12.12	21.36	23.45	2.09
	velocity	8.24	10.08	9.90	9.47	8.99	8.67	8.55	7.97	8.93	168.0	9.07	9.68	8.83	8.25	9.36	8.53	

Nene, Zakhiti (RSA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 3 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*																	
date 05-Aug-24	time	6.14	11.15	16.38	21.72	27.23	32.83	38.60	44.81	44.81	4 / 1						
reaction time 0.140	interval		5.01	5.23	5.34	5.51	5.60	5.77	6.21		# of strides	11.15	10.57	11.11	11.98	21.72	23.09	1.37

		velocity	8.14	9.98	9.56	9.36	9.07	8.93	8.67	8.05	8.93	174.0	8.97	9.46	9.00	8.35	9.21	8.66	

Haley, Roddie (USA) (1965)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1987 NCAA Championships (Baton Rouge, LA)																	
																	Track Newsletter (1987) - NCAA Championships
date 06-Jun-87 time				21.6				44.9	44.82	4 / 3							
reaction time interval								23.30		# of strides					21.60	23.30	1.70
velocity				9.26				8.58	8.92						9.26	8.58	

Hall, Arman (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 NCAA Championships (Eugene, OR)																	
																	Track Newsletter (2016) - NCAA men's championships
date 10-Jun-16 time				21.8		32.8		44.8	44.82	5 / 1							
reaction time interval						11.00		12.00	=PB	# of strides			11.00	12.00	21.80	23.00	1.20
velocity				9.17		9.09		8.33	8.92				9.09	8.33	9.17	8.70	

Verburg, David (USA) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 USA Olympic Trials (Eugene, OR)																	
																	Track Newsletter (2016) - US olympic trials men
date 03-Jul-16 time		11.1		21.6		32.6		44.8	44.82	4 / 3							
reaction time 0.203 interval				10.50		11.00		12.20		# of strides	11.10	10.50	11.00	12.20	21.60	23.20	1.60
velocity		9.01		9.52		9.09		8.20	8.92		9.01	9.52	9.09	8.20	9.26	8.62	

McDonald, Rusheen (JAM) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)																	
																	Omega Timing (2023) - diamond league race analysis
date 02-Sep-23 time	6.26	11.13	16.21	21.60	27.21	32.99	38.76	44.82	44.82	7 / 3							
reaction time 0.179 interval		4.87	5.08	5.39	5.61	5.78	5.77	6.06		# of strides	11.13	10.47	11.39	11.83	21.60	23.22	1.62
velocity	7.99	10.27	9.84	9.28	8.91	8.65	8.67	8.25	8.92	179.5	8.98	9.55	8.78	8.45	9.26	8.61	

Bailey, Chris (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)																	
																	USATF and Karmarush (2024) - USA Olympic trials results and race analysis
date 23-Jun-24 time		11.55		22.15		33.01		44.82	44.82	5 / 2							
reaction time interval				10.60		10.86		11.81		# of strides	11.55	10.60	10.86	11.81	22.15	22.67	0.52
velocity		8.66		9.43		9.21		8.47	8.92		8.66	9.43	9.21	8.47	9.03	8.82	

Hall, Darrell (USA) (1971)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1995 IAAF World Championships (Göteborg, SWE)																	
																	Track Newsletter (1995) - World Championships V
date 09-Aug-95 time				20.8				44.8	44.83	1 / 6							
reaction time interval								24.00		# of strides					20.80	24.00	3.20
velocity				9.62				8.33	8.92						9.62	8.33	

Martin, Roxbert (JAM) (1969)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 Olympic Games (Atlanta, GA)																	
																	Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016
date 29-Jul-96 time				21.40		32.6		44.83	44.83	5 / 6							
reaction time 0.283 interval						11.20		12.23		# of strides			11.20	12.23	21.40	23.43	2.03
velocity				9.35		8.93		8.18	8.92				8.93	8.18	9.35	8.54	

Reynolds, Harry (Butch) (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1997 USATF Championships (Indianapolis, IN)																	
																	Track Newsletter (1997) - USATF National Championships
date 13-Jun-97 time				21.7				44.8	44.83	/ 1							
reaction time interval								23.10		# of strides					21.70	23.10	1.40
velocity				9.22				8.66	8.92						9.22	8.66	

Young, Jerome (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 USATF Championships (Indianapolis, IN)																	
																	Track Newsletter (1997) - USATF National Championships
date 14-Jun-97 time				22.2				44.8	44.83	/ 3							
reaction time interval								22.60		# of strides					22.20	22.60	0.40
velocity				9.01				8.85	8.92						9.01	8.85	

Djhone, Leslie (FRA) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 IAAF World Championships (Paris, FRA)																	
																	Bonvin (2003) - Compte-rendu 400m et relais 4x 400m
date 26-Aug-03 time				21.4		32.40		44.83	44.83	8 / ~~5~~ 4							
reaction time 0.170 interval						11.0		12.4		# of strides			11.00	12.43	21.40	23.43	2.03
velocity				9.35		9.09		8.05	8.92				9.09	8.05	9.35	8.54	

Clarke, Davian (JAM) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2004 Olympic Games (Athens, GRE)																	
																	Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016
date 23-Aug-04 time				21.7		32.7		44.8	44.83	7 / 6							
reaction time 0.263 interval						11.0		12.1	PB	# of strides			11.00	12.10	21.70	23.10	1.40
velocity				9.22		9.09		8.26	8.92				9.09	8.26	9.22	8.66	

Borlée, Jonathan (BEL) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Olympic Games (London, GBR)																	
																	Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016
date 06-Aug-12 time		11.1		21.6		32.6		44.8	44.83	2 / 6							
reaction time 0.173 interval				10.50		11.00		12.20		# of strides	11.10	10.50	11.00	12.20	21.60	23.20	1.60
velocity		9.01		9.52		9.09		8.20	8.92	172.7	9.01	9.52	9.09	8.20	9.26	8.62	

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Bauhaus Galan (Stockholm, SWE)																	
																	Omega Timing (2021) - diamond league race analysis
date 04-Jul-21 time	6.2	11.2	16.3	21.5	26.9	32.5	38.4	44.83	44.83	4 / 4							
reaction time 0.196 interval		5.00	5.10	5.20	5.40	5.60	5.90	6.43		# of strides	11.20	10.30	11.00	12.33	21.50	23.33	1.83
velocity	8.06	10.00	9.80	9.62	9.26	8.93	8.47	7.78	8.92		8.93	9.71	9.09	8.11	9.30	8.57	

Makwala, Isaac (BOT) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Memorial van Damme (Brussels, BEL)																	
																	Omega Timing (2021) - diamond league race analysis
date 03-Sep-21 time	6.2	11.2	16.3	21.6	27.1	32.6	38.4	44.83	44.83	8 / 3							
reaction time 0.200 interval		5.00	5.10	5.30	5.50	5.50	5.80	6.43		# of strides	11.20	10.40	11.00	12.23	21.60	23.23	1.63
velocity	8.06	10.00	9.80	9.43	9.09	9.09	8.62	7.78	8.92		8.93	9.62	9.09	8.18	9.26	8.61	

McKenley, Herb (JAM) (1922)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1947 (Long Beach, NJ) *(440y Straightaway)* *Parienté (1978) - la fabuleuse histoire de l'athlétisme*

date	23-Aug-47	time				22.7			45.0	44.7	/ 1								
reaction time		interval							22.3		# of strides						22.70	22.30	-0.40
		velocity				8.81			8.97	8.95	*(45.0/440y)*						8.81	8.97	

Collett, Wayne (USA) (1949)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1971 USA National Championships (Eugene, OR) *(yards)*																	*Parienté (1978) - la fabuleuse histoire de l'athlétisme*
date 26-Jun-71	time			21.2				44.7	44.7	/ 2							
reaction time	interval							23.5		# of strides					21.20	23.50	2.30
	velocity			9.43				8.51	8.95						9.43	8.51	

Mitchell, Richard (AUS) (1955)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 Olympic Games (Moscow, URS)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 30-Jul-80	time			21.8		33.0		44.9	44.84	4 / 2							
reaction time 0.152	interval					11.2		11.90		# of strides			11.20	11.90	21.80	23.10	1.30
	velocity			9.17		8.93		8.40	8.92	171.0			8.93	8.40	9.17	8.66	

Moncur, Avard (BAH) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2001 NCAA Championships (Eugene, OR)																	*Track Newsletter (2001) - NCAA championships*
date 02-Jun-01	time			21.3				44.8	44.84	/ 1							
reaction time	interval							23.50		# of strides					21.30	23.50	2.20
	velocity			9.39				8.51	8.92						9.39	8.51	

Wariner, Jeremy (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 Modesto Relays (Modesto, CA)																	*Track Newsletter (2006) - modesto relays*
date 06-May-06	time			21.8				44.80	44.84	/ 1							
reaction time	interval							23.0		# of strides					21.80	23.00	1.20
	velocity			9.17				8.70	8.92						9.17	8.70	

Larry, Lionel (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 USATF National Championships (Indianapolis, IN)																	*Track Newsletter (2007) - USATF men's championships*
date 23-Jun-07	time			21.3		32.3		44.8	44.84	/ 3							
reaction time	interval					11.00		12.50		# of strides			11.00	12.50	21.30	23.50	2.20
	velocity			9.39		9.09		8.00	8.92				9.09	8.00	9.39	8.51	

Brown, Chris (BAH) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 Olympic Games (Beijing, CHN)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 21-Aug-08	time			21.3		31.9		44.8	44.84	5 / 4							
reaction time 0.231	interval					10.60		12.90		# of strides			10.60	12.90	21.30	23.50	2.20
	velocity			9.39		9.43		7.75	8.92	186.0			9.43	7.75	9.39	8.51	

Roberts, Gil (USA) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)																	*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*
date 06-Aug-17	time	10.68		20.68		31.84	37.94	44.67	44.84	7 / 3							
reaction time 0.170	interval			10.00		11.16	6.10	6.73		# of strides	10.68	10.00	11.16	12.83	20.68	23.99	3.31
	velocity	9.36		10.00		8.96	8.20	7.43	8.92	184.1	9.36	10.00	8.96	7.79	9.67	8.34	

Karam, Youssef (KUW) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Asian Athletics Championships (Doha, QAT)																	*Yamanaka (2019) - race analysis of men and women 400m competition*
date 22-Apr-19	time 6.20	11.17	16.22	21.49	26.94	32.58	38.44	44.84	44.84	6 / 1							
reaction time 0.149	interval	4.97	5.05	5.27	5.45	5.64	5.86	6.40	**NR PB**	# of strides	11.17	10.32	11.09	12.26	21.49	23.35	1.86
	velocity 8.06	10.06	9.90	9.49	9.17	8.87	8.53	7.81	8.92	167.2	8.95	9.69	9.02	8.16	9.31	8.57	

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Weltklasse (Zürich, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 09-Sep-21	time 6.1	11.0	16.1	21.4	26.9	32.6	38.5	44.84	44.84	8 / 4							
reaction time 0.166	interval	4.90	5.10	5.30	5.50	5.70	5.90	6.34		# of strides	11.00	10.40	11.20	12.24	21.40	23.44	2.04
	velocity 8.20	10.20	9.80	9.43	9.09	8.77	8.47	7.89	8.92		9.09	9.62	8.93	8.17	9.35	8.53	

Molnár, Attila (HUN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23	time	11.25		21.46		32.95		44.84	44.84	9 / 3							
reaction time 0.172	interval			10.21		11.49		11.89	**NR PB**	# of strides	11.25	10.21	11.49	11.89	21.46	23.38	1.92
	velocity	8.89		9.79		8.70		8.41	8.92	175.2	8.89	9.79	8.70	8.41	9.32	8.55	

McDonald, Rusheen (JAM) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2023) - diamond league race analysis*
date 08-Sep-23	time 6.17	11.07	16.15	21.49	27.08	32.74	38.56	44.84	44.84	4 / 1							
reaction time 0.177	interval	4.90	5.08	5.34	5.59	5.66	5.82	6.28		# of strides	11.07	10.42	11.25	12.10	21.49	23.35	1.86
	velocity 8.10	10.20	9.84	9.36	8.94	8.83	8.59	7.96	8.92	182.0	9.03	9.60	8.89	8.26	9.31	8.57	

Harrison, Calvin (USA) (1974)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2004 USA Olympic Trials (Atlanta, GA)																	*USATF Women's Sprint Development (2004)*
date 15-Jul-04	time	11.40		21.72	27.17	32.72	38.48	44.85	44.85	7 / ~~5~~							
reaction time	interval			10.32	5.45	5.55	5.76	6.37	**DV**	# of strides	11.40	10.32	11.00	12.13	21.72	23.13	1.41
	velocity	8.77		9.69	9.17	9.01	8.68	7.85	8.92	180.0	8.77	9.69	9.09	8.24	9.21	8.65	

Borlée, Jonathan (BEL) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15	time 6.18	11.16	16.28	21.59	27.08	32.64	38.47	44.85	44.85	9 / 5							
reaction time 0.158	interval	4.98	5.12	5.31	5.49	5.56	5.83	6.38		# of strides	11.16	10.43	11.05	12.21	21.59	23.26	1.67
	velocity 8.09	10.04	9.77	9.42	9.11	8.99	8.58	7.84	8.92	170.2	8.96	9.59	9.05	8.19	9.26	8.60	

Allen, Nathon (JAM) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Müller Anniversary Games (London, GBR)																	*Omega Timing (2019) - diamond league race analysis*
date 21-Jul-19	time	11.1		21.2		32.2		44.85	44.85	6 / 3							
reaction time 0.149	interval			10.1		11.0		12.7		# of strides	11.10	10.10	11.00	12.65	21.20	23.65	2.45

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		9.01		9.90		9.09		7.91	8.92	164.7	9.01	9.90	9.09	7.91	9.43	8.46	

Schersing, Mathias (GDR) (1964)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 Olympischen Tag (Potsdam, GDR)																			*Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazyklus 1981/84*
date	21-Jul-84	time		11.37		21.83		32.80		44.86	44.86	/ 1							
reaction time		interval				10.46		10.97		12.06	NR	# of strides	11.37	10.46	10.97	12.06	21.83	23.03	1.20
		velocity		8.80		9.56		9.12		8.29	8.92		8.80	9.56	9.12	8.29	9.16	8.68	

Hernández, Roberto (CUB) (1967)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1991 IAAF World Championships (Tokyo, JPN)																			*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*
date	29-Aug-91	time				21.51				44.86	44.86	6 / 4							
reaction time		interval								23.35		# of strides					21.51	23.35	1.84
		velocity				9.30				8.57	8.92	169.7					9.30	8.57	

McDonald, Rusheen (JAM) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2015 IAAF World Championships (Beijing, CHN)																			*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date	24-Aug-15	time	6.34	11.41	16.53	21.87	27.46	32.99	38.73	44.86	44.86	5 / 6							
reaction time	0.208	interval		5.07	5.12	5.34	5.59	5.53	5.74	6.13		# of strides	11.41	10.46	11.12	11.87	21.87	22.99	1.12
		velocity	7.89	9.86	9.77	9.36	8.94	9.04	8.71	8.16	8.92	182.0	8.76	9.56	8.99	8.42	9.14	8.70	

London, Wil (USA) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Bauhaus Galan (Stockholm, SWE)																			*Omega Timing (2021) - diamond league race analysis*
date	04-Jul-21	time	6.2	11.3	16.4	21.7	27.3	32.9	38.7	44.86	44.86	7 / 5							
reaction time	0.165	interval		5.10	5.10	5.30	5.60	5.60	5.80	6.16		# of strides	11.30	10.40	11.20	11.96	21.70	23.16	1.46
		velocity	8.06	9.80	9.80	9.43	8.93	8.93	8.62	8.12	8.92	176.5	8.85	9.62	8.93	8.36	9.22	8.64	

Hall, Quincy (USA) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2023 World Athletics Championships (Budapest, HUN)																			*Seiko Timing (2023) - world championship race analysis*
date	20-Aug-23	time		11.38		21.76		33.05		44.86	44.86	5 / 2							
reaction time	0.181	interval				10.38		11.29		11.81		# of strides	11.38	10.38	11.29	11.81	21.76	23.10	1.34
		velocity		8.79		9.63		8.86		8.47	8.92	159.0	8.79	9.63	8.86	8.47	9.19	8.66	

Bailey, Chris (USA) (2000)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 USA Olympic Trials (Eugene, OR)																			*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	21-Jun-24	time		11.45		21.98		32.86		44.86	44.86	4 / 2							
reaction time		interval				10.53		10.88		12.00		# of strides	11.45	10.53	10.88	12.00	21.98	22.88	0.90
		velocity		8.73		9.50		9.19		8.33	8.92	179.2	8.73	9.50	9.19	8.33	9.10	8.74	

Robinson, Chris (USA) (2001)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Miami (Miramar, FL)																			*Grand Slam Track (2025) - results and splits by race*
date	04-May-25	time		11.17		21.49		32.63		44.86	44.86	7 / 2							
reaction time	0.230	interval				10.32		11.14		12.23		# of strides	11.17	10.32	11.14	12.23	21.49	23.37	1.88
		velocity		8.95		9.69		8.98		8.18	8.92		8.95	9.69	8.98	8.18	9.31	8.56	

Schaffer, Frank (GDR) (1958)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 Olympic Games (Moscow, URS)																			*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date	30-Jul-80	time				21.2		32.4		44.9	44.87	6 / 3							
reaction time	0.148	interval						11.2		12.50		# of strides			11.20	12.50	21.20	23.70	2.50
		velocity				9.43		8.93		8.00	8.91	173.0			8.93	8.00	9.43	8.44	

Christopher, Tyler (CAN) (1983)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Athletic Final (Stuttgart, GER)																			*Graubner (2007) - http://www.fgs.uni-halle.de*
date	22-Sep-07	time		11.06		21.44		38.73		44.87	44.87	3 / 2							
reaction time	0.160	interval				10.38		17.29		6.14		# of strides	11.06	10.38	17.29	6.14	21.44	23.43	1.99
		velocity		9.04		9.63		5.78		16.29	8.91		9.04	9.63	5.78	16.29	9.33	8.54	

Norwood, Vernon (USA) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Doha Diamond League (Doha, QAT)																			*Omega Timing (2021) - diamond league race analysis*
date	28-May-21	time	6.1	11.0	16.2	21.5	27.0	32.8	38.5	44.87	44.87	7 / 5							
reaction time	0.177	interval		4.90	5.20	5.30	5.50	5.80	5.70	6.37		# of strides	11.00	10.50	11.30	12.07	21.50	23.37	1.87
		velocity	8.20	10.20	9.62	9.43	9.09	8.62	8.77	7.85	8.91	170.5	9.09	9.52	8.85	8.29	9.30	8.56	

Ndori, Bayapo (BOT) (1999)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2022 World Athletics Championships (Eugene, OR)																			*Timing by Seiko (2022) - world athletics championships race analysis*
date	17-Jul-22	time		11.17		21.46		32.55		44.87	44.87	8 / 1							
reaction time	0.140	interval				10.29		11.09		12.32		# of strides	11.17	10.29	11.09	12.32	21.46	23.41	1.95
		velocity		8.95		9.72		9.02		8.12	8.91	174.2	8.95	9.72	9.02	8.12	9.32	8.54	

Willie, Ryan (USA) (2002)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 USATF National Championships (Eugene, OR)																			*Track Newsletter (2023) - USATF championships/WCT men*
date	08-Jul-23	time		11.43		21.99		33.17		44.87	44.87	3 / 5							
reaction time	0.195	interval				10.56		11.18		11.70		# of strides	11.43	10.56	11.18	11.70	21.99	22.88	0.89
		velocity		8.75		9.47		8.94		8.55	8.91		8.75	9.47	8.94	8.55	9.10	8.74	

Norwood, Vernon (USA) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2023 World Athletics Championships (Budapest, HUN)																			*Seiko Timing (2023) - world championship race analysis*
date	20-Aug-23	time		11.28		21.56		32.76		44.87	44.87	4 / 2							
reaction time	0.194	interval				10.28		11.20		12.11		# of strides	11.28	10.28	11.20	12.11	21.56	23.31	1.75
		velocity		8.87		9.73		8.93		8.26	8.91	173.0	8.87	9.73	8.93	8.26	9.28	8.58	

Doom, Alexander (BEL) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)																			*European Athletics (2024) - 2024 european athletics championships - results book*
date	09-Jun-24	time		11.24		21.42		32.73		44.87	44.87	5 / 1							
reaction time	0.197	interval				10.18		11.31		12.14		# of strides	11.24	10.18	11.31	12.14	21.42	23.45	2.03
		velocity		8.90		9.82		8.84		8.24	8.91	179.0	8.90	9.82	8.84	8.24	9.34	8.53	

Ndori, Bayapo (BOT) (1999)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

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

date	04-Aug-24	time	6.14	11.03	16.05	21.22	26.60	32.24	38.21	44.87	44.87	2 / 2						
reaction time	0.156	interval		4.89	5.02	5.17	5.38	5.64	5.97	6.66		# of strides	11.03	10.19	11.02	12.63	21.22	23.65	2.43
		velocity	8.14	10.22	9.96	9.67	9.29	8.87	8.38	7.51	8.91	175.0	9.07	9.81	9.07	7.92	9.43	8.46	

Wiley, Cliff (USA) (1955)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1981 IAAF World Cup (Rome, ITA)																	
date 05-Sep-81 time						31.9		44.88	44.88	/ 1							
reaction time interval								12.98		# of strides				12.98			
velocity						9.40		7.70	8.91					7.70			

Butler (2010) -1st/IAAF VTB bank continental cup, IAAF statistics handbook - split 2010

Gillick, David (IRL) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)																	
date 19-Aug-09 time		11.27		21.80		32.77		44.88	44.88	6 / 4							
reaction time 0.147 interval				10.53		10.97		12.11		# of strides	11.27	10.53	10.97	12.11	21.80	23.08	1.28
velocity		8.87		9.50		9.12		8.26	8.91		8.87	9.50	9.12	8.26	9.17	8.67	

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

Mance, Josh (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 USA Olympic Trials (Eugene, OR)																	
date 24-Jun-12 time				21.7		32.6		44.88	44.88	4 / 4							
reaction time 0.190 interval						10.90		12.28		# of strides			10.90	12.28	21.70	23.18	1.48
velocity				9.22		9.17		8.14	8.91				9.17	8.14	9.22	8.63	

Hymans (2020) - history of the US olympic trials - track and field

Norman, Michael (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 NCAA Championships (Eugene, OR)																	
date 09-Jun-17 time				20.8		32.4		44.9	44.88	7 / 4							
reaction time interval						11.60		12.50	PB	# of strides			11.60	12.50	20.80	24.10	3.30
velocity				9.62		8.62		8.00	8.91				8.62	8.00	9.62	8.30	

Track Newsletter (2017) - NCAA men's championships

Allen, Nathon (JAM) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 IAAF World Championships (London, GBR)																	
date 08-Aug-17 time	6.03	10.94	15.87	20.96	26.33	31.99	38.06	44.88	44.88	5 / 5							
reaction time 0.158 interval		4.91	4.93	5.09	5.37	5.66	6.07	6.82		# of strides	10.94	10.02	11.03	12.89	20.96	23.92	2.96
velocity	8.29	10.18	10.14	9.82	9.31	8.83	8.24	7.33	8.91	167.2	9.14	9.98	9.07	7.76	9.54	8.36	

Yamanaka (2017) - male and female 400m analysis in the 2017 season

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Kamila Skolimowska Memorial (Silesia, POL)																	
date 16-Jul-23 time	6.15	11.13	16.23	21.52	27.00	32.74	38.60	44.88	44.88	7 / 7							
reaction time 0.174 interval		4.98	5.10	5.29	5.48	5.74	5.86	6.28		# of strides	11.13	10.39	11.22	12.14	21.52	23.36	1.84
velocity	8.13	10.04	9.80	9.45	9.12	8.71	8.53	7.96	8.91	174.0	8.98	9.62	8.91	8.24	9.29	8.56	

Omega Timing (2023) - diamond league race analysis

Nene, Zakhiti (RSA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2023 World Athletics Championships (Budapest, HUN)																	
date 20-Aug-23 time		11.10		21.39		32.49		44.88	44.88	8 / 4							
reaction time 0.145 interval				10.29		11.10		12.39		# of strides	11.10	10.29	11.10	12.39	21.39	23.49	2.10
velocity		9.01		9.72		9.01		8.07	8.91	180.0	9.01	9.72	9.01	8.07	9.35	8.51	

Seiko Timing (2023) - world championship race analysis

Sato, Fuga (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)																	
date 22-Aug-23 time	6.02	10.88	15.85	21.09	26.60	32.40	38.38	44.88	44.88	6 / 4							
reaction time 0.150 interval		4.86	4.97	5.24	5.51	5.80	5.98	6.50	PB	# of strides	10.88	10.21	11.31	12.48	21.09	23.79	2.70
velocity	8.31	10.29	10.06	9.54	9.07	8.62	8.36	7.69	8.91	173.0	9.19	9.79	8.84	8.01	9.48	8.41	

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

Newhouse, Fred (USA) (1948)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1976 Olympic Games (Montreal, CAN)																	
date 28-Jul-76 time		11.10		21.49		32.47		44.89	44.89	2 / 1							
reaction time interval				10.39		10.98		12.42		# of strides	11.10	10.39	10.98	12.42	21.49	23.40	1.91
velocity		9.01		9.62		9.11		8.05	8.91		9.01	9.62	9.11	8.05	9.31	8.55	

Lamare (1976) - les jeux de la XXI olympia, Montreal 1976

Campbell, Milton (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1997 USATF Championships (Indianapolis, IN)																	
date 13-Jun-97 time				22.0		32.7		44.9	44.89	/ 2							
reaction time interval						10.70		12.20		# of strides			10.70	12.20	22.00	22.90	0.90
velocity				9.09		9.35		8.20	8.91				9.35	8.20	9.09	8.73	

Track Newsletter (1997) - USATF National Championships

Mance, Josh (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 USATF National Championships (Sacramento, CA)																	
date 28-Jun-14 time		11.4		22.0		33.1		44.9	44.89	/ 2							
reaction time interval				10.6		11.1		11.8		# of strides	11.40	10.60	11.10	11.80	22.00	22.90	0.90
velocity		8.77		9.43		9.01		8.47	8.91		8.77	9.43	9.01	8.47	9.09	8.73	

Track Newsletter (2014) - USATF men's championships

Haroun, Abdalelah (QAT) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Asian Games (Jakarta, INA)																	
date 26-Aug-18 time	6.20	11.17	16.30	21.61	27.17	32.86	38.77	44.89	44.89	3 / 1							
reaction time 0.213 interval		4.97	5.13	5.31	5.56	5.69	5.91	6.12		# of strides	11.17	10.44	11.25	12.03	21.61	23.28	1.67
velocity	8.06	10.06	9.75	9.42	8.99	8.79	8.46	8.17	8.91	167.5	8.95	9.58	8.89	8.31	9.25	8.59	

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

Jones, Jonathan (BAR) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Commonwealth Games (Birmingham, GBR)																	
date 07-Aug-22 time	6.2	11.1	16.1	21.3	26.8	32.5	38.4	44.89	44.89	5 / 3							
reaction time 0.160 interval		4.90	5.00	5.20	5.50	5.70	5.90	6.49		# of strides	11.10	10.20	11.20	12.39	21.30	23.59	2.29
velocity	8.06	10.20	10.00	9.62	9.09	8.77	8.47	7.70	8.91	174.5	9.01	9.80	8.93	8.07	9.39	8.48	

Longines Timing (2022) - commonwealth games race analysis

Bailey, Chris (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 Olympic Games (Paris, FRA)																	
date 04-Aug-24 time	6.29	11.30	16.36	21.57	26.96	32.53	38.46	44.89	44.89	3 / 2							
reaction time 0.209 interval		5.01	5.06	5.21	5.39	5.57	5.93	6.43		# of strides	11.30	10.27	10.96	12.36	21.57	23.32	1.75

Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	7.95	9.98	9.88	9.60	9.28	8.98	8.43	7.78	8.91	182.0	8.85	9.74	9.12	8.09	9.27	8.58	

Takano, Susumu (JPN) (1961)
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)
Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Sep-88	time		11.43		21.98		32.90		44.90	44.90	4 / 5							
reaction time	0.174	interval				10.55		10.92		12.00	PB	# of strides	11.43	10.55	10.92	12.00	21.98	22.92	0.94
		velocity		8.75		9.48		9.16		8.33	8.91		8.75	9.48	9.16	8.33	9.10	8.73	

Schönlebe, Thomas (GDR) (1965)
Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)
Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Sep-88	time		11.51		22.18		33.23		44.90	44.90	2 / 5							
reaction time	0.207	interval				10.67		11.05		11.67		# of strides	11.51	10.67	11.05	11.67	22.18	22.72	0.54
		velocity		8.69		9.37		9.05		8.57	8.91		8.69	9.37	9.05	8.57	9.02	8.80	

Williams, Andrae (BAH) (1983)
FINAL - 2005 NCAA Championships (Sacramento, CA)
Track Newsletter (2005) - NCAA men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-Jun-05	time		11.0		21.7		32.7		44.9	44.90	/ 3							
reaction time		interval				10.70		11.00		12.20	PB	# of strides	11.00	10.70	11.00	12.20	21.70	23.20	1.50
		velocity		9.09		9.35		9.09		8.20	8.91		9.09	9.35	9.09	8.20	9.22	8.62	

Borlée, Kevin (BEL) (1988)
FINAL - 2011 IAAF World Championships (Daegu, KOR)
Butler (2013) - IAAF world athletic results 2008-2011 full results

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Aug-11	time				21.7		32.7		44.90	44.90	6 / 3							
reaction time	0.182	interval						11.0		12.2		# of strides			11.00	12.20	21.70	23.20	1.50
		velocity				9.22		9.09		8.20	8.91	172.0			9.09	8.20	9.22	8.62	

Deadmon, Bryce (USA) (1997)
FINAL - 2023 Prefontaine Classic (Eugene, OR)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Sep-23	time	6.10	11.16	16.30	21.62	27.17	32.87	38.68	44.90	44.90	3 / 7							
reaction time	0.145	interval		5.06	5.14	5.32	5.55	5.70	5.81	6.22		# of strides	11.16	10.46	11.25	12.03	21.62	23.28	1.66
		velocity	8.20	9.88	9.73	9.40	9.01	8.77	8.61	8.04	8.91		8.96	9.56	8.89	8.31	9.25	8.59	

Morales-Williams, Christopher (CAN)
FINAL - 2024 London Athletics Meet (London, GBR)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-24	time	6.17	11.04	16.06	21.35	26.85	32.63	38.56	44.90	44.90	6 / 6							
reaction time	0.188	interval		4.87	5.02	5.29	5.50	5.78	5.93	6.34		# of strides	11.04	10.31	11.28	12.27	21.35	23.55	2.20
		velocity	8.10	10.27	9.96	9.45	9.09	8.65	8.43	7.89	8.91		9.06	9.70	8.87	8.15	9.37	8.49	

Black, Roger (GBR) (1966)
FINAL - 1991 European Cup (Frankfurt, GER)
Federle (2003) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jun-91	time		11.53		21.91		32.90		44.91	44.91	/ 1							
reaction time		interval				10.38		10.99		12.01		# of strides	11.53	10.38	10.99	12.01	21.91	23.00	1.09
		velocity		8.67		9.63		9.10		8.33	8.91		8.67	9.63	9.10	8.33	9.13	8.70	

Davis, Jerome (USA) (1977)
FINAL - 1999 USATF National Championship (Eugene, OR)
Track Newsletter (1999) - USATF National Championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Jun-99	time				21.8				44.9	44.91	/ ~~3~~ 2							
reaction time		interval								23.10		# of strides					21.80	23.10	1.30
		velocity				9.17				8.66	8.91						9.17	8.66	

Wariner, Jeremy (USA) (1984)
FINAL - 2004 Leichtathletik Team Challenge (Munich, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-04	time		11.05		21.64		32.76		44.91	44.91	/ 1							
reaction time		interval				10.59		11.12		12.15		# of strides	11.05	10.59	11.12	12.15	21.64	23.27	1.63
		velocity		9.05		9.44		8.99		8.23	8.91		9.05	9.44	8.99	8.23	9.24	8.59	

Maslák, Pavel (CZE) (1991)
FINAL - 2013 IAAF World Championships (Moscow, RUS)
(2013) - www.trackandfieldnews.com/index.php?option=com_content&view=article&id=1698

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Aug-13	time		11.2		21.8		32.9		44.9	44.91	1 / 5							
reaction time	0.169	interval				10.6		11.1		12.0		# of strides	11.20	10.60	11.10	12.00	21.80	23.10	1.30
		velocity		8.93		9.43		9.01		8.33	8.91		8.93	9.43	9.01	8.33	9.17	8.66	

James, Kirani (GRN) (1992)
Heat 4 - 2023 World Athletics Championships (Budapest, HUN)
Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		11.12		21.70		33.16		44.91	44.91	6 / 1							
reaction time	0.166	interval				10.58		11.46		11.75		# of strides	11.12	10.58	11.46	11.75	21.70	23.21	1.51
		velocity		8.99		9.45		8.73		8.51	8.91	158.0	8.99	9.45	8.73	8.51	9.22	8.62	

Boling, Matthew (USA) (2000)
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)
USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-24	time		10.78		21.02		32.65		44.91	44.91	8 / 3							
reaction time		interval				10.24		11.63		12.26	PB	# of strides	10.78	10.24	11.63	12.26	21.02	23.89	2.87
		velocity		9.28		9.77		8.60		8.16	8.91		9.28	9.77	8.60	8.16	9.51	8.37	

Powell, Jevaughn (JAM) (2000)
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-24	time	6.07	10.86	15.78	20.94	26.41	32.16	38.31	44.91	44.91	9 / 4							
reaction time	0.155	interval		4.79	4.92	5.16	5.47	5.75	6.15	6.60		# of strides	10.86	10.08	11.22	12.75	20.94	23.97	3.03
		velocity	8.24	10.44	10.16	9.69	9.14	8.70	8.13	7.58	8.91	175.5	9.21	9.92	8.91	7.84	9.55	8.34	

Sang, Julius (KEN) (1948)
FINAL - 1972 Olympic Games (Munich, FRG)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Sep-72	time				21.6		32.7		45.0	44.92	5 / 3							
reaction time		interval						11.10		12.30		# of strides			11.10	12.30	21.60	23.40	1.80
		velocity				9.26		9.01		8.13	8.90	180.0			9.01	8.13	9.26	8.55	

Tiacoh, Gabriel (CIV) (1963)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1985 NCAA Championships (Austin, TX) *Track Newsletter (1985) - NCAA Championships*

date	01-Jun-85	time			22.0		33.0		45.0	44.92	5 / 3					
reaction time		interval					11.00		12.00		# of strides			11.00	12.00	22.00	23.00	1.00
		velocity			9.09		9.09		8.33	8.90				9.09	8.33	9.09	8.70	

Taylor, Angelo (USA) (1978)

FINAL - 2007 IAAF World Athletic Final (Stuttgart, GER) *Graubner (2007) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Sep-07	time		11.29		21.90		38.96		44.92	44.92	6 / 3							
reaction time	0.156	interval				10.61		17.06		5.96		# of strides	11.29	10.61	17.06	5.96	21.90	23.02	1.12
		velocity		8.86		9.43		5.86		16.78	8.90		8.86	9.43	5.86	16.78	9.13	8.69	

Feliz, Lidio Andres (DOM) (1997)

FINAL - 2022 Meeting de Paris (Paris, FRA) *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Jun-22	time	6.20	11.07	16.01	21.15	26.60	32.40	38.40	44.92	44.92	4 / 2							
reaction time	0.187	interval		4.87	4.94	5.14	5.45	5.80	6.00	6.52		# of strides	11.07	10.08	11.25	12.52	21.15	23.77	2.62
		velocity	8.06	10.27	10.12	9.73	9.17	8.62	8.33	7.67	8.90	173.0	9.03	9.92	8.89	7.99	9.46	8.41	

Zambrano, Anthony (COL) (1998)

Heat 2 - 2023 World Athletics Championships (Budapest, HUN) *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		11.03		21.29		32.62		44.92	44.92	9 / ~~5~~							
reaction time	0.223	interval				10.26		11.33		12.30	DQ	# of strides	11.03	10.26	11.33	12.30	21.29	23.63	2.34
		velocity		9.07		9.75		8.83		8.13	8.90	176.0	9.07	9.75	8.83	8.13	9.39	8.46	

Doom, Alexander (BEL) (1997)

Heat 6 - 2023 World Athletics Championships (Budapest, HUN) *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		11.50		21.59		32.90		44.92	44.92	5 / 2							
reaction time	0.171	interval				10.09		11.31		12.02	PB	# of strides	11.50	10.09	11.31	12.02	21.59	23.33	1.74
		velocity		8.70		9.91		8.84		8.32	8.90	177.5	8.70	9.91	8.84	8.32	9.26	8.57	

Uti, Sunday (NGR) (1962)

FINAL - 1984 Olympic Games (Los Angeles, CA) *Adams (1984) - 1984 olympic games - 200m & 400m*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-84	time				21.8				44.93	44.93	2 / 6							
reaction time	0.186	interval								23.13		# of strides					21.80	23.13	1.33
		velocity				9.17				8.65	8.90						9.17	8.65	

Benjamin, Tim (GBR) (1982)

FINAL - 2005 IAAF World Championships (Helsinki, FIN) *Track Newsletter (2005) - World championships- men*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Aug-05	time						32.5		44.9	44.93	1 / 5							
reaction time		interval								12.4		# of strides				12.40			
		velocity						9.23		8.06	8.90	172.5				8.06			

Collazo, William (CUB) (1986)

Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Aug-09	time		10.97		21.56		32.67		44.93	44.93	5 / 3							
reaction time	0.147	interval				10.59		11.11		12.26	PB	# of strides	10.97	10.59	11.11	12.26	21.56	23.37	1.81
		velocity		9.12		9.44		9.00		8.16	8.90		9.12	9.44	9.00	8.16	9.28	8.56	

Strother, Nathan (USA) (1995)

FINAL - 2018 Weltklasse (Zürich, SUI) *Omega Timing (2018) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Aug-18	time		11.3		21.7		32.7		44.93	44.93	3 / 2							
reaction time	0.156	interval				10.4		11.0		12.2		# of strides	11.30	10.40	11.00	12.23	21.70	23.23	1.53
		velocity		8.85		9.62		9.09		8.18	8.90	175.2	8.85	9.62	9.09	8.18	9.22	8.61	

Cedenio, Machel (TTO) (1995)

National FINAL - 2019 Memorial van Damme (Brussels, BEL) *Omega Timing (2019) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Sep-19	time	6.3	11.2	16.3	21.6	27.1	32.9	38.8	44.93	44.93	4 / 1							
reaction time		interval		4.9	5.1	5.3	5.5	5.8	5.9	6.1		# of strides	11.20	10.40	11.30	12.03	21.60	23.33	1.73
		velocity	7.94	10.20	9.80	9.43	9.09	8.62	8.47	8.16	8.90		8.93	9.62	8.85	8.31	9.26	8.57	

Ogando, Alexander (DOM) (2000)

FINAL - 2023 Memorial van Damme (Brussels, BEL) *Omega Timing (2023) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-23	time	6.11	10.98	16.14	21.51	27.16	32.88	38.83	44.93	44.93	2 / 2							
reaction time	0.157	interval		4.87	5.16	5.37	5.65	5.72	5.95	6.10		# of strides	10.98	10.53	11.37	12.05	21.51	23.42	1.91
		velocity	8.18	10.27	9.69	9.31	8.85	8.74	8.40	8.20	8.90	178.7	9.11	9.50	8.80	8.30	9.30	8.54	

Norwood, Vernon (USA) (1992)

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-25	time		11.39	16.66	22.07	27.53	33.11	38.77	44.93	44.93	8 / 4							
reaction time	0.171	interval			5.27	5.41	5.46	5.58	5.66	6.16		# of strides	11.39	10.68	11.04	11.82	22.07	22.86	0.79
		velocity		8.78	9.49	9.24	9.16	8.96	8.83	8.12	8.90	172.7	8.78	9.36	9.06	8.46	9.06	8.75	

Matthews, Vince (USA) (1947)

FINAL - 1968 USA Olympic Trials (Echo Summit, CA) (*Altitude*) *Hymans (2008) - history of the US olympic trials - track and field*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Sep-68	time				20.7				44.8	44.8	5 / 4							
reaction time		interval								24.1	*(44.86)*	# of strides					20.70	24.10	3.40
		velocity				9.66				8.30	8.93						9.66	8.30	

Evans, Lee (USA) (1947)

FINAL - 1969 NCAA Championships (Knoxville, TN) (*yards*) *Hymans (2015) - progression of IAAF world records - 2015 edition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-69	time				21.4				44.8	44.8	/ 2							
reaction time		interval								23.4	(45.32)	# of strides					21.40	23.40	2.00
		velocity				9.35				8.55	8.93	*(45.1/440y)*					9.35	8.55	

Reynolds, Harry (Butch) (USA) (1964)

Semi-Final 2 - 1987 IAAF World Championship (Rome, ITA) *Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Sep-87	time		11.46		21.80		33.00		44.94	44.94	2 / 4							
reaction time		interval				10.34		11.20		11.94		# of strides	11.46	10.34	11.20	11.94	21.80	23.14	1.34

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	8.73		9.67		8.93		8.38	8.90			8.73	9.67	8.93	8.38	9.17	8.64	

Cameron, Bert (JAM) (1959)
FINAL - 1988 Olympic Games (Seoul, KOR) — *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Sep-88	time		11.22		21.66		32.68		44.94	44.94	2 / 6							
reaction time	0.176	interval				10.44		11.02		12.26		# of strides	11.22	10.44	11.02	12.26	21.66	23.28	1.62
		velocity		8.91		9.58		9.07		8.16	8.90		8.91	9.58	9.07	8.16	9.23	8.59	

Djhone, Leslie (FRA) (1981)
FINAL - 2004 Olympic Games (Athens, GRE) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Aug-04	time				21.6		32.7		44.9	44.94	2 / 7							
reaction time	0.178	interval						11.1		12.2		# of strides			11.10	12.20	21.60	23.30	1.70
		velocity				9.26		9.01		8.20	8.90				9.01	8.20	9.26	8.58	

Neville, David (USA) (1984)
FINAL - 2006 NCAA Championships (Sacramento, CA) — *Track Newsletter (2006) - NCAA men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Jun-06	time		11.2		21.4		32.5		44.9	44.94	/ 3							
reaction time		interval				10.20		11.10		12.40	PB	# of strides	11.20	10.20	11.10	12.40	21.40	23.50	2.10
		velocity		8.93		9.80		9.01		8.06	8.90		8.93	9.80	9.01	8.06	9.35	8.51	

Williamson, Darold (USA) (1983)
FINAL - 2006 USATF National Championships (Indianapolis, IN) — *Track Newsletter (2006) - USATF men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-06	time		11.61		21.96		32.88		44.94	44.94	/ 4							
reaction time		interval				10.35		10.92		12.06		# of strides	11.61	10.35	10.92	12.06	21.96	22.98	1.02
		velocity		8.61		9.66		9.16		8.29	8.90		8.61	9.66	9.16	8.29	9.11	8.70	

Lendore, Deon (TTO) (1992)
FINAL - 2013 NCAA Championships (Eugene, OR) — *Track Newsletter (2013) - NCAA men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Jun-13	time				21.9		33.0		44.9	44.94	/ 2							
reaction time		interval						11.10		11.90	PB	# of strides			11.10	11.90	21.90	23.00	1.10
		velocity				9.13		9.01		8.40	8.90				9.01	8.40	9.13	8.70	

Makwala, Isaac (BOT) (1986)
FINAL - 2020 Olympic Games (Tokyo, JPN) — *Omega Timing (2022) - Tokyo 2020 - race analysis - men's 400m final*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-21	time	6.05	10.90	15.89	21.02	26.33	32.00	38.16	44.94	44.94	2 / 7							
reaction time	0.167	interval		4.85	4.99	5.13	5.31	5.67	6.16	6.78		# of strides	10.90	10.12	10.98	12.94	21.02	23.92	2.90
		velocity	8.26	10.31	10.02	9.75	9.42	8.82	8.12	7.37	8.90	177.7	9.17	9.88	9.11	7.73	9.51	8.36	

Ndori, Bayapo (BOT) (1999)
Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-22	time		11.28		21.73		32.77		44.94	44.94	4 / 2							
reaction time	0.141	interval				10.45		11.04		12.17		# of strides	11.28	10.45	11.04	12.17	21.73	23.21	1.48
		velocity		8.87		9.57		9.06		8.22	8.90	174.5	8.87	9.57	9.06	8.22	9.20	8.62	

Scotch, Leungo (BOT) (1996)
FINAL - 2023 Athletissima (Lausanne, SUI) — *Omega Timing (2023) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jun-23	time	6.05	11.08	16.21	21.52	27.01	32.73	38.63	44.94	44.94	5 / 1							
reaction time	0.148	interval		5.03	5.13	5.31	5.49	5.72	5.90	6.31		# of strides	11.08	10.44	11.21	12.21	21.52	23.42	1.90
		velocity	8.26	9.94	9.75	9.42	9.11	8.74	8.47	7.92	8.90		9.03	9.58	8.92	8.19	9.29	8.54	

Bailey, Sean (JAM) (1997)
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN) — *Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-23	time	6.13	11.08	16.12	21.41	26.92	32.69	38.63	44.94	44.94	4 / 2							
reaction time	0.165	interval		4.88	4.95	5.15	5.36	5.60	5.88	6.40		# of strides	11.08	10.33	11.28	12.25	21.41	23.53	2.12
		velocity	8.28	10.25	10.10	9.71	9.33	8.93	8.50	7.81	8.90	178.0	9.03	9.68	8.87	8.16	9.34	8.50	

Boling, Matthew (USA) (2000)
Heat 1 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-24	time		10.70		21.06		32.46		44.94	44.94	4 / 2							
reaction time		interval				10.36		11.40		12.48	PB	# of strides	10.70	10.36	11.40	12.48	21.06	23.88	2.82
		velocity		9.35		9.65		8.77		8.01	8.90	173.0	9.35	9.65	8.77	8.01	9.50	8.38	

Wilson, Quincy (USA) (2008)
FINAL - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-24	time		11.29		21.72		32.96		44.94	44.94	2 / 6							
reaction time		interval				10.43		11.24		11.98		# of strides	11.29	10.43	11.24	11.98	21.72	23.22	1.50
		velocity		8.86		9.59		8.90		8.35	8.90		8.86	9.59	8.90	8.35	9.21	8.61	

Diouf, Cheikh Tidiane (SEN) (1995)
Semi-Final 1 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-24	time	6.11	11.16	16.41	21.75	27.22	32.88	38.74	44.94	44.94	2 / 6							
reaction time	0.181	interval		5.05	5.25	5.34	5.47	5.66	5.86	6.20	NR PB	# of strides	11.16	10.59	11.13	12.06	21.75	23.19	1.44
		velocity	8.18	9.90	9.52	9.36	9.14	8.83	8.53	8.06	8.90	165.5	8.96	9.44	8.98	8.29	9.20	8.62	

Holder, Reece (AUS) (2002)
Semi-Final 3 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-24	time	6.07	10.85	15.77	20.97	26.46	32.20	38.30	44.94	44.94	4 / 5							
reaction time	0.144	interval		4.78	4.92	5.20	5.49	5.74	6.10	6.64		# of strides	10.85	10.12	11.23	12.74	20.97	23.97	3.00
		velocity	8.24	10.46	10.16	9.62	9.11	8.71	8.20	7.53	8.90	170.5	9.22	9.88	8.90	7.85	9.54	8.34	

James, Kirani (GRN) (1992)
FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN) — *Omega Timing (2025) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-25	time	6.12	11.00	16.17	21.44	26.87	32.64	38.67	44.94	44.94	4 / 5							
reaction time	0.164	interval		4.88	5.17	5.27	5.43	5.77	6.03	6.27		# of strides	11.00	10.44	11.20	12.30	21.44	23.50	2.06
		velocity	8.17	10.25	9.67	9.49	9.21	8.67	8.29	7.97	8.90	159.0	9.09	9.58	8.93	8.13	9.33	8.51	

Frazier, Herman (USA) (1954)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1976 Olympic Games (Montreal, CAN) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

date	29-Jul-76	time		21.6		32.8		45.0	44.95	3 / 3				
reaction time		interval				11.20		12.20		# of strides		11.20	12.20	21.60	23.40	1.80
		velocity		9.26		8.93		8.20	8.90	169.2		8.93	8.20	9.26	8.55	

Carlowitz, Jens (GDR) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 Olympischen Tag (Potsdam, GDR)										*Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazyklus 1981/84*							
date 21-Jul-84	time	11.23		21.51		32.60		44.95	44.95	/ 2							
reaction time	interval			10.28		11.09		12.35		# of strides	11.23	10.28	11.09	12.35	21.51	23.44	1.93
	velocity	8.90		9.73		9.02		8.10	8.90		8.90	9.73	9.02	8.10	9.30	8.53	

Morris, Ian (TTO) (1961)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1988 Olympic Games (Seoul, KOR)										*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*							
date 28-Sep-88	time	11.60		21.95		32.78		44.95	44.95	8 / 7							
reaction time 0.306	interval			10.35		10.83		12.17		# of strides	11.60	10.35	10.83	12.17	21.95	23.00	1.05
	velocity	8.62		9.66		9.23		8.22	8.90		8.62	9.66	9.23	8.22	9.11	8.70	

Washington, Tyree (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1997 USATF Championships (Indianapolis, IN)										*Track Newsletter (1997) - USATF National Championships*							
date 13-Jun-97	time			21.9		33.2		45.0	44.95	/ 3							
reaction time	interval					11.30		11.80		# of strides			11.30	11.80	21.90	23.10	1.20
	velocity			9.13		8.85		8.47	8.90				8.85	8.47	9.13	8.66	

Raquil, Marc (FRA) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2001 European Cup (Bremen, GER)										*Graubner (2007) - http://www.fgs.uni-halle.de*							
date 23-Jun-01	time	11.39		22.00		33.31		44.95	44.95	/ 1							
reaction time	interval			10.61		11.31		11.64	PB	# of strides	11.39	10.61	11.31	11.64	22.00	22.95	0.95
	velocity	8.78		9.43		8.84		8.59	8.90		8.78	9.43	8.84	8.59	9.09	8.71	

Rock, Andrew (USA) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2004 USA Olympic Trials (Atlanta, GA)										*USATF Women's Sprint Development (2004)*							
date 15-Jul-04	time	11.38		21.74	27.14	32.73	38.59	44.95	44.95	6 / ~~6~~ 5							
reaction time	interval			10.36	5.40	5.59	5.86	6.36		# of strides	11.38	10.36	10.99	12.22	21.74	23.21	1.47
	velocity	8.79		9.65	9.26	8.94	8.53	7.86	8.90	171.5	8.79	9.65	9.10	8.18	9.20	8.62	

Brown, Chris (BAH) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)										*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*							
date 19-Aug-09	time	11.08		21.72		32.84		44.95	44.95	3 / 1							
reaction time 0.129	interval			10.64		11.12		12.11		# of strides	11.08	10.64	11.12	12.11	21.72	23.23	1.51
	velocity	9.03		9.40		8.99		8.26	8.90		9.03	9.40	8.99	8.26	9.21	8.61	

Hudson-Smith, Matthew (GBR) (1994

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Weltklasse (Zürich, SUI)										*Omega Timing (2018) - diamond league race analysis*							
date 30-Aug-18	time	11.0		21.3		32.5		44.95	44.95	6 / 3							
reaction time 0.139	interval			10.3		11.2		12.5		# of strides	11.00	10.30	11.20	12.45	21.30	23.65	2.35
	velocity	9.09		9.71		8.93		8.03	8.90	161.2	9.09	9.71	8.93	8.03	9.39	8.46	

Robinson, Justin (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)										*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date 23-Jun-24	time	11.19		21.79		33.16		44.95	44.95	7 / 4							
reaction time	interval			10.60		11.37		11.79		# of strides	11.19	10.60	11.37	11.79	21.79	23.16	1.37
	velocity	8.94		9.43		8.80		8.48	8.90		8.94	9.43	8.80	8.48	9.18	8.64	

Harrison, Calvin (USA) (1974)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 IAAF World Championships (Paris, FRA)										*Bonvin (2003) - Compte-rendu 400m et relais 4x 400m*							
date 26-Aug-03	time			21.5		32.3		44.96	44.96	3 / ~~6~~							
reaction time 0.176	interval					10.8		12.7	DV	# of strides			10.80	12.66	21.50	23.46	1.96
	velocity			9.30		9.26		7.90	8.90				9.26	7.90	9.30	8.53	

Mitchell, Manteo (USA) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 USA Olympic Trials (Eugene, OR)										*Hymans (2020) - history of the US olympic trials - track and field*							
date 24-Jun-12	time			21.2		32.3		44.96	44.96	3 / 5							
reaction time 0.191	interval					11.10		12.66	PB	# of strides			11.10	12.66	21.20	23.76	2.56
	velocity			9.43		9.01		7.90	8.90				9.01	7.90	9.43	8.42	

Igbokwe, Obi (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Memorial van Damme (Brussels, BEL)										*Omega Timing (2019) - diamond league race analysis*							
date 06-Sep-19	time	6.1	11.0	16.0	21.2	26.6	32.4	38.4	44.96	44.96	3 / 4						
reaction time 0.136	interval		4.9	5.0	5.2	5.4	5.8	6.0	12.6		# of strides	11.00	10.20	11.20	12.56	21.20	23.76	2.56
	velocity	8.20	10.20	10.00	9.62	9.26	8.62	8.33	7.96	8.90		9.09	9.80	8.93	7.96	9.43	8.42	

Mweresa, Boniface (KEN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Commonwealth Games (Birmingham, GBR)										*Longines Timing (2022) - commonwealth games race analysis*							
date 07-Aug-22	time	6.0	10.8	15.8	21.0	26.5	32.3	38.4	44.96	44.96	6 / 4						
reaction time 0.178	interval		4.80	5.00	5.20	5.50	5.80	6.10	6.56	PB	# of strides	10.80	10.20	11.30	12.66	21.00	23.96	2.96
	velocity	8.33	10.42	10.00	9.62	9.09	8.62	8.20	7.62	8.90	178.7	9.26	9.80	8.85	7.90	9.52	8.35	

Bailey, Sean (JAM) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 24-Aug-23	time		11.18		21.67		32.90		44.96	44.96	9 / ~~6~~ 5						
reaction time 0.169	interval				10.49		11.23		12.06		# of strides	11.18	10.49	11.23	12.06	21.67	23.29	1.62
	velocity		8.94		9.53		8.90		8.29	8.90		8.94	9.53	8.90	8.29	9.23	8.59	

Morales-Williams, Christopher (CAN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 Olympic Games (Paris, FRA)										*Paris 2024 Olympic Games - Results Book (2024)*							
date 04-Aug-24	time	6.13	11.13	16.23	21.57	27.14	32.94	38.78	44.96	44.96	8 / 2						
reaction time 0.177	interval		5.00	5.10	5.34	5.57	5.80	5.84	6.18		# of strides	11.13	10.44	11.37	12.02	21.57	23.39	1.82

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	8.16	10.00	9.80	9.36	8.98	8.62	8.56	8.09	8.90	164.0	8.98	9.58	8.80	8.32	9.27	8.55	

Dobson, Charles (GBR) (1999)
Heat 6 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-24	time	6.14	11.15	16.25	21.57	27.08	32.77	38.69	44.96	44.96	5 / 1							
reaction time	0.156	interval		5.01	5.10	5.32	5.51	5.69	5.92	6.27		# of strides	11.15	10.42	11.20	12.19	21.57	23.39	1.82
		velocity	8.14	9.98	9.80	9.40	9.07	8.79	8.45	7.97	8.90	162.7	8.97	9.60	8.93	8.20	9.27	8.55	

Egbunike, Innocent (NGR) (1961)
FINAL - 1988 Weltklasse (Zurich, SUI) — *Parienté (1978) - la fabuleuse histoire de l'athlétisme*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Aug-88	time				20.9		32.3		44.97	44.97	/ 6							
reaction time		interval						11.40		12.67		# of strides			11.40	12.67	20.90	24.07	3.17
		velocity				9.57		8.77		7.89	8.89				8.77	7.89	9.57	8.31	

Schultz, Ingo (GER) (1975)
FINAL - 2002 German National Championships (Bochum, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Jul-02	time		11.29		21.38		32.47		44.97	44.97	/ 1							
reaction time	0.179	interval				10.09		11.09		12.50		# of strides	11.29	10.09	11.09	12.50	21.38	23.59	2.21
		velocity		8.86		9.91		9.02		8.00	8.89		8.86	9.91	9.02	8.00	9.35	8.48	

Willie, Kelly (USA) (1982)
FINAL - 2004 USA Olympic Trials (Sacremento, CA) — *USATF Women's Sprint Development (2004)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Jul-04	time		10.89		21.62	27.01	32.48	38.32	44.97	44.97	4 / ~~7~~ 6							
reaction time		interval				10.73	5.39	5.47	5.84	6.65		# of strides	10.89	10.73	10.86	12.49	21.62	23.35	1.73
		velocity		9.18		9.32	9.28	9.14	8.56	7.52	8.89	180.0	9.18	9.32	9.21	8.01	9.25	8.57	

Williamson, Darold (USA) (1983)
FINAL - 2007 USATF National Championships (Indianapolis, IN) — *Track Newsletter (2007) - USATF men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-07	time				21.3		32.1		45.0	44.97	/ 4							
reaction time		interval						10.80		12.90		# of strides			10.80	12.90	21.30	23.70	2.40
		velocity				9.39		9.26		7.75	8.89				9.26	7.75	9.39	8.44	

Henry, Tabarie (ISV) (1987)
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Aug-09	time		11.22		21.91		32.89		44.97	44.97	4 / 2							
reaction time	0.146	interval				10.69		10.98		12.08		# of strides	11.22	10.69	10.98	12.08	21.91	23.06	1.15
		velocity		8.91		9.35		9.11		8.28	8.89		8.91	9.35	9.11	8.28	9.13	8.67	

Al-Masrahi, Youssef (KSA) (1987)
FINAL - 2013 IAAF World Championships (Moscow, RUS) — (2013) - www.trackandfieldnews.com/index.php?option=com_content&view=article&id=1698

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Aug-13	time		11.4		21.8		32.7		45.0	44.97	3 / 6							
reaction time	0.162	interval				10.4		10.9		12.3		# of strides	11.40	10.40	10.90	12.30	21.80	23.20	1.40
		velocity		8.77		9.62		9.17		8.13	8.89		8.77	9.62	9.17	8.13	9.17	8.62	

Taylor, Christopher (JAM) (1999)
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-22	time		11.16		21.66		32.89		44.97	44.97	3 / 3							
reaction time	0.173	interval				10.50		11.23		12.08		# of strides	11.16	10.50	11.23	12.08	21.66	23.31	1.65
		velocity		8.96		9.52		8.90		8.28	8.89	182.0	8.96	9.52	8.90	8.28	9.23	8.58	

van Niekerk, Wayde (RSA) (1992)
FINAL - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jul-22	time		10.98		21.33		32.21		44.97	44.97	7 / 5							
reaction time	0.248	interval				10.35		10.88		12.76		# of strides	10.98	10.35	10.88	12.76	21.33	23.64	2.31
		velocity		9.11		9.66		9.19		7.84	8.89	166.0	9.11	9.66	9.19	7.84	9.38	8.46	

Sato, Fuga (JPN) (1996)
Heat 4 - 2023 World Athletics Championships (Budapest, HUN) — *Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time	6.12	11.13	16.25	21.54	27.02	32.73	38.69	44.97	44.97	5 / 2							
reaction time	0.167	interval		5.01	5.12	5.29	5.48	5.71	5.96	6.28	PB	# of strides	11.13	10.41	11.19	12.24	21.54	23.43	1.89
		velocity	8.17	9.98	9.77	9.45	9.12	8.76	8.39	7.96	8.89	176.0	8.98	9.61	8.94	8.17	9.29	8.54	

Reynolds, Harry (Butch) (USA) (1964)
FINAL - 1997 USATF Championships (Indianapolis, IN) — *Track Newsletter (1997) - USATF National Championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Jun-97	time				22.0				45.0	44.98	/ 6							
reaction time		interval								23.00		# of strides					22.00	23.00	1.00
		velocity				9.09				8.70	8.89						9.09	8.70	

Wariner, Jeremy (USA) (1984)
FINAL - 2011 USATF National Championships (Eugene, OR) — *Track Newsletter (2011) - USATF men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-11	time		11.1		21.6		32.8		45.0	44.98	/ 2							
reaction time	0.223	interval				10.50		11.20		12.20		# of strides	11.10	10.50	11.20	12.20	21.60	23.40	1.80
		velocity		9.01		9.52		8.93		8.20	8.89		9.01	9.52	8.93	8.20	9.26	8.55	

Nixon, Greg (USA) (1981)
FINAL - 2011 USATF National Championships (Eugene, OR) — *Track Newsletter (2011) - USATF men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-11	time		11.5		22.1		33.2		45.0	44.98	/ 3							
reaction time	0.234	interval				10.60		11.10		11.80		# of strides	11.50	10.60	11.10	11.80	22.10	22.90	0.80
		velocity		8.70		9.43		9.01		8.47	8.89		8.70	9.43	9.01	8.47	9.05	8.73	

Pinder, Demetrius (BAH) (1989)
FINAL - 2012 Olympic Games (London, GBR) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-12	time		10.9		21.4		32.3		45.0	44.98	8 / 7							
reaction time	0.153	interval				10.50		10.90		12.70		# of strides	10.90	10.50	10.90	12.70	21.40	23.60	2.20
		velocity		9.17		9.52		9.17		7.87	8.89	174.7	9.17	9.52	9.17	7.87	9.35	8.47	

Quow, Rennie (TTO) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 1 - 2015 IAAF World Championships (Beijing, CHN) — *Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*

date	24-Aug-15	time	6.17	11.18	16.27	21.44	26.76	32.40	38.39	44.98	44.98	4 / 5						
reaction time	0.189	interval		5.01	5.09	5.17	5.32	5.64	5.99	6.59		# of strides	11.18	10.26	10.96	12.58	21.44	23.54	2.10
		velocity	8.10	9.98	9.82	9.67	9.40	8.87	8.35	7.59	8.89	188.0	8.94	9.75	9.12	7.95	9.33	8.50	

Gardiner, Steven (BAH) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2015 IAAF World Championships (Beijing, CHN)																	
Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims																	
date	24-Aug-15	time	6.57	11.71	16.83	22.15	27.63	33.11	38.92	44.98	44.98	6 / 7						
reaction time	0.204	interval		5.14	5.12	5.32	5.48	5.48	5.81	6.06		# of strides	11.71	10.44	10.96	11.87	22.15	22.83	0.68
		velocity	7.61	9.73	9.77	9.40	9.12	9.12	8.61	8.25	8.89	159.0	8.54	9.58	9.12	8.42	9.03	8.76	

Hudson-Smith, Matthew (GBR) (1994

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)																	
European Athletics (2022) - european athletics championships race analysis																	
date	16-Aug-22	time		10.89		21.31		32.41		44.98	44.98	5 / 1						
reaction time	0.169	interval				10.42		11.10		12.57		# of strides	10.89	10.42	11.10	12.57	21.31	23.67	2.36
		velocity		9.18		9.60		9.01		7.96	8.89	164.7	9.18	9.60	9.01	7.96	9.39	8.45	

Scotch, Leungo (BOT) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 London Athletics Meet (London, GBR)																	
Omega Timing (2023) - diamond league race analysis																	
date	23-Jul-23	time	6.09	11.02	16.08	21.26	26.70	32.43	38.40	44.98	44.98	2 / 5						
reaction time	0.162	interval		4.93	5.06	5.18	5.44	5.73	5.97	6.58		# of strides	11.02	10.24	11.17	12.55	21.26	23.72	2.46
		velocity	8.21	10.14	9.88	9.65	9.19	8.73	8.38	7.60	8.89	176.2	9.07	9.77	8.95	7.97	9.41	8.43	

Bailey, Sean (JAM) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2023 World Athletics Championships (Budapest, HUN)																	
Seiko Timing (2023) - world championship race analysis																	
date	20-Aug-23	time		11.36		21.70		33.05		44.98	44.98	3 / 3						
reaction time	0.183	interval				10.34		11.35		11.93		# of strides	11.36	10.34	11.35	11.93	21.70	23.28	1.58
		velocity		8.80		9.67		8.81		8.38	8.89	176.0	8.80	9.67	8.81	8.38	9.22	8.59	

Sacoor, Jonathan (BEL) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 European Athletics Championships (Roma, ITA)																	
European Athletics (2024) - 2024 european athletics championships - results book																	
date	10-Jun-24	time		11.10		21.44		32.42		44.98	44.98	5 / 4						
reaction time	0.184	interval				10.34		10.98		12.56	PB	# of strides	11.10	10.34	10.98	12.56	21.44	23.54	2.10
		velocity		9.01		9.67		9.11		7.96	8.89	169.5	9.01	9.67	9.11	7.96	9.33	8.50	

Lincoln, Judson (USA) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)																	
USATF and Karmarush (2024) - USA Olympic trials results and race analysis																	
date	23-Jun-24	time		10.76		20.86		32.13		44.98	44.98	8 / 4						
reaction time		interval				10.10		11.27		12.85		# of strides	10.76	10.10	11.27	12.85	20.86	24.12	3.26
		velocity		9.29		9.90		8.87		7.78	8.89		9.29	9.90	8.87	7.78	9.59	8.29	

Hernández, Roberto (CUB) (1967)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1987 IAAF World Championship (Rome, ITA)																	
Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)																	
date	03-Sep-87	time		11.07		21.48		32.66		44.99	44.99	4 / 4						
reaction time		interval				10.41		11.18		12.33		# of strides	11.07	10.41	11.18	12.33	21.48	23.51	2.03
		velocity		9.03		9.61		8.94		8.11	8.89		9.03	9.61	8.94	8.11	9.31	8.51	

Clarke, Davian (JAM) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 Olympic Games (Atlanta, GA)																	
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016																	
date	29-Jul-96	time				21.37		32.7		44.99	44.99	6 / 7						
reaction time	0.348	interval						11.33		12.29		# of strides			11.33	12.29	21.37	23.62	2.25
		velocity				9.36		8.83		8.14	8.89				8.83	8.14	9.36	8.47	

Witherspoon, Reggie (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2008 USA Olympic Trials (Eugene, OR)																	
USATF Women's Sprint Development with HPC (2008)																	
date	30-Jun-08	time		11.16	16.35	21.61	27.16	32.95	38.77	44.99	44.99	6 / 1						
reaction time		interval			5.19	5.26	5.55	5.79	5.82	6.22	PB	# of strides	11.16	10.45	11.34	12.04	21.61	23.38	1.77
		velocity		8.96	9.63	9.51	9.01	8.64	8.59	8.04	8.89		8.96	9.57	8.82	8.31	9.25	8.55	

Miller, Ramon (BAH) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)																	
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships																	
date	19-Aug-09	time		11.26		21.99		32.80		44.99	44.99	5 / 5						
reaction time	0.157	interval				10.73		10.81		12.19	PB	# of strides	11.26	10.73	10.81	12.19	21.99	23.00	1.01
		velocity		8.88		9.32		9.25		8.20	8.89		8.88	9.32	9.25	8.20	9.10	8.70	

Gonzales, Jermaine (JAM) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 IAAF World Championships (Daegu, KOR)																	
Butler (2013) - IAAF world athletic results 2008-2011 full results																	
date	30-Aug-11	time						32.7		44.99	44.99	3 / 4						
reaction time	0.138	interval								12.3		# of strides				12.29			
		velocity						9.17		8.14	8.89	168.0				8.14			

James, Kirani (GRN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 IAAF World Championships (Moscow, RUS)																	
(2013) - www.trackandfieldnews.com/index.php?option=com_content&view=article&id=1698																	
date	13-Aug-13	time		11.1		21.3		31.9		45.0	44.99	5 / 7						
reaction time	0.186	interval				10.2		10.6		13.1		# of strides	11.10	10.20	10.60	13.10	21.30	23.70	2.40
		velocity		9.01		9.80		9.43		7.63	8.89		9.01	9.80	9.43	7.63	9.39	8.44	

Nene, Zakhiti (RSA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Meeting de Paris (Paris, FRA)																	
Omega Timing (2022) - diamond league race analysis																	
date	16-Jun-22	time	6.07	11.04	16.16	21.43	26.93	32.69	38.60	44.99	44.99	7 / 3						
reaction time	0.142	interval		4.97	5.12	5.27	5.50	5.76	5.91	6.39		# of strides	11.04	10.39	11.26	12.30	21.43	23.56	2.13
		velocity	8.24	10.06	9.77	9.49	9.09	8.68	8.46	7.82	8.89	177.2	9.06	9.62	8.88	8.13	9.33	8.49	

Sato, Kentaro (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)																	
Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season																	
date	22-Aug-23	time	6.11	11.11	16.22	21.45	26.82	32.56	38.56	44.99	44.99	6 / 5						
reaction time	0.180	interval		5.00	5.11	5.23	5.37	5.74	6.00	6.43		# of strides	11.11	10.34	11.11	12.43	21.45	23.54	2.09

		velocity	8.18	10.00	9.78	9.56	9.31	8.71	8.33	7.78	8.89	174.0	9.00	9.67	9.00	8.05	9.32	8.50	

Norwood, Vernon (USA) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)																			*Omega Timing (2023) - diamond league race analysis*
date	02-Sep-23	time	6.19	11.30	16.56	22.00	27.52	33.20	38.86	44.99	44.99	6 / 4							
reaction time	0.166	interval		5.11	5.26	5.44	5.52	5.68	5.66	6.13		# of strides	11.30	10.70	11.20	11.79	22.00	22.99	0.99
		velocity	8.08	9.78	9.51	9.19	9.06	8.80	8.83	8.16	8.89	172.2	8.85	9.35	8.93	8.48	9.09	8.70	

Sacoor, Jonathan (BEL) (1999)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)																			*European Athletics (2024) - 2024 european athletics championships - results book*
date	09-Jun-24	time		11.17		21.59		32.64		44.99	44.99	4 / 2							
reaction time	0.165	interval				10.42		11.05		12.35	PB	# of strides	11.17	10.42	11.05	12.35	21.59	23.40	1.81
		velocity		8.95		9.60		9.05		8.10	8.89	171.7	8.95	9.60	9.05	8.10	9.26	8.55	

Sito, Luca (ITA) (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	04-Aug-24	time	6.13	11.11	16.20	21.49	27.01	32.70	38.54	44.99	44.99	8 / 3							
reaction time	0.163	interval		4.98	5.09	5.29	5.52	5.69	5.84	6.45		# of strides	11.11	10.38	11.21	12.29	21.49	23.50	2.01
		velocity	8.16	10.04	9.82	9.45	9.06	8.79	8.56	7.75	8.89	173.0	9.00	9.63	8.92	8.14	9.31	8.51	

Singhapurage, Aruna Dharshana (SR

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	04-Aug-24	time	6.41	11.38	16.34	21.58	27.12	32.83	38.75	44.99	44.99	9 / 3							
reaction time	0.192	interval		4.97	4.96	5.24	5.54	5.71	5.92	6.24		# of strides	11.38	10.20	11.25	12.16	21.58	23.41	1.83
		velocity	7.80	10.06	10.08	9.54	9.03	8.76	8.45	8.01	8.89	180.0	8.79	9.80	8.89	8.22	9.27	8.54	

Johnson, Michael (USA) (1967)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 ISTAF (Berlin, GER)																			*Graubner (2009) - http://www.fgs.uni-halle.de*
date	01-Sep-00	time		11.42		22.22		33.20		45.00	45.00	/ 1							
reaction time		interval				10.80		10.98		11.80		# of strides	11.42	10.80	10.98	11.80	22.22	22.78	0.56
		velocity		8.76		9.26		9.11		8.47	8.89		8.76	9.26	9.11	8.47	9.00	8.78	

Harris, Otis (USA) (1982)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Championships (Indianapolis, IN)																			*Track Newsletter (2006) - USATF men's championships*
date	24-Jun-06	time		11.54		22.23		33.25		45.00	45.00	/ 5							
reaction time		interval				10.69		11.02		11.75		# of strides	11.54	10.69	11.02	11.75	22.23	22.77	0.54
		velocity		8.67		9.35		9.07		8.51	8.89		8.67	9.35	9.07	8.51	9.00	8.78	

Miller, Ramon (BAH) (1987)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2009 IAAF World Championships (Berlin, GER)																			*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date	18-Aug-09	time		11.16		21.70		32.74		45.00	45.00	4 / 1							
reaction time	0.143	interval				10.54		11.04		12.26	PB	# of strides	11.16	10.54	11.04	12.26	21.70	23.30	1.60
		velocity		8.96		9.49		9.06		8.16	8.89		8.96	9.49	9.06	8.16	9.22	8.58	

Clemons, Kyle (USA) (1990)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 USATF National Championships (Sacramento, CA)																			*Track Newsletter (2014) - USATF men's championships*
date	28-Jun-14	time		11.5		22.0		33.0		45.0	45.00	/ 3							
reaction time		interval				10.5		11.0		12.0	PB	# of strides	11.50	10.50	11.00	12.00	22.00	23.00	1.00
		velocity		8.70		9.52		9.09		8.33	8.89		8.70	9.52	9.09	8.33	9.09	8.70	

Harris, Mar'yea (USA) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 NCAA Championships (Eugene, OR)																			*Track Newsletter (2018) - NCAA men's championships*
date	08-Jun-18	time				21.4		32.4		45.0	45.00	/ 4							
reaction time		interval						11.00		12.60		# of strides			11.00	12.60	21.40	23.60	2.20
		velocity				9.35		9.09		7.94	8.89				9.09	7.94	9.35	8.47	

Samba, Abderrahman (QAT) (1995)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Herculis Meeting International d'Athlétisme (Monaco, MON)																			*Omega Timing (2019) - diamond league race analysis*
date	12-Jul-19	time		11.2		21.6		32.8		45.00	45.00	3 / 2							
reaction time	0.141	interval				10.4		11.2		12.2		# of strides	11.20	10.40	11.20	12.20	21.60	23.40	1.80
		velocity		8.93		9.62		8.93		8.20	8.89		8.93	9.62	8.93	8.20	9.26	8.55	

Bonevacia, Liemarvin (NED) (1989)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Memorial van Damme (Brussels, BEL)																			*Omega Timing (2021) - diamond league race analysis*
date	03-Sep-21	time	6.3	11.3	16.3	21.5	26.9	32.6	38.6	45.00	45.00	6 / 4							
reaction time	0.135	interval		5.00	5.00	5.20	5.40	5.70	6.00	6.40		# of strides	11.30	10.20	11.10	12.40	21.50	23.50	2.00
		velocity	7.94	10.00	10.00	9.62	9.26	8.77	8.33	7.81	8.89	184.0	8.85	9.80	9.01	8.06	9.30	8.51	

Gakou, Amadou (SEN) (1940)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1968 Olympic Games (Mexico City, MEX) (*Altitude*)																			*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date	18-Oct-68	time				21.7		32.9		45.0	45.01	5 / 4							
reaction time		interval						11.20		12.10	NR	# of strides			11.20	12.10	21.70	23.30	1.60
		velocity				9.22		8.93		8.26	8.89				8.93	8.26	9.22	8.58	

Schönlebe, Thomas (GDR) (1965)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 East German Athletics Sportfest (East Berlin, GDR)																			*Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazyklus 1981/84*
date	15-Jul-84	time		11.40		21.70		32.82		45.01	45.01	/ 1							
reaction time		interval				10.30		11.12		12.19	AJR / PB	# of strides	11.40	10.30	11.12	12.19	21.70	23.31	1.61
		velocity		8.77		9.71		8.99		8.20	8.89		8.77	9.71	8.99	8.20	9.22	8.58	

Parrela, Sanderlei Claro (BRA) (1974)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 Olympic Games (Sydney, AUS)																			*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date	25-Sep-00	time		11.5		21.6		32.7		45.0	45.01	2 / 4							
reaction time		interval				10.10		11.10		12.30		# of strides	11.50	10.10	11.10	12.30	21.60	23.40	1.80
		velocity		8.70		9.90		9.01		8.13	8.89		8.70	9.90	9.01	8.13	9.26	8.55	

Brew, Derrick (USA) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

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

date	25-Jun-05	time	11.28	16.41	21.56	26.89	32.50	38.51	45.01	45.01	3 / 5							
reaction time		interval		5.13	5.15	5.33	5.61	6.01	6.50		# of strides	11.28	10.28	10.94	12.51	21.56	23.45	1.89
		velocity	8.87	9.75	9.71	9.38	8.91	8.32	7.69	8.89		8.87	9.73	9.14	7.99	9.28	8.53	

Simpson, Brandon (JAM) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 IAAF World Championships (Helsinki, FIN)																	*Track Newsletter (2005) - World championships- men*
date	12-Aug-05	time				32.5		45.0	45.01	6 / 6							
reaction time		interval						12.5		# of strides				12.50			
		velocity				9.23		8.00	8.89	183.2				8.00			

Ashley, Jamel (USA) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Championships (Indianapolis, IN)																	*Track Newsletter (2006) - USATF men's championships*
date	24-Jun-06	time	11.10		21.44		32.65		45.01	45.01	/ 6							
reaction time		interval			10.34		11.21		12.36		# of strides	11.10	10.34	11.21	12.36	21.44	23.57	2.13
		velocity	9.01		9.67		8.92		8.09	8.89		9.01	9.67	8.92	8.09	9.33	8.49	

Witherspoon, Reggie (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FiNAL - 2008 USA Olympic Trials (Eugene, OR)																	*USATF Women's Sprint Development with HPC (2008)*
date	03-Jul-08	time	11.02	15.65	21.51	27.10	32.53	38.58	45.01	45.01	7 / 4							
reaction time		interval		4.63	5.86	5.59	5.43	6.05	6.43		# of strides	11.02	10.49	11.02	12.48	21.51	23.50	1.99
		velocity	9.07	10.80	8.53	8.94	9.21	8.26	7.78	8.89		9.07	9.53	9.07	8.01	9.30	8.51	

Hall, Arman (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 USATF National Championships (Des Moines, IA)																	*Track Newsletter (2013) - USATF men's championships*
date	22-Jun-13	time				32.6		45.0	45.01	/ 3							
reaction time	0.203	interval						12.40		# of strides				12.40			
		velocity				9.20		8.06	8.89					8.06			

Kebinatshipi, Collen (BOT) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 FBK Games (Hengelo, NED)																	*Omega Timing (2023) - continental tour race analysis*
date	04-Jun-23	time	6.20	11.24	16.53	22.08	27.71	33.30	38.95	45.01	45.01	7 / 1						
reaction time	0.179	interval		5.04	5.29	5.55	5.63	5.59	5.65	6.06		# of strides	11.24	10.84	11.22	11.71	22.08	22.93	0.85
		velocity	8.06	9.92	9.45	9.01	8.88	8.94	8.85	8.25	8.89		8.90	9.23	8.91	8.54	9.06	8.72	

Nene, Zakhiti (RSA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date	04-Aug-24	time	6.06	10.96	15.99	21.27	26.75	32.49	38.43	45.01	45.01	4 / 4						
reaction time	0.134	interval		4.90	5.03	5.28	5.48	5.74	5.94	6.58		# of strides	10.96	10.31	11.22	12.52	21.27	23.74	2.47
		velocity	8.25	10.20	9.94	9.47	9.12	8.71	8.42	7.60	8.89	176.0	9.12	9.70	8.91	7.99	9.40	8.42	

Doom, Alexander (BEL) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date	04-Aug-24	time	6.42	11.36	16.32	21.52	27.02	32.81	38.76	45.01	45.01	7 / 2						
reaction time	0.188	interval		4.94	4.96	5.20	5.50	5.79	5.95	6.25		# of strides	11.36	10.16	11.29	12.20	21.52	23.49	1.97
		velocity	7.79	10.12	10.08	9.62	9.09	8.64	8.40	8.00	8.89	179.2	8.80	9.84	8.86	8.20	9.29	8.51	

Sito, Luca (ITA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date	06-Aug-24	time	6.17	11.08	16.00	21.17	26.60	32.35	38.39	45.01	45.01	9 / ~~6~~ 5						
reaction time	0.148	interval		4.91	4.92	5.17	5.43	5.75	6.04	6.62		# of strides	11.08	10.09	11.18	12.66	21.17	23.84	2.67
		velocity	8.10	10.18	10.16	9.67	9.21	8.70	8.28	7.55	8.89		9.03	9.91	8.94	7.90	9.45	8.39	

Raquil, Marc (FRA) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 European Championships (Göteborg, SWE)																	*Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles*
date	09-Aug-06	time			22.5		33.0		45.02	45.02	/ 1							
reaction time		interval					10.50		12.02		# of strides			10.50	12.02	22.50	22.52	0.02
		velocity			8.89		19.05		8.32	8.88				9.52	8.32	8.89	8.88	

Quow, Rennie (TTO) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 IAAF World Championships (Berlin, GER)																	*Maho (2013) - race analysis of the men's 400m run in competition*
date	21-Aug-09	time	6.49	11.73	17.08	22.45	27.82	33.29	39.06	45.02	45.02	3 / 3						
reaction time	0.195	interval		5.24	5.35	5.37	5.37	5.47	5.77	5.96		# of strides	11.73	10.72	10.84	11.73	22.45	22.57	0.12
		velocity	7.70	9.54	9.35	9.31	9.31	9.14	8.67	8.39	8.88		8.53	9.33	9.23	8.53	8.91	8.86	

Hall, Arman (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 NCAA Championships (Eugene, OR)																	*Track Newsletter (2013) - NCAA men's championships*
date	07-Jun-13	time			21.6		32.8		45.0	45.02	/ 3							
reaction time		interval					11.20		12.20	PB	# of strides			11.20	12.20	21.60	23.40	1.80
		velocity			9.26		8.93		8.20	8.88				8.93	8.20	9.26	8.55	

Lendore, Deon (TTO) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 NCAA Championships (Eugene, OR)																	*Track Newsletter (2014) - NCAA men's championships*
date	13-Jun-14	time			21.6		32.7		45.0	45.02	4 / 1							
reaction time		interval					11.10		12.30		# of strides			11.10	12.30	21.60	23.40	1.80
		velocity			9.26		9.01		8.13	8.88				9.01	8.13	9.26	8.55	

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 USATF National Championships (Sacramento, CA)																	*Track Newsletter (2014) - USATF men's championships*
date	28-Jun-14	time	11.5		22.1		33.2		45.0	45.02	/ 4							
reaction time		interval			10.6		11.1		11.8	PB	# of strides	11.50	10.60	11.10	11.80	22.10	22.90	0.80
		velocity	8.70		9.43		9.01		8.47	8.88		8.70	9.43	9.01	8.47	9.05	8.73	

Perlaza, Alejandro (COL) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 NCAA Championships (Austin, TX)																	*Track Newsletter (2019) - NCAA men's championships*
date	07-Jun-19	time			21.6		32.8		45.0	45.02	/ 5							
reaction time	0.254	interval					11.20		12.20		# of strides			11.20	12.20	21.60	23.40	1.80

		velocity			9.26		8.93		8.20	8.88				8.93	8.20	9.26	8.55	

Samukonga, Muzala (ZAM) (2002)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)																	
																	Timing by Seiko (2022) - world athletics championships race analysis
date 20-Jul-22	time		11.45		22.03		33.15		45.02	45.02	6 / 3						
reaction time 0.196	interval				10.58		11.12		11.87	PB	# of strides	11.45	10.58	11.12	11.87	22.03	22.99	0.96
	velocity		8.73		9.45		8.99		8.42	8.88	175.0	8.73	9.45	8.99	8.42	9.08	8.70	

Molnár, Attila (HUN) (2002)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)																	
																	Seiko Timing (2023) - world championship race analysis
date 22-Aug-23	time		11.04		21.21		32.55		45.02	45.02	9 / 6						
reaction time 0.156	interval				10.17		11.34		12.47		# of strides	11.04	10.17	11.34	12.47	21.21	23.81	2.60
	velocity		9.06		9.83		8.82		8.02	8.88	177.0	9.06	9.83	8.82	8.02	9.43	8.40	

Scotch, Leungo (BOT) (1996)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2024 Bislett Games (Oslo, NOR)																	
																	Omega Timing (2024) - diamond league race analysis
date 30-May-24	time	6.13	11.02	16.09	21.38	26.88	32.59	38.54	45.02	45.02	8 / 4						
reaction time 0.157	interval		4.89	5.07	5.29	5.50	5.71	5.95	6.48		# of strides	11.02	10.36	11.21	12.43	21.38	23.64	2.26
	velocity	8.16	10.22	9.86	9.45	9.09	8.76	8.40	7.72	8.88	175.5	9.07	9.65	8.92	8.05	9.35	8.46	

Hall, Quincy (USA) (1998)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2024 Bislett Games (Oslo, NOR)																	
																	Omega Timing (2024) - diamond league race analysis
date 30-May-24	time	6.36	11.37	16.45	21.69	27.13	32.78	38.68	45.02	45.02	4 / 5						
reaction time 0.201	interval		5.01	5.08	5.24	5.44	5.65	5.90	6.34		# of strides	11.37	10.32	11.09	12.24	21.69	23.33	1.64
	velocity	7.86	9.98	9.84	9.54	9.19	8.85	8.47	7.89	8.88	161.0	8.80	9.69	9.02	8.17	9.22	8.57	

Larrengina, Elián (ARG) (2000)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)																	
																	Paris 2024 Olympic Games - Results Book (2024)
date 06-Aug-24	time	6.16	11.12	16.16	21.36	26.80	32.60	38.67	45.02	45.02	2 / ~~7~~ 6						
reaction time 0.154	interval		4.96	5.04	5.20	5.44	5.80	6.07	6.35		# of strides	11.12	10.24	11.24	12.42	21.36	23.66	2.30
	velocity	8.12	10.08	9.92	9.62	9.19	8.62	8.24	7.87	8.88		8.99	9.77	8.90	8.05	9.36	8.45	

Al-Malky, Mohamed (OMA) (1962)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1988 Olympic Games (Seoul, KOR)																	
																	Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988
date 28-Sep-88	time		11.19		21.49		32.50		45.03	45.03	1 / 8						
reaction time 0.169	interval				10.30		11.01		12.53		# of strides	11.19	10.30	11.01	12.53	21.49	23.54	2.05
	velocity		8.94		9.71		9.08		7.98	8.88		8.94	9.71	9.08	7.98	9.31	8.50	

Chambers, Ricardo (JAM) (1984)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2005 NCAA Championships (Sacramento, CA)																	
																	Track Newsletter (2005) - NCAA men's championships
date 11-Jun-05	time		11.1		21.5		32.6		45.0	45.03	/ 4						
reaction time	interval				10.40		11.10		12.40		# of strides	11.10	10.40	11.10	12.40	21.50	23.50	2.00
	velocity		9.01		9.62		9.01		8.06	8.88		9.01	9.62	9.01	8.06	9.30	8.51	

Neville, David (USA) (1984)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2008 USA Olympic Trials (Eugene, OR)																	
																	USATF Women's Sprint Development with HPC (2008)
date 30-Jun-08	time		11.21	16.46	21.85	27.16	32.95	38.64	45.03	45.03	3 / 3						
reaction time	interval			5.25	5.39	5.31	5.79	5.69	6.39		# of strides	11.21	10.64	11.10	12.08	21.85	23.18	1.33
	velocity		8.92	9.52	9.28	9.42	8.64	8.79	7.82	8.88		8.92	9.40	9.01	8.28	9.15	8.63	

Verburg, David (USA) (1991)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2013 NCAA Championships (Eugene, OR)																	
																	Track Newsletter (2013) - NCAA men's championships
date 07-Jun-13	time				22.0		33.2		45.0	45.03	/ 4						
reaction time	interval						11.20		11.80	PB	# of strides			11.20	11.80	22.00	23.00	1.00
	velocity				9.09		8.93		8.47	8.88				8.93	8.47	9.09	8.70	

Henriques, Anderson (BRA) (1992)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2013 IAAF World Championships (Moscow, RUS)																	
																	(2013) - www.trackandfieldnews.com/index.php?option=com_content&view=article&id=1698
date 13-Aug-13	time		11.2		21.5		32.7		45.0	45.03	2 / 8						
reaction time 0.157	interval				10.3		11.2		12.3		# of strides	11.20	10.30	11.20	12.30	21.50	23.50	2.00
	velocity		8.93		9.71		8.93		8.13	8.88		8.93	9.71	8.93	8.13	9.30	8.51	

Sacoor, Jonathan (BEL) (1999)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)																	
																	Koyama (2018) - research on athlete performance and technique- 2018 data book
date 13-Jul-18	time	6.24	11.29	16.40	21.80	27.35	33.00	38.83	45.03	45.03	5 / 1						
reaction time 0.154	interval		5.05	5.11	5.40	5.55	5.65	5.83	6.20	NJR	# of strides	11.29	10.51	11.20	12.03	21.80	23.23	1.43
	velocity	8.01	9.90	9.78	9.26	9.01	8.85	8.58	8.06	8.88		8.86	9.51	8.93	8.31	9.17	8.61	

Makwala, Isaac (BOT) (1986)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2021 Bauhaus Galan (Stockholm, SWE)																	
																	Omega Timing (2021) - diamond league race analysis
date 04-Jul-21	time	6.3	11.3	16.3	21.4	26.6	32.2	38.3	45.03	45.03	6 / 6						
reaction time 0.207	interval		5.00	5.00	5.10	5.20	5.60	6.10	6.73		# of strides	11.30	10.10	10.80	12.83	21.40	23.63	2.23
	velocity	7.94	10.00	10.00	9.80	9.62	8.93	8.20	7.43	8.88	180.7	8.85	9.90	9.26	7.79	9.35	8.46	

Petrucciani, Ricky (SUI) (2000)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2022 European Athletics Championships (Munich, GER)																	
																	European Athletics (2022) - european athletics championships race analysis
date 17-Aug-22	time		11.23		21.72		32.91		45.03	45.03	8 / 2						
reaction time 0.197	interval				10.49		11.19		12.12		# of strides	11.23	10.49	11.19	12.12	21.72	23.31	1.59
	velocity		8.90		9.53		8.94		8.25	8.88	178.0	8.90	9.53	8.94	8.25	9.21	8.58	

Bredau, Jean Paul (GER) (1999)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)																	
																	European Athletics (2024) - 2024 european athletics championships - results book
date 09-Jun-24	time		11.20		21.49		32.72		45.03	45.03	5 / 2						
reaction time 0.160	interval				10.29		11.23		12.31		# of strides	11.20	10.29	11.23	12.31	21.49	23.54	2.05
	velocity		8.93		9.72		8.90		8.12	8.88	175.0	8.93	9.72	8.90	8.12	9.31	8.50	

Ndori, Bayapo (BOT) (1999)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**

FINAL - 2024 London Athletics Meet (London, GBR) *Omega Timing (2024) - diamond league race analysis*

date	20-Jul-24	time	6.29	11.21	16.30	21.62	27.13	32.82	38.74	45.03	45.03	2 / 7						
reaction time	0.164	interval		4.92	5.09	5.32	5.51	5.69	5.92	6.29		# of strides	11.21	10.41	11.20	12.21	21.62	23.41	1.79
		velocity	7.95	10.16	9.82	9.40	9.07	8.79	8.45	7.95	8.88		8.92	9.61	8.93	8.19	9.25	8.54	

Diouf, Cheikh Tidiane (SEN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 4 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24 time	6.24	11.22	16.41	21.77	27.34	33.04	38.90	45.03	45.03	8 / 2							
reaction time 0.220 interval		4.98	5.19	5.36	5.57	5.70	5.86	6.13	=PB	# of strides	11.22	10.55	11.27	11.99	21.77	23.26	1.49
velocity	8.01	10.04	9.63	9.33	8.98	8.77	8.53	8.16	8.88	164.0	8.91	9.48	8.87	8.34	9.19	8.60	

Davis, Otis (USA) (1932)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1960 Olympic Games (Rome, ITA)																	*Khomenkov (1982) - a textbook for a track and field coach*
date 06-Sep-60 time		10.9		21.5		32.4		44.9	44.9	3 / 1							
reaction time interval				10.6		10.9		12.5	WR	# of strides	10.90	10.60	10.90	12.50	21.50	23.40	1.90
velocity		9.17		9.43		9.17		8.00	8.91	*(45.07)*	9.17	9.43	9.17	8.00	9.30	8.55	

Kaufmann, Carl (FRG) (1936)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1960 Olympic Games (Rome, ITA)																	*Khomenkov (1982) - a textbook for a track and field coach*
date 06-Sep-60 time		10.9		21.5		32.7		44.9	44.9	1 / 2							
reaction time interval				10.6		11.2		12.2	=WR	# of strides	10.90	10.60	11.20	12.20	21.50	23.40	1.90
velocity		9.17		9.43		8.93		8.20	8.91	*(45.08)*	9.17	9.43	8.93	8.20	9.30	8.55	

Larrabee, Mike (USA) (1933)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1964 USA Olympic Trials (Los Angeles, CA)																	***FIND SOURCE ???***
date 12-Sep-64 time		10.4		20.9		32.1		44.9	44.9	/ 1							
reaction time interval				10.5		11.2		12.8	=WR	# of strides	10.40	10.50	11.20	12.80	20.90	24.00	3.10
velocity		9.62		9.52		8.93		7.81	8.91		9.62	9.52	8.93	7.81	9.57	8.33	

Matthews, Vince (USA) (1947)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1972 USA Olympic Trials (Eugene, OR)																	*Hymans (2008) - history of the US olympic trials - track and field*
date 09-Jul-72 time				21.4				44.9	44.9	5 / 3							
reaction time interval								23.5		# of strides					21.40	23.50	2.10
velocity				9.35				8.51	8.91						9.35	8.51	

Brijdenback, Alfons (BEL) (1954)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1976 Olympic Games (Montreal, CAN)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 29-Jul-76 time				21.8		32.6		45.1	45.04	8 / 4							
reaction time interval						10.80		12.50		# of strides			10.80	12.50	21.80	23.30	1.50
velocity				9.17		9.26		8.00	8.88	170.0			9.26	8.00	9.17	8.58	

Davis, Jerome (USA) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1998 USATF National Championship (New Orleans, LA)																	*Track Newsletter (1998) - USATF National Championships*
date 21-Jun-98 time				22.0				45.0	45.04	/ ~~5~~ 4							
reaction time interval								23.00		# of strides					22.00	23.00	1.00
velocity				9.09				8.70	8.88						9.09	8.70	

Brew, Derrick (USA) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 NCAA Championships (Boise, ID)																	*Track Newsletter (1999) - NCAA Championships*
date 05-Jun-99 time				21.4				45.0	45.04	/ 2							
reaction time interval								23.60		# of strides					21.40	23.60	2.20
velocity				9.35				8.47	8.88						9.35	8.47	

Santos, Luguelín (DOM) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2012 Olympic Games (London, GBR)																	Hadley (2012) - uka 2012 olympic games report: 400m, 4x 400m
date 04-Aug-12 time				21.10				45.04	45.04	7 / 1							
reaction time 0.187 interval								23.94		# of strides					21.10	23.94	2.84
velocity				9.48				8.35	8.88	188.7					9.48	8.35	

Gaye, Demish (JAM) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 IAAF World Championships (London, GBR)																	*Yamanaka (2017) - male and female 400m analysis in the 2017 season*
date 08-Aug-17 time	6.16	11.02	15.91	21.03	26.49	32.24	38.35	45.04	45.04	8 / 6							
reaction time 0.179 interval		4.86	4.89	5.12	5.46	5.75	6.11	6.69		# of strides	11.02	10.01	11.21	12.80	21.03	24.01	2.98
velocity	8.12	10.29	10.22	9.77	9.16	8.70	8.18	7.47	8.88	182.4	9.07	9.99	8.92	7.81	9.51	8.33	

Bloomfield, Akeem (JAM) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Müller Grand Prix (Birmingham, GBR)																	*Omega Timing (2019) - diamond league race analysis*
date 18-Aug-19 time		11.4		21.8		33.0		45.04	45.04	6 / 1							
reaction time 0.191 interval				10.4		11.2		12.0		# of strides	11.40	10.40	11.20	12.04	21.80	23.24	1.44
velocity		8.77		9.62		8.93		8.31	8.88	164.0	8.77	9.62	8.93	8.31	9.17	8.61	

Cherry, Michael (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Prefontaine Classic (Eugene, OR)																	*Omega Timing (2022) - diamond league race analysis*
date 28-May-22 time	6.09	11.07	16.23	21.57	26.99	32.59	38.52	45.04	45.04	6 / 6							
reaction time 0.179 interval		4.98	5.16	5.34	5.42	5.60	5.93	6.52		# of strides	11.07	10.50	11.02	12.45	21.57	23.47	1.90
velocity	8.21	10.04	9.69	9.36	9.23	8.93	8.43	7.67	8.88	158.5	9.03	9.52	9.07	8.03	9.27	8.52	

Williams, Noah (USA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 USATF National Championships (Eugene, OR)																	*Track Newsletter (2022) - USATF championships men*
date 25-Jun-22 time		11.01		21.51		32.75		45.04	45.04	/ ~~7~~ 6							
reaction time interval				10.50		11.24		12.29		# of strides	11.01	10.50	11.24	12.29	21.51	23.53	2.02
velocity		9.08		9.52		8.90		8.14	8.88		9.08	9.52	8.90	8.14	9.30	8.50	

Joseph, Michael (LCA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23 time		11.33		21.61		32.79		45.04	45.04	5 / 5							
reaction time 0.153 interval				10.28		11.18		12.25		# of strides	11.33	10.28	11.18	12.25	21.61	23.43	1.82

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		8.83		9.73		8.94		8.16	8.88	170.0	8.83	9.73	8.94	8.16	9.25	8.54	

Nakajima, Yuki Joseph (JPN) (2002)
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)
Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-23	time	6.23	11.19	16.22	21.51	26.96	32.69	38.64	45.04	45.04	9 / 3							
reaction time	0.215	interval		4.88	4.95	5.15	5.36	5.60	5.88	6.40	PB	# of strides	11.19	10.32	11.18	12.35	21.51	23.53	2.02
		velocity	8.28	10.25	10.10	9.71	9.33	8.93	8.50	7.81	8.88	170.0	8.94	9.69	8.94	8.10	9.30	8.50	

Molnár, Attila (HUN) (2002)
Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)
European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-24	time		11.10		21.40		32.62		45.04	45.04	8 / 3							
reaction time	0.167	interval				10.30		11.22		12.42		# of strides	11.10	10.30	11.22	12.42	21.40	23.64	2.24
		velocity		9.01		9.71		8.91		8.05	8.88	176.0	9.01	9.71	8.91	8.05	9.35	8.46	

Sito, Luca (ITA) (2003)
FINAL - 2024 European Athletics Championships (Roma, ITA)
European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Jun-24	time		11.07		21.26		32.33		45.04	45.04	7 / 5							
reaction time	0.222	interval				10.19		11.07		12.71		# of strides	11.07	10.19	11.07	12.71	21.26	23.78	2.52
		velocity		9.03		9.81		9.03		7.87	8.88	172.7	9.03	9.81	9.03	7.87	9.41	8.41	

Cameron, Bert (JAM) (1959)
FINAL - 1983 IAAF World Championships (Helsinki, FIN)
Butler (2013) - IAAF world championships statistics handbook- moscow 2013

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Aug-83	time				21.8				45.05	45.05	4 / 1							
reaction time		interval								23.25	CR	# of strides					21.80	23.25	1.45
		velocity				9.17				8.60	8.88	177.0					9.17	8.60	

Watts, Quincy (USA) (1970)
FINAL - 1993 IAAF World Championships (Stuttgart, GER)
Butler (2013) - IAAF world championships statistics handbook- moscow 2013

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Aug-93	time				21.85				45.05	45.05	5 / 4							
reaction time		interval								23.20		# of strides					21.85	23.20	1.35
		velocity				9.15				8.62	8.88	175.2					9.15	8.62	

Brew, Derrick (USA) (1977)
FINAL - 2003 USATF National Championships (Palo Alto, CA)
USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-03	time				21.59		32.81	38.79	45.05	45.05	4 / ~~4~~ 2							
reaction time		interval						11.22	5.98	6.26		# of strides			11.22	12.24	21.59	23.46	1.87
		velocity				9.26		8.91	8.36	7.99	8.88				8.91	8.17	9.26	8.53	

Gay, Tyson (USA) (1982)
FINAL - 2010 Jamaica Invitational (Kingston, JAM)
Vazel (2015) - Van Niekerk and Merritt were on for the record at 300m

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-May-10	time		10.6						45.05	45.05	/ 1							
reaction time		interval								34.5		# of strides	10.60						
		velocity		9.43						8.71	8.88		9.43						

James, Kirani (GRN) (1992)
FINAL - 2010 NCAA Championships (Eugene, OR)
Track Newsletter (2010) - NCAA men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-Jun-10	time				21.9		33.1		45.1	45.05	/ 1							
reaction time		interval						11.2		12.0		# of strides			11.20	12.00	21.90	23.20	1.30
		velocity				9.13		8.93		8.33	8.88				8.93	8.33	9.13	8.62	

Warholm, Karsten (NOR) (1996)
FINAL - 2020 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2020) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Aug-20	time	6.2	11.5	16.9	22.4	27.9	33.6	39.3	45.05	45.05	8 / 1							
reaction time	0.163	interval		5.30	5.40	5.50	5.50	5.70	5.70	5.75		# of strides	11.50	10.90	11.20	11.45	22.40	22.65	0.25
		velocity	8.06	9.43	9.26	9.09	9.09	8.77	8.77	8.70	8.88	164.2	8.70	9.17	8.93	8.73	8.93	8.83	

Norwood, Vernon (USA) (1992)
FINAL - 2023 FBK Games (Hengelo, NED)
Omega Timing (2023) - continental tour race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Jun-23	time	6.21	11.18	16.32	21.64	27.11	32.77	38.63	45.05	45.05	4 / 2							
reaction time	0.243	interval		4.97	5.14	5.32	5.47	5.66	5.86	6.42		# of strides	11.18	10.46	11.13	12.28	21.64	23.41	1.77
		velocity	8.05	10.06	9.73	9.40	9.14	8.83	8.53	7.79	8.88	177.0	8.94	9.56	8.98	8.14	9.24	8.54	

Barnes, Zandrion (JAM) (2001)
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)
Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		11.26		21.39		32.49		45.05	45.05	9 / 3							
reaction time	0.186	interval				10.13		11.10		12.56		# of strides	11.26	10.13	11.10	12.56	21.39	23.66	2.27
		velocity		8.88		9.87		9.01		7.96	8.88	178.0	8.88	9.87	9.01	7.96	9.35	8.45	

Redmond, Derek (GBR) (1965)
FINAL - 1987 IAAF World Championship (Rome, ITA)
Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Sep-87	time		11.10		21.36		32.55		45.06	45.06	6 / 5							
reaction time		interval				10.26		11.19		12.51		# of strides	11.10	10.26	11.19	12.51	21.36	23.70	2.34
		velocity		9.01		9.75		8.94		7.99	8.88		9.01	9.75	8.94	7.99	9.36	8.44	

Davis, Jerome (USA) (1977)
FINAL - 1999 NCAA Championships (Boise, ID)
Track Newsletter (1999) - NCAA Championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Jun-99	time				21.8				45.1	45.06	/ 3							
reaction time		interval								23.30		# of strides					21.80	23.30	1.50
		velocity				9.17				8.58	8.88						9.17	8.58	

Canal, David (ESP) (1978)
FINAL - 2004 DLV-Gala (Erfurt, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jun-04	time		11.03		21.25		32.55		45.06	45.06	/ 1							
reaction time	0.191	interval				10.22		11.30		12.51		# of strides	11.03	10.22	11.30	12.51	21.25	23.81	2.56
		velocity		9.07		9.78		8.85		7.99	8.88		9.07	9.78	8.85	7.99	9.41	8.40	

Harris, Jerry (USA) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2004 USA Olympic Trials (Sacramento, CA) *USATF Women's Sprint Development (2004)*

date	15-Jul-04	time	11.36		21.87	27.40	33.10	38.82	45.06	45.06	1 / ~~8~~ 7						
reaction time		interval			10.51	5.53	5.70	5.72	6.24		# of strides	11.36	10.51	11.23	11.96	21.87	23.19	1.32
		velocity	8.80		9.51	9.04	8.77	8.74	8.01	8.88	171.5	8.80	9.51	8.90	8.36	9.14	8.62	

Cedenio, Machel (TTO) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 IAAF World Championships (Beijing, CHN)																	
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions																	
date 26-Aug-15	time	6.34	11.41	16.52	21.84	27.32	33.03	38.88	45.06	45.06	2 / 7						
reaction time 0.206	interval		5.07	5.11	5.32	5.48	5.71	5.85	6.18		# of strides	11.41	10.43	11.19	12.03	21.84	23.22	1.38
	velocity	7.89	9.86	9.78	9.40	9.12	8.76	8.55	8.09	8.88		8.76	9.59	8.94	8.31	9.16	8.61	

Dunkley, Fitzroy (JAM) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 NCAA Championships (Eugene, OR)																	
Track Newsletter (2016) - NCAA men's championships																	
date 10-Jun-16	time				21.7		32.9		45.1	45.06	2 / 2						
reaction time	interval						11.20		12.20	PB	# of strides			11.20	12.20	21.70	23.40	1.70
	velocity				9.22		8.93		8.20	8.88				8.93	8.20	9.22	8.55	

Igbokwe, Obi (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Müller Anniversary Games (London, GBR)																	
Omega Timing (2019) - diamond league race analysis																	
date 21-Jul-19	time		10.8		20.9		32.0		45.06	45.06	3 / 4						
reaction time 0.128	interval				10.1		11.1		13.1		# of strides	10.80	10.10	11.10	13.06	20.90	24.16	3.26
	velocity		9.26		9.90		9.01		7.66	8.88	175.0	9.26	9.90	9.01	7.66	9.57	8.28	

Lendore, Deon (TTO) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Memorial van Damme (Brussels, BEL)																	
Omega Timing (2021) - diamond league race analysis																	
date 03-Sep-21	time	6.2	11.0	16.0	21.2	26.6	32.3	38.4	45.06	45.06	3 / 5						
reaction time 0.205	interval		4.80	5.00	5.20	5.40	5.70	6.10	6.66		# of strides	11.00	10.20	11.10	12.76	21.20	23.86	2.66
	velocity	8.06	10.42	10.00	9.62	9.26	8.77	8.20	7.51	8.88		9.09	9.80	9.01	7.84	9.43	8.38	

McRae, Khaleb (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 USA Olympic Trials (Eugene, OR)																	
USATF and Karmarush (2024) - USA Olympic trials results and race analysis																	
date 24-Jun-24	time		10.96		21.33		32.60		45.06	45.06	4 / 7						
reaction time	interval				10.37		11.27		12.46		# of strides	10.96	10.37	11.27	12.46	21.33	23.73	2.40
	velocity		9.12		9.64		8.87		8.03	8.88	178.0	9.12	9.64	8.87	8.03	9.38	8.43	

Nene, Zakhiti (RSA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)																	
Paris 2024 Olympic Games - Results Book (2024)																	
date 06-Aug-24	time	6.08	10.97	16.02	21.27	26.83	32.59	38.52	45.06	45.06	3 / 6						
reaction time 0.146	interval		4.89	5.05	5.25	5.56	5.76	5.93	6.54		# of strides	10.97	10.30	11.32	12.47	21.27	23.79	2.52
	velocity	8.22	10.22	9.90	9.52	8.99	8.68	8.43	7.65	8.88	176.0	9.12	9.71	8.83	8.02	9.40	8.41	

Haughton, Gregory (JAM) (1973)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 IAAF World Championships (Sevilla, ESP)																	
Ferro (2001) - biomechanical analysis of the 7th world championships in athletics seville 1999																	
date 26-Aug-99	time	6.03	11.01	16.05	21.22	26.60	32.25	38.32	45.07	45.07	2 / ~~7~~ 5						
reaction time 0.168	interval		4.98	5.04	5.17	5.38	5.65	6.07	6.75		# of strides	11.01	10.21	11.03	12.82	21.22	23.85	2.63
	velocity	8.29	10.04	9.92	9.67	9.29	8.85	8.24	7.41	8.88		9.08	9.79	9.07	7.80	9.43	8.39	

Coley, Pete (JAM) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 NCAA Championships (Baton Rouge, LA)																	
Track Newsletter (2002) - NCAA championships																	
date 01-Jun-02	time				21.9		32.9		45.1	45.07	/ 3						
reaction time	interval						11.00		12.20		# of strides			11.00	12.20	21.90	23.20	1.30
	velocity				9.13		9.09		8.20	8.88				9.09	8.20	9.13	8.62	

Borlée, Jonathan (BEL) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 IAAF World Championships (Daegu, KOR)																	
Butler (2013) - IAAF world athletic results 2008-2011 full results																	
date 30-Aug-11	time				21.7		32.9		45.07	45.07	8 / 5						
reaction time 0.160	interval						11.2		12.2		# of strides			11.20	12.17	21.70	23.37	1.67
	velocity				9.22		8.93		8.22	8.88	171.7			8.93	8.22	9.22	8.56	

Berry, Mike (USA) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 NCAA Championships (Eugene, OR)																	
Track Newsletter (2014) - NCAA men's championships																	
date 13-Jun-14	time				21.9		32.9		45.1	45.07	6 / 2						
reaction time	interval						11.00		12.20		# of strides			11.00	12.20	21.90	23.20	1.30
	velocity				9.13		9.09		8.20	8.88				9.09	8.20	9.13	8.62	

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2015 IAAF World Championships (Beijing, CHN)																	
Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims																	
date 24-Aug-15	time	6.13	11.01	16.00	21.24	26.76	32.49	38.52	45.07	45.07	9 / 6						
reaction time 0.182	interval		4.88	4.99	5.24	5.52	5.73	6.03	6.55		# of strides	11.01	10.23	11.25	12.58	21.24	23.83	2.59
	velocity	8.16	10.25	10.02	9.54	9.06	8.73	8.29	7.63	8.88		9.08	9.78	8.89	7.95	9.42	8.39	

Brown, Chris (BAH) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2015 IAAF World Championships (Beijing, CHN)																	
Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims																	
date 24-Aug-15	time	5.99	10.85	15.87	21.14	26.71	32.45	38.51	45.07	45.07	2 / 7						
reaction time 0.178	interval		4.86	5.02	5.27	5.57	5.74	6.06	6.56		# of strides	10.85	10.29	11.31	12.62	21.14	23.93	2.79
	velocity	8.35	10.29	9.96	9.49	8.98	8.71	8.25	7.62	8.88		9.22	9.72	8.84	7.92	9.46	8.36	

Janežič, Luka (SLO) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2016 Olympic Games (Rio de Janeiro, BRA)																	
Škraba (2016) - 45.07 - 400m analysis of Luka Janežič																	
date 13-Aug-16	time		11.3		21.5		32.8		45.07	45.07	/ 4						
reaction time 0.154	interval				10.20		11.30		12.27	NR	# of strides	11.30	10.20	11.30	12.27	21.50	23.57	2.07
	velocity		8.85		9.80		8.85		8.15	8.88	166.0	8.85	9.80	8.85	8.15	9.30	8.49	

Bonevacia, Liemarvin (NED) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Olympic Games (Tokyo, JPN)																	
Omega Timing (2022) - Tokyo 2020 - race analysis - men's 400m final																	
date 05-Aug-21	time	6.26	11.16	16.06	21.14	26.49	32.21	38.30	45.07	45.07	3 / 8						
reaction time 0.168	interval		4.90	4.90	5.08	5.35	5.72	6.09	6.77		# of strides	11.16	9.98	11.07	12.86	21.14	23.93	2.79

		velocity	7.99	10.20	10.20	9.84	9.35	8.74	8.21	7.39	8.88	182.7	8.96	10.02	9.03	7.78	9.46	8.36	

Owens-Delerme, Ayden (PUR) (2000)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Decathlon - Heat 3 - 2022 World Athletics Championships (Eugene, OR)																			*Timing by Seiko (2022) - world athletics championships race analysis*
date	23-Jul-22	time		11.04		21.29		32.67		45.07	45.07	7 / 1							
reaction time	0.189	interval				10.25		11.38		12.40	NR PB	# of strides	11.04	10.25	11.38	12.40	21.29	23.78	2.49
		velocity		9.06		9.76		8.79		8.06	8.88	173.7	9.06	9.76	8.79	8.06	9.39	8.41	

Re, Davide (ITA) (1993)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 4 - 2023 World Athletics Championships (Budapest, HUN)																			*Seiko Timing (2023) - world championship race analysis*
date	20-Aug-23	time		11.48		22.01		33.35		45.07	45.07	4 / 4							
reaction time	0.153	interval				10.53		11.34		11.72		# of strides	11.48	10.53	11.34	11.72	22.01	23.06	1.05
		velocity		8.71		9.50		8.82		8.53	8.88	174.0	8.71	9.50	8.82	8.53	9.09	8.67	

Ingvalsen, Håvard Bentdal (NOR) (20(			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2023 Memorial van Damme (Brussels, BEL)																			*Omega Timing (2023) - diamond league race analysis*
date	08-Sep-23	time	6.31	11.29	16.41	21.73	27.25	32.92	38.77	45.07	45.07	6 / 3							
reaction time	0.206	interval		4.98	5.12	5.32	5.52	5.67	5.85	6.30		# of strides	11.29	10.44	11.19	12.15	21.73	23.34	1.61
		velocity	7.92	10.04	9.77	9.40	9.06	8.82	8.55	7.94	8.88	182.5	8.86	9.58	8.94	8.23	9.20	8.57	

Samukonga, Muzala (ZAM) (2002)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2024 Seashore Doha Meeting (Doha, QAT)																			*Omega Timing (2024) - diamond league race analysis*
date	10-May-24	time	6.11	10.99	16.19	21.66	27.30	33.17	38.98	45.07	45.07	3 / 2							
reaction time	0.175	interval		4.88	5.20	5.47	5.64	5.87	5.81	6.09		# of strides	10.99	10.67	11.51	11.90	21.66	23.41	1.75
		velocity	8.18	10.25	9.62	9.14	8.87	8.52	8.61	8.21	8.88		9.10	9.37	8.69	8.40	9.23	8.54	

Molnár, Attila (HUN) (2002)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2024 European Athletics Championships (Roma, ITA)																			*European Athletics (2024) - 2024 european athletics championships - results book*
date	10-Jun-24	time		11.12		21.45		32.66		45.07	45.07	3 / 6							
reaction time	0.193	interval				10.33		11.21		12.41		# of strides	11.12	10.33	11.21	12.41	21.45	23.62	2.17
		velocity		8.99		9.68		8.92		8.06	8.88	175.0	8.99	9.68	8.92	8.06	9.32	8.47	

Bredau, Jean Paul (GER) (1999)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 3 - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	04-Aug-24	time	6.17	11.11	16.16	21.42	26.97	32.76	38.73	45.07	45.07	5 / 4							
reaction time	0.158	interval		4.94	5.05	5.26	5.55	5.79	5.97	6.34		# of strides	11.11	10.31	11.34	12.31	21.42	23.65	2.23
		velocity	8.10	10.12	9.90	9.51	9.01	8.64	8.38	7.89	8.88	173.0	9.00	9.70	8.82	8.12	9.34	8.46	

Carlowitz, Jens (GDR) (1964)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
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		11.19		21.52		32.67		45.08	45.08	2 / 6							
reaction time	0.230	interval				10.33		11.15		12.41		# of strides	11.19	10.33	11.15	12.41	21.52	23.56	2.04
		velocity		8.94		9.68		8.97		8.06	8.87		8.94	9.68	8.97	8.06	9.29	8.49	

Haydock-Wilson, Alex (GBR) (1999)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)																			*Timing by Seiko (2022) - world athletics championships race analysis*
date	20-Jul-22	time		11.46		21.88		32.90		45.08	45.08	8 / 4							
reaction time	0.141	interval				10.42		11.02		12.18	PB	# of strides	11.46	10.42	11.02	12.18	21.88	23.20	1.32
		velocity		8.73		9.60		9.07		8.21	8.87	168.2	8.73	9.60	9.07	8.21	9.14	8.62	

Ingvalsen, Håvard Bentdal (NOR) (20(			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2023 World Athletics Championships (Budapest, HUN)																			*Seiko Timing (2023) - world championship race analysis*
date	24-Aug-23	time		11.39		21.66		32.91		45.08	45.08	3 / ~~7~~ 6							
reaction time	0.199	interval				10.27		11.25		12.17		# of strides	11.39	10.27	11.25	12.17	21.66	23.42	1.76
		velocity		8.78		9.74		8.89		8.22	8.87		8.78	9.74	8.89	8.22	9.23	8.54	

Blockburger, Johnnie (USA) (2002)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 3 - 2024 USA Olympic Trials (Eugene, OR)																			*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	21-Jun-24	time		11.02		21.47		33.03		45.08	45.08	9 / 1							
reaction time		interval				10.45		11.56		12.05		# of strides			11.56	12.05	21.47	23.61	2.14
		velocity		9.07		9.57		8.65		8.30	8.87	162.0			8.65	8.30	9.32	8.47	

Sacoor, Jonathan (BEL) (1999)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 4 - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	04-Aug-24	time	6.30	11.40	16.52	21.74	27.12	32.74	38.61	45.08	45.08	8 / 4							
reaction time	0.146	interval		5.10	5.12	5.22	5.38	5.62	5.87	6.47		# of strides	11.40	10.34	11.00	12.34	21.74	23.34	1.60
		velocity	7.94	9.80	9.77	9.58	9.29	8.90	8.52	7.73	8.87	169.0	8.77	9.67	9.09	8.10	9.20	8.57	

Juantorena, Alberto (CUB) (1950)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1980 Olympic Games (Moscow, URS)																			*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date	30-Jul-80	time				21.5		32.9		45.1	45.09	3 / 4							
reaction time	0.220	interval						11.4		12.20		# of strides			11.40	12.20	21.50	23.60	2.10
		velocity				9.30		8.77		8.20	8.87	159.0			8.77	8.20	9.30	8.47	

Valmon, Andrew (USA) (1965)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1991 IAAF World Championships (Tokyo, JPN)																			*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*
date	29-Aug-91	time				21.49				45.09	45.09	1 / 5							
reaction time		interval								23.60		# of strides					21.49	23.60	2.11
		velocity				9.31				8.47	8.87	175.5					9.31	8.47	

Washington, Tyree (USA) (1976)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 1 - 2003 USATF National Championships (Palo Alto, CA)																			*USATF Women's Sprint Development (2003)*
date	20-Jun-03	time				21.37		32.78	38.51	45.09	45.09	7 / 1							
reaction time		interval						11.41	5.73	6.58		# of strides			11.41	12.31	21.37	23.72	2.35
		velocity				9.36		8.76	8.73	7.60	8.87				8.76	8.12	9.36	8.43	

Frolov, Vladislav (RUS) (1980)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**

FINAL - 2006 European Championships (Göteborg, SWE) *Behm (2006) - Championnats d'Europe Göteborg 2006… Le 400m avec ou sans obstacles*

date	09-Aug-06	time		22.3		32.9		45.09	45.09	/ 2					
reaction time		interval				10.60		12.19	PB	# of strides			10.60	12.19	22.30	22.79	0.49
		velocity		8.97		18.87		8.20	8.87				9.43	8.20	8.97	8.78	

van Niekerk, Wayde (RSA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 Golden Spike (Ostrava, CZE)										*Vazel (2018) - historical analysis and coaching commentary - biomechanical report - London 2017 - Men's 400m*							
date 27-Jun-13	time	11.2		21.3		32.5		45.09	45.09	/ 2							
reaction time 0.217	interval			10.1		11.2		12.6	PB	# of strides	11.20	10.10	11.20	12.59	21.30	23.79	2.49
	velocity	8.93		9.90		8.93		7.94	8.87		8.93	9.90	8.93	7.94	9.39	8.41	

Mitchell, Manteo (USA) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 USATF National Championships (Sacramento, CA)										*Track Newsletter (2014) - USATF men's championships*							
date 28-Jun-14	time	11.4		22.2		33.4		45.1	45.09	/ 5							
reaction time	interval			10.8		11.2		11.7		# of strides	11.40	10.80	11.20	11.70	22.20	22.90	0.70
	velocity	8.77		9.26		8.93		8.55	8.87		8.77	9.26	8.93	8.55	9.01	8.73	

Hall, Arman (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 USA Olympic Trials (Eugene, OR)										*Track Newsletter (2016) - US olympic trials men*							
date 03-Jul-16	time	11.2		22.0		33.0		45.0	45.09	3 / 4							
reaction time 0.174	interval			10.80		11.00		12.00		# of strides	11.20	10.80	11.00	12.00	22.00	23.00	1.00
	velocity	8.93		9.26		9.09		8.33	8.87		8.93	9.26	9.09	8.33	9.09	8.70	

Lincoln, Judson (USA) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 USA Olympic Trials (Eugene, OR)										*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date 21-Jun-24	time	10.89		21.14		32.49		45.09	45.09	6 / 3							
reaction time	interval			10.25		11.35		12.60		# of strides	10.89	10.25	11.35	12.60	21.14	23.95	2.81
	velocity	9.18		9.76		8.81		7.94	8.87	181.0	9.18	9.76	8.81	7.94	9.46	8.35	

Juantorena, Alberto (CUB) (1950)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1976 Olympic Games (Montreal, CAN)										*Lamare (1976) - les jeux de la XXI olympia, Montreal 1976*							
date 28-Jul-76	time	11.90		22.37		32.47		45.10	45.10	7 / 1							
reaction time	interval			10.47		10.10		12.63		# of strides	11.90	10.47	10.10	12.63	22.37	22.73	0.36
	velocity	8.40		9.55		9.90		7.92	8.87	160.0	8.40	9.55	9.90	7.92	8.94	8.80	

Brijdenbach, Alfons (BEL) (1954)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 Olympic Games (Moscow, URS)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 30-Jul-80	time			21.1		32.4		45.1	45.10	1 / 5							
reaction time 0.140	interval					11.3		12.70		# of strides			11.30	12.70	21.10	24.00	2.90
	velocity			9.48		8.85		7.87	8.87	173.0			8.85	7.87	9.48	8.33	

Cameron, Bert (JAM) (1959)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1984 Olympic Games (Los Angeles, CA)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 07-Aug-84	time			22.6		34.3		45.1	45.10	2 / 4							
reaction time	interval					11.7		10.8		# of strides			11.70	10.80	22.60	22.50	-0.10
	velocity			8.85		8.55		9.26	8.87				8.55	9.26	8.85	8.89	

Ismail, Ibrahim (QAT) (1972)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1992 Olympic Games (Barcelona, ESP)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 05-Aug-92	time			21.4		32.5		45.1	45.10	1 / 7							
reaction time	interval					11.10		12.60		# of strides			11.10	12.60	21.40	23.70	2.30
	velocity			9.35		9.01		7.94	8.87				9.01	7.94	9.35	8.44	

Watts, Quincy (USA) (1970)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA)										*USATF Women's Sprint Development (1996)*							
date 17-Jun-96	time	11.48		21.67		32.88	38.92	45.10	45.10	5 / 3							
reaction time	interval			10.19		11.21	6.04	6.18		# of strides	11.48	10.19	11.21	12.22	21.67	23.43	1.76
	velocity	8.71		9.81		8.92	8.28	8.09	8.87		8.71	9.81	8.92	8.18	9.23	8.54	

Banda, Lewis (ZIM) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 NCAA Championships (Sacramento, CA)										*Track Newsletter (2006) - NCAA men's championships*							
date 10-Jun-06	time	11.2		21.6		32.9		45.1	45.10	/ 4							
reaction time	interval			10.40		11.30		12.20		# of strides	11.20	10.40	11.30	12.20	21.60	23.50	1.90
	velocity	8.93		9.62		8.85		8.20	8.87		8.93	9.62	8.85	8.20	9.26	8.51	

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 NCAA Championships (Eugene, OR)										*Track Newsletter (2015) - NCAA men's championships*							
date 12-Jun-15	time			22.2				45.1	45.10	4 / 1							
reaction time	interval							22.90		# of strides					22.20	22.90	0.70
	velocity			9.01				8.73	8.87						9.01	8.73	

Borlée, Kevin (BEL) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)										*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*							
date 06-Aug-17	time	11.20		21.56		32.65	38.60	44.95	45.10	9 / 4							
reaction time 0.146	interval			10.36		11.09	5.95	6.35		# of strides	11.20	10.36	11.09	12.30	21.56	23.39	1.83
	velocity	8.93		9.65		9.02	8.40	7.87	8.87	174.8	8.93	9.65	9.02	8.13	9.28	8.55	

Richard, Tyrell (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 NCAA Championships (Eugene, OR)										*Track Newsletter (2018) - NCAA men's championships*							
date 08-Jun-18	time			22.1		33.1		45.1	45.10	/ 5							
reaction time	interval					11.00		12.00		# of strides			11.00	12.00	22.10	23.00	0.90
	velocity			9.05		9.09		8.33	8.87				9.09	8.33	9.05	8.70	

Biron, Gilles (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)										*Omega Timing (2023) - diamond league race analysis*							
date 02-Sep-23	time	6.30	11.40	16.63	22.08	27.50	33.11	38.87	45.10	45.10	9 / 5						
reaction time 0.198	interval		5.10	5.23	5.45	5.42	5.61	5.76	6.23		# of strides	11.40	10.68	11.03	11.99	22.08	23.02	0.94

		velocity	7.94	9.80	9.56	9.17	9.23	8.91	8.68	8.03	8.87	176.5	8.77	9.36	9.07	8.34	9.06	8.69	

McDonald, Rusheen (JAM) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Prefontaine Classic (Eugene, OR)										*Omega Timing (2023) - diamond league race analysis*							
date 16-Sep-23 time	6.28	11.20	16.29	21.63	27.32	33.07	38.78	45.10	45.10	8 / 5							
reaction time 0.196 interval		4.92	5.09	5.34	5.69	5.75	5.71	6.32		# of strides	11.20	10.43	11.44	12.03	21.63	23.47	1.84
velocity	7.96	10.16	9.82	9.36	8.79	8.70	8.76	7.91	8.87		8.93	9.59	8.74	8.31	9.25	8.52	

Bada, Sunday (NGR) (1969)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1993 IAAF World Championships (Stuttgart, GER)										*Smith (1994) - 400m pace control*							
date 17-Aug-93 time		10.98		21.02		32.26		45.11	45.11	6 / 5							
reaction time interval				10.04		11.24		12.85		# of strides	10.98	10.04	11.24	12.85	21.02	24.09	3.07
velocity		9.11		9.96		8.90		7.78	8.87	177.0	9.11	9.96	8.90	7.78	9.51	8.30	

Djhone, Leslie (FRA) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 Olympic Games (Beijing, CHN)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 21-Aug-08 time				21.5		32.2		45.1	45.11	6 / 5							
reaction time 0.164 interval						10.70		12.90		# of strides			10.70	12.90	21.50	23.60	2.10
velocity				9.30		9.35		7.75	8.87	166.5			9.35	7.75	9.30	8.47	

Torrance, Jamaal (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 USATF National Championships (Eugene, OR)										*Track Newsletter (2011) - USATF men's championships*							
date 25-Jun-11 time		11.3		21.8		32.9		45.1	45.11	/ 4							
reaction time 0.169 interval				10.50		11.10		12.20		# of strides	11.30	10.50	11.10	12.20	21.80	23.30	1.50
velocity		8.85		9.52		9.01		8.20	8.87		8.85	9.52	9.01	8.20	9.17	8.58	

Cherry, Michael (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 NCAA Championships (Eugene, OR)										*USTFCCCA (2017) - NCAA DI outdoor championship history*							
date 10-Jun-16 time				21.6		32.8		45.1	45.11	6 / 3							
reaction time interval						11.20		12.30	PB	# of strides			11.20	12.30	21.60	23.50	1.90
velocity				9.26		8.93		8.13	8.87				8.93	8.13	9.26	8.51	

Gaye, Demish (JAM) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Müller Anniversary Games (London, GBR)										*Omega Timing (2019) - diamond league race analysis*							
date 21-Jul-19 time		10.9		20.9		32.2		45.11	45.11	7 / 5							
reaction time 0.157 interval				10.0		11.3		12.9		# of strides	10.90	10.00	11.30	12.91	20.90	24.21	3.31
velocity		9.17		10.00		8.85		7.75	8.87	183.0	9.17	10.00	8.85	7.75	9.57	8.26	

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)										*Omega Timing (2023) - diamond league race analysis*							
date 28-May-23 time	6.22	11.28	16.60	22.07	27.60	33.24	38.91	45.11	45.11	6 / 2							
reaction time 0.167 interval		5.06	5.32	5.47	5.53	5.64	5.67	6.20		# of strides	11.28	10.79	11.17	11.87	22.07	23.04	0.97
velocity	8.04	9.88	9.40	9.14	9.04	8.87	8.82	8.06	8.87	176.5	8.87	9.27	8.95	8.42	9.06	8.68	

van Niekerk, Wayde (RSA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 24-Aug-23 time		11.05		21.35		32.44		45.11	45.11	2 / ~~8~~ 7							
reaction time 0.171 interval				10.30		11.09		12.67		# of strides	11.05	10.30	11.09	12.67	21.35	23.76	2.41
velocity		9.05		9.71		9.02		7.89	8.87		9.05	9.71	9.02	7.89	9.37	8.42	

Bredau, Jean Paul (GER) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 European Athletics Championships (Roma, ITA)										*European Athletics (2024) - 2024 european athletics championships - results book*							
date 10-Jun-24 time		11.36		21.81		32.96		45.11	45.11	4 / 7							
reaction time 0.173 interval				10.45		11.15		12.15		# of strides	11.36	10.45	11.15	12.15	21.81	23.30	1.49
velocity		8.80		9.57		8.97		8.23	8.87	171.5	8.80	9.57	8.97	8.23	9.17	8.58	

Morales-Williams, Christopher (CAN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)										*Omega Timing (2024) - diamond league race analysis*							
date 12-Jul-24 time	6.18	11.05	16.08	21.45	27.11	32.98	38.85	45.11	45.11	6 / 6							
reaction time 0.213 interval		4.87	5.03	5.37	5.66	5.87	5.87	6.26		# of strides	11.05	10.40	11.53	12.13	21.45	23.66	2.21
velocity	8.09	10.27	9.94	9.31	8.83	8.52	8.52	7.99	8.87	163.0	9.05	9.62	8.67	8.24	9.32	8.45	

Ogando, Alexander (DOM) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2024 Olympic Games (Paris, FRA)										*Paris 2024 Olympic Games - Results Book (2024)*							
date 04-Aug-24 time	6.30	11.24	16.32	21.55	27.06	32.86	38.80	45.11	45.11	2 / 5							
reaction time 0.215 interval		4.94	5.08	5.23	5.51	5.80	5.94	6.31		# of strides	11.24	10.31	11.31	12.25	21.55	23.56	2.01
velocity	7.94	10.12	9.84	9.56	9.07	8.62	8.42	7.92	8.87	177.0	8.90	9.70	8.84	8.16	9.28	8.49	

Clark, Darren (AUS) (1965)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1985 IAAF World Cup (Canberra, AUS)										*Butler (2010) -1st/IAAF VTB bank continental cup, IAAF statistics handbook - split 2010*							
date 05-Oct-85 time				21.1				45.12	45.12	/ 4							
reaction time interval								24.02		# of strides					21.10	24.02	2.92
velocity				9.48				8.33	8.87						9.48	8.33	

Morris, Ian (TTO) (1961)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1991 IAAF World Championships (Tokyo, JPN)										*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*							
date 29-Aug-91 time				21.76				45.12	45.12	8 / 6							
reaction time interval								23.36		# of strides					21.76	23.36	1.60
velocity				9.19				8.56	8.87	176.5					9.19	8.56	

Williamson, Darold (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 IAAF World Championships (Helsinki, FIN)										*Track Newsletter (2005) - World championships- men*							
date 12-Aug-05 time						32.4		45.1	45.12	5 / 7							
reaction time interval								12.7		# of strides				12.70			
velocity						9.26		7.87	8.87	168.2				7.87			

Rooney, Martyn (GBR) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2008 Olympic Games (Beijing, CHN) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

date	21-Aug-08	time		21.5		32.1		45.1	45.12	8 / 6				
reaction time	0.208	interval				10.60		13.00		# of strides		10.60	13.00	21.50	23.60	2.10
		velocity		9.30		9.43		7.69	8.87	167.2		9.43	7.69	9.30	8.47	

Berry, Mike (USA) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 USATF National Championships (Sacramento, CA)																	*Track Newsletter (2014) - USATF men's championships*
date 28-Jun-14	time	11.5		22.4		33.5		45.1	45.12	/ 6							
reaction time	interval			10.9		11.1		11.6		# of strides	11.50	10.90	11.10	11.60	22.40	22.70	0.30
	velocity	8.70		9.17		9.01		8.62	8.87		8.70	9.17	9.01	8.62	8.93	8.81	

London, Wil (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)																	*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*
date 06-Aug-17	time	10.88		21.42		32.36	38.36	44.94	45.12	4 / 5							
reaction time 0.181	interval			10.54		10.94	6.00	6.58		# of strides	10.88	10.54	10.94	12.58	21.42	23.52	2.10
	velocity	9.19		9.49		9.14	8.33	7.60	8.87	182.2	9.19	9.49	9.14	7.95	9.34	8.50	

Sito, Luca (ITA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 08-Jun-24	time	11.25		21.72		32.89		45.12	45.12	3 / 1							
reaction time 0.197	interval			10.47		11.17		12.23	PB	# of strides	11.25	10.47	11.17	12.23	21.72	23.40	1.68
	velocity	8.89		9.55		8.95		8.18	8.87		8.89	9.55	8.95	8.18	9.21	8.55	

McKiver, Jenoah (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 23-Jun-24	time	10.98		21.19		32.35		45.12	45.12	4 / 5							
reaction time	interval			10.21		11.16		12.77		# of strides	10.98	10.21	11.16	12.77	21.19	23.93	2.74
	velocity	9.11		9.79		8.96		7.83	8.87		9.11	9.79	8.96	7.83	9.44	8.36	

Powell, Jevaughn (JAM) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 04-Aug-24	time	6.13	10.95	15.94	21.20	26.70	32.46	38.56	45.12	45.12	3 / 3						
reaction time 0.146	interval		4.82	4.99	5.26	5.50	5.76	6.10	6.56		# of strides	10.95	10.25	11.26	12.66	21.20	23.92	2.72
	velocity	8.16	10.37	10.02	9.51	9.09	8.68	8.20	7.62	8.87	177.2	9.13	9.76	8.88	7.90	9.43	8.36	

Asati, Charles (KEN) (1946)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1972 Olympic Games (Munich, FRG)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 07-Sep-72	time			21.7		32.9		45.2	45.13	8 / 4							
reaction time	interval					11.20		12.30		# of strides			11.20	12.30	21.70	23.50	1.80
	velocity			9.22		8.93		8.13	8.86				8.93	8.13	9.22	8.51	

Chambers, Ricardo (JAM) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 19-Aug-09	time	11.28		22.00		32.88		45.13	45.13	7 / 3							
reaction time 0.167	interval			10.72		10.88		12.25		# of strides	11.28	10.72	10.88	12.25	22.00	23.13	1.13
	velocity	8.87		9.33		9.19		8.16	8.86		8.87	9.33	9.19	8.16	9.09	8.65	

Cedenio, Machel (TTO) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 IAAF World Junior Championships (Eugene, OR)																	*Maho (2014) - race analysis of men's 400m run in the 2014 season*
date 24-Jul-14	time	6.11	11.22	16.45	21.86	27.55	33.35	39.10	45.13	45.13	4 / 1						
reaction time 0.204	interval		5.11	5.23	5.41	5.69	5.80	5.75	6.03	NJR / PB	# of strides	11.22	10.64	11.49	11.78	21.86	23.27	1.41
	velocity	8.18	9.78	9.56	9.24	8.79	8.62	8.70	8.29	8.86		8.91	9.40	8.70	8.49	9.15	8.59	

Bloomfield, Akeem (JAM) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 NCAA Championships (Eugene, OR)																	*Track Newsletter (2017) - NCAA men's championships*
date 09-Jun-17	time			21.1		32.4		45.1	45.13	/ 5							
reaction time	interval					11.30		12.70		# of strides			11.30	12.70	21.10	24.00	2.90
	velocity			9.48		8.85		7.87	8.86				8.85	7.87	9.48	8.33	

Benjamin, Rai (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2019) - diamond league race analysis*
date 30-May-19	time	11.1		21.7		32.6		45.13	45.13	6 / 2							
reaction time 0.179	interval			10.6		10.9		12.5		# of strides	11.10	10.60	10.90	12.53	21.70	23.43	1.73
	velocity	9.01		9.43		9.17		7.98	8.86	163.7	9.01	9.43	9.17	7.98	9.22	8.54	

Cherry, Michael (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 The Match - Europe v USA (Minsk, BLR)																	*Omega Timing (2019) - diamond league race analysis*
date 09-Sep-19	time	10.99		21.24		32.55		45.13	45.13	3 / 1							
reaction time 0.163	interval			10.25		11.31		12.58		# of strides	10.99	10.25	11.31	12.58	21.24	23.89	2.65
	velocity	9.10		9.76		8.84		7.95	8.86	165.0	9.10	9.76	8.84	7.95	9.42	8.37	

Walsh, Julian Jrummi (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2019 IAAF World Championships (Doha, QAT)																	*Yamanaka (2019) - race analysis of men and women 400m competition*
date 02-Oct-19	time	6.14	11.16	16.33	21.72	27.22	32.91	38.84	45.13	45.13	5 / 4						
reaction time 0.132	interval		5.02	5.17	5.39	5.50	5.69	5.93	6.29	PB	# of strides	11.16	10.56	11.19	12.22	21.72	23.41	1.69
	velocity	8.14	9.96	9.67	9.28	9.09	8.79	8.43	7.95	8.86	171.5	8.96	9.47	8.94	8.18	9.21	8.54	

Ingvalsen, Håvard Bentdal (NOR) (20(

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 14-Jul-23	time	11.32		21.59		32.92		45.13	45.13	5 / 1							
reaction time 0.232	interval			10.27		11.33		12.21		# of strides	11.32	10.27	11.33	12.21	21.59	23.54	1.95
	velocity	8.83		9.74		8.83		8.19	8.86	184.2	8.83	9.74	8.83	8.19	9.26	8.50	

Evans, Lee (USA) (1947)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1967 San Jose State Invitational (San Jose, CA) (*yards*)																	*Drake (1967) - der schnellste sprint der geschichte*
date 20-May-67	time	10.9		21.4		33.6		45.0	45.0	/ 2							
reaction time	interval			10.5		12.2		11.4	*(45.3/440y)*	# of strides	10.90	10.50	12.20	11.40	21.40	23.60	2.20

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	9.17		9.52		8.20		8.77		8.89		9.17	9.52	8.20	8.77	9.35	8.47	

Máckowiak, Robert (POL) (1970)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 Olympic Games (Sydney, AUS)												*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date	25-Sep-00	time		11.7		22.0		33.2		45.1	45.14	1 / 5							
reaction time		interval				10.30		11.20		11.90		# of strides	11.70	10.30	11.20	11.90	22.00	23.10	1.10
		velocity		8.55		9.71		8.93		8.40	8.86		8.55	9.71	8.93	8.40	9.09	8.66	

Schultz, Ingo (GER) (1975)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 European Championships (Munich, GER)												*Graubner (2009) - http://www.fgs.uni-halle.de*							
date	08-Aug-02	time		11.18		21.34		32.58		45.14	45.14	/ 1							
reaction time	0.180	interval				10.16		11.24		12.56		# of strides	11.18	10.16	11.24	12.56	21.34	23.80	2.46
		velocity		8.94		9.84		8.90		7.96	8.86		8.94	9.84	8.90	7.96	9.37	8.40	

Henry, Tabarie (ISV) (1987)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 7 - 2009 IAAF World Championships (Berlin, GER)												*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*							
date	18-Aug-09	time		11.07		21.67		32.84		45.14	45.14	5 / 1							
reaction time	0.137	interval				10.60		11.17		12.30		# of strides	11.07	10.60	11.17	12.30	21.67	23.47	1.80
		velocity		9.03		9.43		8.95		8.13	8.86		9.03	9.43	8.95	8.13	9.23	8.52	

Solomon, Steven (AUS) (1993)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Olympic Games (London, GBR)												*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date	06-Aug-12	time		11.1		21.9		32.9		45.1	45.14	3 / 8							
reaction time	0.143	interval				10.80		11.00		12.20		# of strides	11.10	10.80	11.00	12.20	21.90	23.20	1.30
		velocity		9.01		9.26		9.09		8.20	8.86	169.7	9.01	9.26	9.09	8.20	9.13	8.62	

Guo Zhongze (CHN) (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Chinese National Games (Tianjin, CHN)												*Xu (2018) - a comparative analysis of the kinematic characteristics of Guo Zhongze and Wayde van Niekerk*							
date	03-Sep-17	time		10.7		21.5		33.0		45.2	45.14	/ 1							
reaction time		interval				10.80		11.50		12.20	NR PB	# of strides	10.70	10.80	11.50	12.20	21.50	23.70	2.20
		velocity		9.35		9.26		8.70		8.20	8.86		9.35	9.26	8.70	8.20	9.30	8.44	

Abubaker, Abbas (BRN) (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Asian Athletics Championships (Doha, QAT)												*Yamanaka (2019) - race analysis of men and women 400m competition*							
date	22-Apr-19	time	6.20	11.15	16.23	21.56	27.03	32.62	38.49	45.14	45.14	7 / 2							
reaction time	0.170	interval		4.95	5.08	5.33	5.47	5.59	5.87	6.65	PB	# of strides	11.15	10.41	11.06	12.52	21.56	23.58	2.02
		velocity	8.06	10.10	9.84	9.38	9.14	8.94	8.52	7.52	8.86	175.0	8.97	9.61	9.04	7.99	9.28	8.48	

Scotch, Leungo (BOT) (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Memorial van Damme (Brussels, BEL)												*Omega Timing (2023) - diamond league race analysis*							
date	08-Sep-23	time	6.07	10.96	16.01	21.30	26.85	32.63	38.63	45.14	45.14	7 / 4							
reaction time	0.153	interval		4.89	5.05	5.29	5.55	5.78	6.00	6.51		# of strides	10.96	10.34	11.33	12.51	21.30	23.84	2.54
		velocity	8.24	10.22	9.90	9.45	9.01	8.65	8.33	7.68	8.86	180.0	9.12	9.67	8.83	7.99	9.39	8.39	

Kebinatshipi, Collen (BOT) (2004)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Golden Gala Pietro Mennea (Roma, ITA)												*Omega Timing (2024) - diamond league race analysis*							
date	30-Aug-24	time	6.08	11.02	16.19	21.64	27.29	33.02	38.85	45.14	45.14	3 / 8							
reaction time	0.167	interval		4.94	5.17	5.45	5.65	5.73	5.83	6.29		# of strides	11.02	10.62	11.38	12.12	21.64	23.50	1.86
		velocity	8.22	10.12	9.67	9.17	8.85	8.73	8.58	7.95	8.86	185.0	9.07	9.42	8.79	8.25	9.24	8.51	

Al-Masrahi, Youssef (KSA) (1987)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 IAAF World Championships (Beijing, CHN)												*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date	26-Aug-15	time	6.25	11.11	16.15	21.41	26.90	32.63	38.55	45.15	45.15	9 / 8							
reaction time	0.163	interval		4.86	5.04	5.26	5.49	5.73	5.92	6.60		# of strides	11.11	10.30	11.22	12.52	21.41	23.74	2.33
		velocity	8.00	10.29	9.92	9.51	9.11	8.73	8.45	7.58	8.86		9.00	9.71	8.91	7.99	9.34	8.42	

Nakajima, Yuki Joseph (JPN) (2002)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National Championsips (Osaka, JPN)												*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*							
date	04-Jun-23	time	6.22	11.20	16.28	21.54	26.97	32.72	38.77	45.15	45.15	7 / 1							
reaction time	0.175	interval		4.98	5.08	5.26	5.43	5.75	6.05	6.38	PB	# of strides	11.20	10.34	11.18	12.43	21.54	23.61	2.07
		velocity	8.04	10.04	9.84	9.51	9.21	8.70	8.26	7.84	8.86	172.5	8.93	9.67	8.94	8.05	9.29	8.47	

Richards, Jereem (TTO) (1994)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2023 World Athletics Championships (Budapest, HUN)												*Seiko Timing (2023) - world championship race analysis*							
date	20-Aug-23	time		11.39		21.92		33.17		45.15	45.15	2 / 3							
reaction time	0.153	interval				10.53		11.25		11.98		# of strides	11.39	10.53	11.25	11.98	21.92	23.23	1.31
		velocity		8.78		9.50		8.89		8.35	8.86	169.5	8.78	9.50	8.89	8.35	9.12	8.61	

Nakajima, Yuki Joseph (JPN) (2002)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2023 World Athletics Championships (Budapest, HUN)												*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*							
date	20-Aug-23	time	6.26	11.32	16.49	21.77	27.19	32.86	38.74	45.15	45.15	4 / 3							
reaction time	0.181	interval		5.06	5.17	5.28	5.42	5.67	5.88	6.41		# of strides	11.32	10.45	11.09	12.29	21.77	23.38	1.61
		velocity	7.99	9.88	9.67	9.47	9.23	8.82	8.50	7.80	8.86	166.5	8.83	9.57	9.02	8.14	9.19	8.55	

Robinson, Justin (USA) (2002)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 USA Olympic Trials (Eugene, OR)												*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date	21-Jun-24	time		11.26		21.53		32.86		45.15	45.15	8 / 3							
reaction time		interval				10.27		11.33		12.29		# of strides	11.26	10.27	11.33	12.29	21.53	23.62	2.09
		velocity		8.88		9.74		8.83		8.14	8.86	167.0	8.88	9.74	8.83	8.14	9.29	8.47	

Boling, Matthew (USA) (2000)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 USA Olympic Trials (Eugene, OR)												*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date	24-Jun-24	time		10.68		20.92		32.32		45.15	45.15	3 / 8							
reaction time		interval				10.24		11.40		12.83		# of strides	10.68	10.24	11.40	12.83	20.92	24.23	3.31
		velocity		9.36		9.77		8.77		7.79	8.86	177.0	9.36	9.77	8.77	7.79	9.56	8.25	

Franks, Michael (USA) (1963)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1985 NCAA Championships (Austin, TX) *Track Newsletter (1985) - NCAA Championships*

date	01-Jun-85	time				21.6			45.2	45.16	8 / 4							
reaction time		interval							23.60		# of strides					21.60	23.60	2.00
		velocity				9.26			8.47	8.86						9.26	8.47	

Wariner, Jeremy (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 Modesto Relays (Modesto, CA)																	*Track Newsletter (2005) - modesto relays*
date 07-May-05 time				21.9				45.2	45.16	/ 1							
reaction time		interval						23.3		# of strides					21.90	23.30	1.40
		velocity		9.13				8.58	8.86						9.13	8.58	

Smith, Miles (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 NCAA Championships (Sacramento, CA)																	*Track Newsletter (2005) - NCAA men's championships*
date 11-Jun-05 time		11.3		21.4		32.7		45.2	45.16	/ 5							
reaction time		interval		10.10		11.30		12.50	=PB	# of strides	11.30	10.10	11.30	12.50	21.40	23.80	2.40
		velocity		8.85		9.90		8.85	8.00	8.86	8.85	9.90	8.85	8.00	9.35	8.40	

Williamson, Darold (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2008 USA Olympic Trials (Eugene, OR)																	*USATF Women's Sprint Development with HPC (2008)*
date 30-Jun-08 time		11.27		21.95	27.32	33.13	38.95	45.16	45.16	8 / 2							
reaction time		interval		10.68	5.37	5.81	5.82	6.21		# of strides	11.27	10.68	11.18	12.03	21.95	23.21	1.26
		velocity		8.87	9.36	9.31	8.61	8.59	8.05	8.86	8.87	9.36	8.94	8.31	9.11	8.62	

Husillos, Óscar (ESP) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)																	*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*
date 06-Aug-17 time		10.93		21.25		32.41	38.48	45.00	45.16	3 / 6							
reaction time 0.130		interval		10.32		11.16	6.07	6.52	PB	# of strides	10.93	10.32	11.16	12.59	21.25	23.75	2.50
		velocity		9.15		9.69		8.96	8.24	7.67	8.86	181.7	9.15	9.69	8.96	7.94	9.41	8.42

Walton, Jamal (CAY) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)																	*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*
date 06-Aug-17 time		10.98		21.21		32.25	38.37	45.01	45.16	9 / 4							
reaction time 0.153		interval		10.23		11.04	6.12	6.64		# of strides	10.98	10.23	11.04	12.76	21.21	23.80	2.59
		velocity		9.11		9.78		9.06	8.17	7.53	8.86	183.4	9.11	9.78	9.06	7.84	9.43	8.40

Igbokwe, Obi (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 NCAA Championships (Eugene, OR)																	*Track Newsletter (2018) - NCAA men's championships*
date 08-Jun-18 time				21.9		33.0		45.2	45.16	/ 6							
reaction time		interval				11.10		12.20		# of strides			11.10	12.20	21.90	23.30	1.40
		velocity		9.13		9.01		8.20	8.86				9.01	8.20	9.13	8.58	

Scotch, Leungo (BOT) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 06-Aug-24 time	6.14	11.06	16.10	21.31	26.88	32.72	38.73	45.16	45.16	2 / 7							
reaction time 0.177		interval	4.92	5.04	5.21	5.57	5.84	6.01	6.43		# of strides	11.06	10.25	11.41	12.44	21.31	23.85	2.54
	8.14	velocity	10.16	9.92	9.60	8.98	8.56	8.32	7.78	8.86	177.0	9.04	9.76	8.76	8.04	9.39	8.39	

Milazar, Eric (MRI) (1975)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 IAAF World Championships (Paris, FRA)																	*Bonvin (2003) - Compte-rendu 400m et relais 4x 400m*
date 26-Aug-03 time				21.3		32.30		45.17	45.17	1 / ~~7~~ 5							
reaction time 0.168		interval				11.0		12.9		# of strides			11.00	12.87	21.30	23.87	2.57
		velocity		9.39		9.09		7.77	8.86				9.09	7.77	9.39	8.38	

Willie, Kelly (USA) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 NCAA Championships (Sacramento, CA)																	*Track Newsletter (2005) - NCAA men's championships*
date 11-Jun-05 time		11.0		20.7		32.4		45.2	45.17	/ 6							
reaction time		interval		9.70		11.70		12.80		# of strides	11.00	9.70	11.70	12.80	20.70	24.50	3.80
		velocity		9.09		10.31		8.55	7.81	8.86	9.09	10.31	8.55	7.81	9.66	8.16	

Benjamin, Tim (GBR) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 DLV-DKB (Ulm, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 12-Jun-05 time		11.29		21.70		32.88		45.17	45.17	/ 1							
reaction time 0.198		interval		10.41		11.18		12.29		# of strides	11.29	10.41	11.18	12.29	21.70	23.47	1.77
		velocity		8.86		9.61		8.94	8.14	8.86	8.86	9.61	8.94	8.14	9.22	8.52	

Strother, Nathan (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Müller Anniversary Games (London, GBR)																	*Omega Timing (2018) - diamond league race analysis*
date 21-Jul-18 time		11.6		22.1		33.1		45.17	45.17	3 / 8							
reaction time 0.170		interval		10.5		11.0		12.1		# of strides	11.60	10.50	11.00	12.07	22.10	23.07	0.97
		velocity		8.62		9.52		9.09	8.29	8.86	172.7	8.62	9.52	9.09	8.29	9.05	8.67	

London, Wil (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Athletissima (Lausanne, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 26-Aug-21 time	6.1	11.1	16.4	21.8	27.3	33.0	38.9	45.17	45.17	8 / 1							
reaction time 0.136		interval	5.00	5.30	5.40	5.50	5.70	5.90	6.27		# of strides	11.10	10.70	11.20	12.17	21.80	23.37	1.57
	8.20	velocity	10.00	9.43	9.26	9.09	8.77	8.47	7.97	8.86	181.0	9.01	9.35	8.93	8.22	9.17	8.56	

Haydock-Wilson, Alex (GBR) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 17-Aug-22 time		11.10		21.50		32.70		45.17	45.17	6 / 3							
reaction time 0.192		interval		10.40		11.20		12.47		# of strides	11.10	10.40	11.20	12.47	21.50	23.67	2.17
		velocity		9.01		9.62		8.93	8.02	8.86	179.0	9.01	9.62	8.93	8.02	9.30	8.45	

Bonevacia, Liemarvin (NED) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 17-Aug-22 time		11.13		21.36		32.66		45.17	45.17	5 / 4							
reaction time 0.177		interval		10.23		11.30		12.51		# of strides	11.13	10.23	11.30	12.51	21.36	23.81	2.45

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		8.98		9.78		8.85		7.99	8.86	181.0	8.98	9.78	8.85	7.99	9.36	8.40	

Nene, Zakhiti (RSA) (1998)
FINAL - 2023 FBK Games (Hengelo, NED) — *Omega Timing (2023) - continental tour race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Jun-23	time	6.10	11.08	16.28	21.69	27.26	32.92	38.73	45.17	45.17	6 / 3							
reaction time	0.142	interval		4.98	5.20	5.41	5.57	5.66	5.81	6.44		# of strides	11.08	10.61	11.23	12.25	21.69	23.48	1.79
		velocity	8.20	10.04	9.62	9.24	8.98	8.83	8.61	7.76	8.86	178.0	9.03	9.43	8.90	8.16	9.22	8.52	

Boling, Matthew (USA) (2000)
FINAL - 2023 USATF National Championships (Eugene, OR) — *Track Newsletter (2023) - USATF championships/WCT men*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jul-23	time		11.00		21.49		32.78		45.17	45.17	8 / 6							
reaction time	0.216	interval				10.49		11.29		12.39	PB	# of strides	11.00	10.49	11.29	12.39	21.49	23.68	2.19
		velocity		9.09		9.53		8.86		8.07	8.86		9.09	9.53	8.86	8.07	9.31	8.45	

Bonevacia, Liemarvin (NED) (1989)
Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA) — *European Athletics (2024) - 2024 european athletics championships - results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-24	time		11.11		21.45		32.69		45.17	45.17	6 / 2							
reaction time	0.160	interval				10.34		11.24		12.48		# of strides	11.11	10.34	11.24	12.48	21.45	23.72	2.27
		velocity		9.00		9.67		8.90		8.01	8.86	181.2	9.00	9.67	8.90	8.01	9.32	8.43	

Noirot, Oliver (FRA) (1969)
FINAL - 1991 European Cup (Frankfurt, GER) — *Federle (2003) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jun-91	time		11.20		21.55		32.87		45.18	45.18	/ 2							
reaction time		interval				10.35		11.32		12.31		# of strides	11.20	10.35	11.32	12.31	21.55	23.63	2.08
		velocity		8.93		9.66		8.83		8.12	8.85		8.93	9.66	8.83	8.12	9.28	8.46	

Diagana, Stéphane (FRA) (1969)
FINAL - 1992 French National Championships (Narbonne, FRA) — *Belloc (1992) - Diagana: 45.18 / 48.13 : 3" d'ecart; incompressibles?*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jun-92	time		11.40		21.68		32.84		45.18	45.18	/ 1							
reaction time		interval				10.28		11.16		12.34	PB	# of strides	11.40	10.28	11.16	12.34	21.68	23.50	1.82
		velocity		8.77		9.73		8.96		8.10	8.85		8.77	9.73	8.96	8.10	9.23	8.51	

Takano, Susumu (JPN) (1961)
FINAL - 1992 Olympic Games (Barcelona, ESP) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-92	time				21.9		32.9		45.2	45.18	8 / 8							
reaction time		interval						11.00		12.30		# of strides			11.00	12.30	21.90	23.30	1.40
		velocity				9.13		9.09		8.13	8.85				9.09	8.13	9.13	8.58	

Maybank, Anthuan (USA) (1969)
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA) — *USATF Women's Sprint Development (1996)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jun-96	time		11.28		21.72		33.13	39.05	45.18	45.18	1 / 4							
reaction time		interval				10.44		11.41	5.92	6.13		# of strides	11.28	10.44	11.41	12.05	21.72	23.46	1.74
		velocity		8.87		9.58		8.76	8.45	8.16	8.85		8.87	9.58	8.76	8.30	9.21	8.53	

Davis, Jerome (USA) (1977)
FINAL - 1998 NCAA Championships (Amherst, NY) — *Track Newsletter (1998) - NCAA Championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Jun-98	time				22.0				45.2	45.18	/ 1							
reaction time		interval								23.20		# of strides					22.00	23.20	1.20
		velocity				9.09				8.62	8.85						9.09	8.62	

Baulch, Jamie (GBR) (1973)
FINAL - 1999 IAAF World Championships (Sevilla, ESP) — *Ferro (2001) - biomechanical analysis of the 7th world championships in athletics seville 1999*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-99	time	6.14	11.06	16.04	21.29	26.76	32.45	38.53	45.18	45.18	8 / ~~8~~ 6							
reaction time	0.148	interval		4.92	4.98	5.25	5.47	5.69	6.08	6.65		# of strides	11.06	10.23	11.16	12.73	21.29	23.89	2.60
		velocity	8.14	10.16	10.04	9.52	9.14	8.79	8.22	7.52	8.85		9.04	9.78	8.96	7.86	9.39	8.37	

Nellum, Bryshon (USA) (1989)
FINAL - 2015 USATF National Championships (Eugene, OR) — *Track Newsletter (2015) - USATF men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-15	time				22.0		33.3		45.2	45.18	/ 4							
reaction time		interval						11.3		11.9		# of strides			11.30	11.90	22.00	23.20	1.20
		velocity				9.09		8.85		8.40	8.85				8.85	8.40	9.09	8.62	

Dedewo, Paul (USA) (1991)
FINAL - 2018 Weltklasse (Zürich, SUI) — *Omega Timing (2018) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Aug-18	time		11.4		21.8		33.0		45.18	45.18	7 / 4							
reaction time	0.157	interval				10.4		11.2		12.2		# of strides	11.40	10.40	11.20	12.18	21.80	23.38	1.58
		velocity		8.77		9.62		8.93		8.21	8.85	168.7	8.77	9.62	8.93	8.21	9.17	8.55	

Deadmon, Bryce (USA) (1997)
FINAL - 2019 NCAA Championships (Austin, TX) — *Track Newsletter (2019) - NCAA men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Jun-19	time				21.6		32.9		45.2	45.18	/ 6							
reaction time	0.199	interval						11.30		12.30	PB	# of strides			11.30	12.30	21.60	23.60	2.00
		velocity				9.26		8.85		8.13	8.85				8.85	8.13	9.26	8.47	

Stewart, Trevor (USA) (1997)
FINAL - 2022 Meeting de Paris (Paris, FRA) — *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Jun-22	time	6.32	11.41	16.68	22.12	27.67	33.33	39.11	45.18	45.18	2 / 4							
reaction time	0.158	interval		5.09	5.27	5.44	5.55	5.66	5.78	6.07		# of strides	11.41	10.71	11.21	11.85	22.12	23.06	0.94
		velocity	7.91	9.82	9.49	9.19	9.01	8.83	8.65	8.24	8.85	178.0	8.76	9.34	8.92	8.44	9.04	8.67	

van Niekerk, Wayde (RSA) (1992)
Heat 1 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		10.96		21.39		32.73		45.18	45.18	6 / 1							
reaction time	0.200	interval				10.43		11.34		12.45		# of strides	10.96	10.43	11.34	12.45	21.39	23.79	2.40
		velocity		9.12		9.59		8.82		8.03	8.85	164.0	9.12	9.59	8.82	8.03	9.35	8.41	

Scotch, Leungo (BOT) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2023 Prefontaine Classic (Eugene, OR) *Omega Timing (2023) - diamond league race analysis*

date	16-Sep-23	time	6.25	11.33	16.47	21.77	27.20	32.86	38.74	45.18	45.18	9 / 6						
reaction time	0.165	interval		5.08	5.14	5.30	5.43	5.66	5.88	6.44		# of strides	11.33	10.44	11.09	12.32	21.77	23.41	1.64
		velocity	8.00	9.84	9.73	9.43	9.21	8.83	8.50	7.76	8.85		8.83	9.58	9.02	8.12	9.19	8.54	

Dean, Caleb (USA) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Miami (Miramar, FL)																	*Grand Slam Track (2025) - results and splits by race*
date	04-May-25	time		11.02		21.37		32.65		45.18	45.18	6 / 3							
reaction time	0.160	interval				10.35		11.28		12.53	PB	# of strides	11.02	10.35	11.28	12.53	21.37	23.81	2.44
		velocity		9.07		9.66		8.87		7.98	8.85		9.07	9.66	8.87	7.98	9.36	8.40	

Pettigrew, Antonio (USA) (1967)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA)																	*USATF Women's Sprint Development (1996)*
date	17-Jun-96	time		11.72		22.12		33.30	39.04	45.19	45.19	4 / 5							
reaction time		interval				10.40		11.18	5.74	6.15		# of strides	11.72	10.40	11.18	11.89	22.12	23.07	0.95
		velocity		8.53		9.62		8.94	8.71	8.13	8.85		8.53	9.62	8.94	8.41	9.04	8.67	

Molnár, Attila (HUN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)																	*Omega Timing (2023) - diamond league race analysis*
date	02-Sep-23	time	6.28	11.24	16.38	21.75	27.29	33.00	38.87	45.19	45.19	3 / 6							
reaction time	0.157	interval		4.96	5.14	5.37	5.54	5.71	5.87	6.32		# of strides	11.24	10.51	11.25	12.19	21.75	23.44	1.69
		velocity	7.96	10.08	9.73	9.31	9.03	8.76	8.52	7.91	8.85	174.0	8.90	9.51	8.89	8.20	9.20	8.53	

Nakajima, Yuki Joseph (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)																	*Omega Timing (2023) - diamond league race analysis*
date	02-Sep-23	time	6.29	11.29	16.48	21.85	27.29	33.01	38.90	45.19	45.19	8 / 7							
reaction time	0.179	interval		5.00	5.19	5.37	5.44	5.72	5.89	6.29		# of strides	11.29	10.56	11.16	12.18	21.85	23.34	1.49
		velocity	7.95	10.00	9.63	9.31	9.19	8.74	8.49	7.95	8.85	170.0	8.86	9.47	8.96	8.21	9.15	8.57	

Nixon, Greg (USA) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2008 USA Olympic Trials (Eugene, OR)																	*USATF Women's Sprint Development with HPC (2008)*
date	30-Jun-08	time		11.32		21.76	27.10	32.83	38.64	45.20	45.20	8 / 4							
reaction time		interval				10.44	5.34	5.73	5.81	6.56	PB	# of strides	11.32	10.44	11.07	12.37	21.76	23.44	1.68
		velocity		8.83		9.58	9.36	8.73	8.61	7.62	8.85		8.83	9.58	9.03	8.08	9.19	8.53	

Djhone, Leslie (FRA) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date	18-Aug-09	time		11.42		21.86		32.94		45.20	45.20	7 / 2							
reaction time	0.165	interval				10.44		11.08		12.26		# of strides	11.42	10.44	11.08	12.26	21.86	23.34	1.48
		velocity		8.76		9.58		9.03		8.16	8.85		8.76	9.58	9.03	8.16	9.15	8.57	

Gordon, Lalonde (TTO) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2017 IAAF World Championships (London, GBR)																	*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*
date	06-Aug-17	time		10.84		20.88		32.04	38.25	45.06	45.20	4 / 5							
reaction time	0.151	interval				10.04		11.16	6.21	6.81		# of strides	10.84	10.04	11.16	13.02	20.88	24.18	3.30
		velocity		9.23		9.96		8.96	8.05	7.34	8.85	163.4	9.23	9.96	8.96	7.68	9.58	8.27	

Makwala, Isaac (BOT) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Athletissima (Lausanne, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date	26-Aug-21	time	6.2	11.3	16.5	21.9	27.4	32.9	38.8	45.20	45.20	6 / 2							
reaction time	0.182	interval		5.10	5.20	5.40	5.50	5.50	5.90	6.40		# of strides	11.30	10.60	11.00	12.30	21.90	23.30	1.40
		velocity	8.06	9.80	9.62	9.26	9.09	9.09	8.47	7.81	8.85		8.85	9.43	9.09	8.13	9.13	8.58	

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)																	*Omega Timing (2022) - diamond league race analysis*
date	06-Aug-22	time	6.22	11.25	16.47	21.84	27.29	32.92	38.76	45.20	45.20	3 / 4							
reaction time	0.157	interval		5.03	5.22	5.37	5.45	5.63	5.84	6.44		# of strides	11.25	10.59	11.08	12.28	21.84	23.36	1.52
		velocity	8.04	9.94	9.58	9.31	9.17	8.88	8.56	7.76	8.85	179.5	8.89	9.44	9.03	8.14	9.16	8.56	

Scotch, Leungo (BOT) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date	20-Aug-23	time		11.15		21.46		32.88		45.20	45.20	2 / 5							
reaction time	0.169	interval				10.31		11.42		12.32		# of strides	11.15	10.31	11.42	12.32	21.46	23.74	2.28
		velocity		8.97		9.70		8.76		8.12	8.85	181.0	8.97	9.70	8.76	8.12	9.32	8.42	

Quow, Rennie (TTO) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date	18-Aug-09	time		11.72		22.30		33.10		45.21	45.21	4 / 1							
reaction time	0.202	interval				10.58		10.80		12.11		# of strides	11.72	10.58	10.80	12.11	22.30	22.91	0.61
		velocity		8.53		9.45		9.26		8.26	8.85		8.53	9.45	9.26	8.26	8.97	8.73	

Sanford, Donald (USA) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2010 NCAA Championships (Eugene, OR)																	*Track Newsletter (2010) - NCAA men's championships*
date	11-Jun-10	time				21.9		33.2		45.2	45.21	/ 2							
reaction time		interval						11.3		12.0	PB	# of strides			11.30	12.00	21.90	23.30	1.40
		velocity				9.13		8.85		8.33	8.85				8.85	8.33	9.13	8.58	

Walsh, Julian Jrummi (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese World Championships Trials (Fujiyoshida, JPN)																	*Yamanaka (2019) - race analysis of men and women 400m competition*
date	01-Sep-19	time	6.13	11.01	16.10	21.43	27.00	32.84	38.87	45.21	45.21	5 / 1							
reaction time		interval		4.88	5.09	5.33	5.57	5.84	6.03	6.34	PB	# of strides	11.01	10.42	11.41	12.37	21.43	23.78	2.35
		velocity	8.16	10.25	9.82	9.38	8.98	8.56	8.29	7.89	8.85	172.7	9.08	9.60	8.76	8.08	9.33	8.41	

Deadmon, Bryce (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	21-Jun-24	time		10.94		21.21		32.76		45.21	45.21	8 / 2							
reaction time		interval				10.27		11.55		12.45		# of strides			11.55	12.45	21.21	24.00	2.79

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		9.14		9.74		8.66		8.03	8.85	165.5			8.66	8.03	9.43	8.33	

Zeze, Ryan (FRA) (1998)
Long Sprints - 2025 Grand Slam Track Miami (Miramar, FL) — *Grand Slam Track (2025) - results and splits by race*

date	03-May-25	time		11.13		21.35		32.43		45.21	45.21	1 / 6							
reaction time	0.290	interval				10.22		11.08		12.78	PB	# of strides	11.13	10.22	11.08	12.78	21.35	23.86	2.51
		velocity		8.98		9.78		9.03		7.82	8.85		8.98	9.78	9.03	7.82	9.37	8.38	

Franks, Michael (USA) (1963)
FINAL - 1983 IAAF World Championships (Helsinki, FIN) — *Butler (2013) - IAAF world championships statistics handbook- moscow 2013*

date	10-Aug-83	time				21.7				45.22	45.22	5 / 2							
reaction time		interval								23.52		# of strides					21.70	23.52	1.82
		velocity				9.22				8.50	8.85	179.0					9.22	8.50	

Baulch, Jamie (GBR) (1973)
FINAL - 1997 IAAF World Championships (Athens, GRE) — *Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*

date	05-Aug-97	time	6.08	10.96	15.96	21.16	26.62	32.46	38.46	45.06	45.22	1 / ~~8~~ 7							
reaction time	0.158	interval		4.88	5.00	5.20	5.46	5.84	6.00	6.60		# of strides	10.96	10.20	11.30	12.60	21.16	23.90	2.74
		velocity	8.22	10.25	10.00	9.62	9.16	8.56	8.33	7.58	8.85		9.12	9.80	8.85	7.94	9.45	8.37	

Quow, Rennie (TTO) (1987)
FINAL - 2008 Olympic Games (Beijing, CHN) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

date	21-Aug-08	time				21.7		32.6		45.2	45.22	2 / 7							
reaction time	0.201	interval						10.90		12.60		# of strides			10.90	12.60	21.70	23.50	1.80
		velocity				9.22		9.17		7.94	8.85	190.5			9.17	7.94	9.22	8.51	

Berry, Mike (USA) (1991)
FINAL - 2011 USATF National Championships (Eugene, OR) — *Track Newsletter (2011) - USATF men's championships*

date	25-Jun-11	time		11.6		22.3		33.3		45.2	45.22	/ 5							
reaction time	0.169	interval				10.70		11.00		11.90		# of strides	11.60	10.70	11.00	11.90	22.30	22.90	0.60
		velocity		8.62		9.35		9.09		8.40	8.85		8.62	9.35	9.09	8.40	8.97	8.73	

Mance, Josh (USA) (1992)
FINAL - 2013 USATF National Championships (Des Moines, IA) — *Track Newsletter (2013) - USATF men's championships*

date	22-Jun-13	time						32.6		45.2	45.22	/ 4							
reaction time	0.193	interval								12.60		# of strides				12.60			
		velocity						9.20		7.94	8.85					7.94			

Kobayashi, Naoki (JPN) (1990)
Heat 1 - 2015 Japanese National Championships (Niigata, JPN) — *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

date	27-Jun-15	time	6.37	11.39	16.49	21.69	27.17	32.87	38.89	45.22	45.22	5 / 1							
reaction time	0.167	interval		5.02	5.10	5.20	5.48	5.70	6.02	6.33		# of strides	11.39	10.30	11.18	12.35	21.69	23.53	1.84
		velocity	7.85	9.96	9.80	9.62	9.12	8.77	8.31	7.90	8.85	179.2	8.78	9.71	8.94	8.10	9.22	8.50	

Popelka, Logan (USA) (2003)
Heat 3 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

date	21-Jun-24	time		11.00		21.48		32.75		45.22	45.22	7 / 3							
reaction time		interval				10.48		11.27		12.47	PB	# of strides			11.27	12.47	21.48	23.74	2.26
		velocity		9.09		9.54		8.87		8.02	8.85	175.0			8.87	8.02	9.31	8.42	

McCray, Danny (USA) (1974)
FINAL - 1999 USATF National Championship (Eugene, OR) — *Track Newsletter (1999) - USATF National Championships*

date	26-Jun-99	time				21.7				45.2	45.23	/ ~~5~~ 4							
reaction time		interval								23.50		# of strides					21.70	23.50	1.80
		velocity				9.22				8.51	8.84						9.22	8.51	

Brew, Derrick (USA) (1977)
FINAL - 2006 USATF National Championships (Indianapolis, IN) — *Track Newsletter (2006) - USATF men's championships*

date	24-Jun-06	time		11.41				33.07		45.23	45.23	/ 7							
reaction time		interval						21.66		12.16		# of strides	11.41			12.16			
		velocity		8.76				9.23		8.22	8.84		8.76			8.22			

Merritt, LaShawn (USA) (1986)
Heat 4 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	18-Aug-09	time		11.03		21.66		32.71		45.23	45.23	4 / 1							
reaction time	0.151	interval				10.63		11.05		12.52		# of strides	11.03	10.63	11.05	12.52	21.66	23.57	1.91
		velocity		9.07		9.41		9.05		7.99	8.84		9.07	9.41	9.05	7.99	9.23	8.49	

Hughes, Joey (USA) (1990)
FINAL - 2010 NCAA Championships (Eugene, OR) — *Track Newsletter (2010) - NCAA men's championships*

date	11-Jun-10	time				22.3		33.1		45.2	45.23	/ 3							
reaction time		interval						10.8		12.1		# of strides			10.80	12.10	22.30	22.90	0.60
		velocity				8.97		9.26		8.26	8.84				9.26	8.26	8.97	8.73	

James, Kirani (GRN) (1992)
Heat 2 - 2012 Olympic Games (London, GBR) — Hadley (2012) - uka 2012 olympic games report: 400m, 4x 400m

date	04-Aug-12	time				21.96				45.23	45.23	6 / 1							
reaction time	0.173	interval								23.27		# of strides					21.96	23.27	1.31
		velocity				9.11				8.59	8.84	158.7					9.11	8.59	

Harris, James (USA) (1991)
FINAL - 2013 USATF National Championships (Des Moines, IA) — *Track Newsletter (2013) - USATF men's championships*

date	22-Jun-13	time						32.8		45.2	45.23	/ 5							
reaction time	0.245	interval								12.40	=PB	# of strides				12.40			
		velocity						9.15		8.06	8.84					8.06			

Borlée, Jonathan (BEL) (1988)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 3 - 2017 IAAF World Championships (London, GBR) — *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*

date	06-Aug-17	time		10.91		21.19		32.47	38.55	45.03	45.23	3 / 5						
reaction time	0.203	interval				10.28		11.28	6.08	6.48		# of strides	10.91	10.28	11.28	12.56	21.19	23.84	2.65
		velocity		9.17		9.73		8.87	8.22	7.72	8.84	179.3	9.17	9.73	8.87	7.96	9.44	8.39	

Kerley, Fred (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 IAAF World Championships (London, GBR)																	*Yamanaka (2017) - male and female 400m analysis in the 2017 season*
date 08-Aug-17 time	6.09	11.01	16.02	21.19	26.63	32.35	38.47	45.23	45.23	2 / 7							
reaction time 0.142 interval		4.92	5.01	5.17	5.44	5.72	6.12	6.76		# of strides	11.01	10.18	11.16	12.88	21.19	24.04	2.85
velocity	8.21	10.16	9.98	9.67	9.19	8.74	8.17	7.40	8.84	176.4	9.08	9.82	8.96	7.76	9.44	8.32	

Thebe, Baboloki (BOT) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Müller Anniversary Games (London, GBR)																	*Omega Timing (2019) - diamond league race analysis*
date 21-Jul-19 time		11.2		21.6		32.7		45.23	45.23	4 / 6							
reaction time 0.156 interval				10.4		11.1		12.5		# of strides	11.20	10.40	11.10	12.53	21.60	23.63	2.03
velocity		8.93		9.62		9.01		7.98	8.84	180.0	8.93	9.62	9.01	7.98	9.26	8.46	

Bonevacia, Liemarvin (NED) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 22-Aug-23 time		11.32		21.45		32.78		45.23	45.23	4 / 5							
reaction time 0.175 interval				10.13		11.33		12.45		# of strides	11.32	10.13	11.33	12.45	21.45	23.78	2.33
velocity		8.83		9.87		8.83		8.03	8.84	181.0	8.83	9.87	8.83	8.03	9.32	8.41	

Larrabee, Mike (USA) (1933)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1964 Olympic Games (Toyko, JPN)																	*Sultanov (1982) - probleme der vorbereitung für den 400m-lauf*
date 19-Sep-64 time		11.0		21.6		32.7		45.1	45.1	5 / 1							
reaction time interval				10.6		11.1		12.4	*(45.15)*	# of strides	11.00	10.60	11.10	12.40	21.60	23.50	1.90
velocity		9.09		9.43		9.01		8.06	8.87		9.09	9.43	9.01	8.06	9.26	8.51	

Nallet, Jean-Claude (FRA) (1947)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1970 French National Championships (Colombes, FRA)																	*Robinson (1974) - modern techniques of track and field*
date 19-Jul-70 time				21.9				45.1	45.1	/ 1							
reaction time interval								23.2	NR	# of strides					21.90	23.20	1.30
velocity				9.13				8.62	8.87						9.13	8.62	

Evans, Lee (USA) (1947)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1972 USA Olympic Trials (Eugene, OR)																	*Hymans (2008) - history of the US olympic trials - track and field*
date 09-Jul-72 time				21.6				45.1	45.1	6 / 4							
reaction time interval								23.5		# of strides					21.60	23.50	1.90
velocity				9.26				8.51	8.87						9.26	8.51	

Parks, Maxie (USA) (1951)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1976 Olympic Games (Montreal, CAN)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 29-Jul-76 time				21.8		32.7		45.3	45.24	7 / 5							
reaction time interval						10.90		12.60		# of strides			10.90	12.60	21.80	23.50	1.70
velocity				9.17		9.17		7.94	8.84	160.5			9.17	7.94	9.17	8.51	

Nix, Sunder (USA) (1961)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1983 IAAF World Championships (Helsinki, FIN)																	*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*
date 10-Aug-83 time				22.2				45.24	45.24	1 / 3							
reaction time interval								23.04		# of strides					22.20	23.04	0.84
velocity				9.01				8.68	8.84						9.01	8.68	

Canal, David (ESP) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 European Championships (Munich, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 08-Aug-02 time		11.88		21.86		33.04		45.24	45.24	/ 2							
reaction time 0.148 interval				9.98		11.18		12.20		# of strides	11.88	9.98	11.18	12.20	21.86	23.38	1.52
velocity		8.42		10.02		8.94		8.20	8.84		8.42	10.02	8.94	8.20	9.15	8.55	

Young, Jerome (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2003 USATF National Championships (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 20-Jun-03 time				21.61		32.82	38.59	45.24	45.24	6 / ~~2~~							
reaction time interval						11.21	5.77	6.65	DV	# of strides			11.21	12.42	21.61	23.63	2.02
velocity				9.25		8.92	8.67	7.52	8.84				8.92	8.05	9.25	8.46	

Wariner, Jeremy (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 USA Olympic Trials (Eugene, OR)																	*Hymans (2020) - history of the US olympic trials - track and field*
date 24-Jun-12 time				21.8		33.2		45.24	45.24	2 / 6							
reaction time 0.231 interval						11.40		12.04		# of strides			11.40	12.04	21.80	23.44	1.64
velocity				9.17		8.77		8.31	8.84				8.77	8.31	9.17	8.53	

Maslák, Pavel (CZE) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)																	*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*
date 06-Aug-17 time		11.05		21.33		32.57	38.58	45.09	45.24	2 / 6							
reaction time 0.146 interval				10.28		11.24	6.01	6.51		# of strides	11.05	10.28	11.24	12.52	21.33	23.76	2.43
velocity		9.05		9.73		8.90	8.32	7.68	8.84	182.8	9.05	9.73	8.90	7.99	9.38	8.42	

Sawyers, Chantz (JAM) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 NCAA Championships (Austin, TX)																	*Track Newsletter (2019) - NCAA men's championships*
date 07-Jun-19 time				21.6		32.8		45.2	45.24	/ 7							
reaction time 0.193 interval						11.20		12.40	PB	# of strides			11.20	12.40	21.60	23.60	2.00
velocity				9.26		8.93		8.06	8.84				8.93	8.06	9.26	8.47	

Cherry, Michael (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Golden Gala Pietro Mennea (Rome, ITA)																	*Omega Timing (2022) - diamond league race analysis*
date 09-Jun-22 time	6.05	11.05	16.20	21.48	26.93	32.62	38.60	45.24	45.24	4 / 3							
reaction time 0.178 interval		5.00	5.15	5.28	5.45	5.69	5.98	6.64		# of strides	11.05	10.43	11.14	12.62	21.48	23.76	2.28

		velocity	8.26	10.00	9.71	9.47	9.17	8.79	8.36	7.53	8.84		9.05	9.59	8.98	7.92	9.31	8.42	

Nene, Zakhiti (RSA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)										*Timing by Seiko (2022) - world athletics championships race analysis*							
date 20-Jul-22 time		10.92		21.28		32.68		45.24	45.24	7 / 4							
reaction time 0.121 interval				10.36		11.40		12.56		# of strides	10.92	10.36	11.40	12.56	21.28	23.96	2.68
velocity		9.16		9.65		8.77		7.96	8.84	178.0	9.16	9.65	8.77	7.96	9.40	8.35	

Borlée, Dylan (BEL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 20-Aug-23 time		11.25		21.44		32.85		45.24	45.24	6 / 4							
reaction time 0.160 interval				10.19		11.41		12.39		# of strides	11.25	10.19	11.41	12.39	21.44	23.80	2.36
velocity		8.89		9.81		8.76		8.07	8.84	175.5	8.89	9.81	8.76	8.07	9.33	8.40	

Molnár, Attila (HUN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 Olympic Games (Paris, FRA)										*Paris 2024 Olympic Games - Results Book (2024)*							
date 04-Aug-24 time	6.28	11.17	16.18	21.40	26.86	32.57	38.62	45.24	45.24	4 / 6							
reaction time 0.163 interval		4.89	5.01	5.22	5.46	5.71	6.05	6.62		# of strides	11.17	10.23	11.17	12.67	21.40	23.84	2.44
velocity	7.96	10.22	9.98	9.58	9.16	8.76	8.26	7.55	8.84	174.5	8.95	9.78	8.95	7.89	9.35	8.39	

Pillay, Lythe (RSA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)										*Paris 2024 Olympic Games - Results Book (2024)*							
date 06-Aug-24 time	6.23	11.23	16.31	21.57	27.03	32.78	38.77	45.24	45.24	3 / ~~8~~ 7							
reaction time 0.145 interval		5.00	5.08	5.26	5.46	5.75	5.99	6.47		# of strides	11.23	10.34	11.21	12.46	21.57	23.67	2.10
velocity	8.03	10.00	9.84	9.51	9.16	8.70	8.35	7.73	8.84		8.90	9.67	8.92	8.03	9.27	8.45	

Smith, Miles (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Championships (Carson, CA)										*USATF Women's Sprint Development (2005)*							
date 25-Jun-05 time		11.51	16.52	21.78	27.15	32.90	38.93	45.25	45.25	2 / 6							
reaction time interval			5.01	5.26	5.37	5.75	6.03	6.32		# of strides	11.51	10.27	11.12	12.35	21.78	23.47	1.69
velocity		8.69	9.98	9.51	9.31	8.70	8.29	7.91	8.84		8.69	9.74	8.99	8.10	9.18	8.52	

Litvin, Mikhail (KAZ) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Asian Athletics Championships (Doha, QAT)										*Yamanaka (2019) - race analysis of men and women 400m competition*							
date 22-Apr-19 time	6.30	11.39	16.53	21.92	27.45	33.15	39.02	45.25	45.25	9 / 3							
reaction time 0.162 interval		5.09	5.14	5.39	5.53	5.70	5.87	6.23	NR PB	# of strides	11.39	10.53	11.23	12.10	21.92	23.33	1.41
velocity	7.94	9.82	9.73	9.28	9.04	8.77	8.52	8.03	8.84	164.0	8.78	9.50	8.90	8.26	9.12	8.57	

Bailey, Sean (JAM) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 USATF National Championships (Eugene, OR)										*Track Newsletter (2023) - USATF championships/WCT men*							
date 08-Jul-23 time		11.56		22.14		33.15		45.25	45.25	2 / 7							
reaction time 0.227 interval				10.58		11.01		12.10		# of strides	11.56	10.58	11.01	12.10	22.14	23.11	0.97
velocity		8.65		9.45		9.08		8.26	8.84		8.65	9.45	9.08	8.26	9.03	8.65	

Morales-Williams, Christopher (CAN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)										*Paris 2024 Olympic Games - Results Book (2024)*							
date 06-Aug-24 time	6.04	10.93	15.92	21.21	26.91	32.85	38.91	45.25	45.25	8 / 8							
reaction time 0.164 interval		4.89	4.99	5.29	5.70	5.94	6.06	6.34		# of strides	10.93	10.28	11.64	12.40	21.21	24.04	2.83
velocity	8.28	10.22	10.02	9.45	8.77	8.42	8.25	7.89	8.84	164.0	9.15	9.73	8.59	8.06	9.43	8.32	

Sito, Luca (ITA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Golden Gala Pietro Mennea (Roma, ITA)										*Omega Timing (2024) - diamond league race analysis*							
date 30-Aug-24 time	6.19	11.17	16.23	21.49	27.15	32.99	38.87	42.25	45.25	9 / 9							
reaction time 0.185 interval		4.98	5.06	5.26	5.66	5.84	5.88	3.38		# of strides	11.17	10.32	11.50	9.26	21.49	20.76	-0.73
velocity	8.08	10.04	9.88	9.51	8.83	8.56	8.50	14.79	8.84	173.0	8.95	9.69	8.70	10.80	9.31	9.63	

Mokganyetsi, Hendrick (RSA) (1975)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 Olympic Games (Sydney, AUS)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 25-Sep-00 time		11.8		22.3		33.1		45.3	45.26	7 / 6							
reaction time interval				10.50		10.80		12.20		# of strides	11.80	10.50	10.80	12.20	22.30	23.00	0.70
velocity		8.47		9.52		9.26		8.20	8.84		8.47	9.52	9.26	8.20	8.97	8.70	

van Niekerk, Wayde (RSA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2016 Olympic Games (Rio de Janeiro, BRA)										*(2016.08.15) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*							
date 13-Aug-16 time		11.04		22.02		33.04		45.26	45.26	7 / 1							
reaction time 0.147 interval				10.98		11.02		12.22		# of strides	11.04	10.98	11.02	12.22	22.02	23.24	1.22
velocity		9.06		9.11		9.07		8.18	8.84		9.06	9.11	9.07	8.18	9.08	8.61	

Borlée, Kevin (BEL) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)										*Timing by Seiko (2022) - world athletics championships race analysis*							
date 20-Jul-22 time		11.39		21.81		33.00		45.26	45.26	2 / 5							
reaction time 0.139 interval				10.42		11.19		12.26		# of strides	11.39	10.42	11.19	12.26	21.81	23.45	1.64
velocity		8.78		9.60		8.94		8.16	8.84		8.78	9.60	8.94	8.16	9.17	8.53	

Re, Davide (ITA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 European Athletics Championships (Munich, GER)										*European Athletics (2022) - european athletics championships race analysis*							
date 15-Aug-22 time		11.33		21.69		32.84		45.26	45.26	5 / 1							
reaction time 0.231 interval				10.36		11.15		12.42		# of strides	11.33	10.36	11.15	12.42	21.69	23.57	1.88
velocity		8.83		9.65		8.97		8.05	8.84		8.83	9.65	8.97	8.05	9.22	8.49	

Petrucciani, Ricky (SUI) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 European Athletics Championships (Munich, GER)										*European Athletics (2022) - european athletics championships race analysis*							
date 15-Aug-22 time		11.19		21.65		32.87		45.26	45.26	7 / 2							
reaction time 0.198 interval				10.46		11.22		12.39		# of strides	11.19	10.46	11.22	12.39	21.65	23.61	1.96
velocity		8.94		9.56		8.91		8.07	8.84		8.94	9.56	8.91	8.07	9.24	8.47	

Sato, Fuga (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2023 Japanese National Championsips (Osaka, JPN) — *Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*

date	04-Jun-23	time	6.06	11.11	16.22	21.47	26.90	32.62	38.74	45.26	45.26	6 / 2						
reaction time	0.199	interval		5.05	5.11	5.25	5.43	5.72	6.12	6.52	PB	# of strides	11.11	10.36	11.15	12.64	21.47	23.79	2.32
		velocity	8.25	9.90	9.78	9.52	9.21	8.74	8.17	7.67	8.84	174.5	9.00	9.65	8.97	7.91	9.32	8.41	

Biron, Gilles (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Memorial van Damme (Brussels, BEL)																	
Omega Timing (2023) - diamond league race analysis																	
date 08-Sep-23 time	6.16	11.14	16.23	21.58	27.08	32.73	38.75	45.26	45.26	8 / 5							
reaction time 0.185 interval		4.98	5.09	5.35	5.50	5.65	6.02	6.51		# of strides	11.14	10.44	11.15	12.53	21.58	23.68	2.10
velocity	8.12	10.04	9.82	9.35	9.09	8.85	8.31	7.68	8.84	177.0	8.98	9.58	8.97	7.98	9.27	8.45	

McKiver, Jenoah (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 USA Olympic Trials (Eugene, OR)																	
USATF and Karmarush (2024) - USA Olympic trials results and race analysis																	
date 21-Jun-24 time		11.00		21.15		32.45		45.26	45.26	3 / 4							
reaction time interval				10.15		11.30		12.81		# of strides	11.00	10.15	11.30	12.81	21.15	24.11	2.96
velocity		9.09		9.85		8.85		7.81	8.84	168.5	9.09	9.85	8.85	7.81	9.46	8.30	

Sito, Luca (ITA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)																	
Omega Timing (2024) - diamond league race analysis																	
date 12-Jul-24 time	6.19	11.13	16.17	21.42	27.01	32.75	38.65	45.26	45.26	2 / 7							
reaction time 0.169 interval		4.94	5.04	5.25	5.59	5.74	5.90	6.61		# of strides	11.13	10.29	11.33	12.51	21.42	23.84	2.42
velocity	8.08	10.12	9.92	9.52	8.94	8.71	8.47	7.56	8.84	174.2	8.98	9.72	8.83	7.99	9.34	8.39	

de Souza, Gerson (BRA) (1959)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
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		11.38		21.78		32.83		45.27	45.27	7 / 7							
reaction time interval				10.40		11.05		12.44		# of strides	11.38	10.40	11.05	12.44	21.78	23.49	1.71
velocity		8.79		9.62		9.05		8.04	8.84		8.79	9.62	9.05	8.04	9.18	8.51	

Lyles, Kevin (USA) (1973)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1995 NCAA Championships (Knoxville, TN)																	
Track Newsletter (1995) - NCAA Championships																	
date 03-Jun-95 time				21.3				45.3	45.27	/ 4							
reaction time interval								24.00		# of strides					21.30	24.00	2.70
velocity				9.39				8.33	8.84						9.39	8.33	

Kanemaru, Yuzo (JPN) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 Shizuoka International Athletics Meeting (Fukuori, JPN)																	
Matsuo (2010) - 63rd high school championships: JAF scientific committee - biomechanics data																	
date 03-May-09 time	6.21	11.20	16.25	21.55	27.07	32.91	38.89	45.27	45.27	/ 1							
reaction time interval		4.99	5.05	5.30	5.52	5.84	5.98	6.38		# of strides	11.20	10.35	11.36	12.36	21.55	23.72	2.17
velocity	8.05	10.02	9.90	9.43	9.06	8.56	8.36	7.84	8.84		8.93	9.66	8.80	8.09	9.28	8.43	

Chambers, Marcus (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 NCAA Championships (Eugene, OR)																	
Track Newsletter (2016) - NCAA men's championships																	
date 10-Jun-16 time				21.7		33.0		45.3	45.27	/ 4							
reaction time interval						11.30		12.30		# of strides			11.30	12.30	21.70	23.60	1.90
velocity				9.22		8.85		8.13	8.84				8.85	8.13	9.22	8.47	

London, Wil (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)																	
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016																	
date 22-Jul-16 time	6.18	11.30	16.60	22.04	27.59	33.13	39.02	45.27	45.27	7 / 2							
reaction time 0.143 interval		5.12	5.30	5.44	5.55	5.54	5.89	6.25	PB	# of strides	11.30	10.74	11.09	12.14	22.04	23.23	1.19
velocity	8.09	9.77	9.43	9.19	9.01	9.03	8.49	8.00	8.84		8.85	9.31	9.02	8.24	9.07	8.61	

Spitz, Lionel (SUI) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 European Athletics U23 Championships (Espoo, FIN)																	
European Athletics (2023) - european athletics U23 championships results book																	
date 14-Jul-23 time		11.41		21.94		33.39		45.27	45.27	4 / 2							
reaction time 0.212 interval				10.53		11.45		11.88	PB	# of strides	11.41	10.53	11.45	11.88	21.94	23.33	1.39
velocity		8.76		9.50		8.73		8.42	8.84	182.0	8.76	9.50	8.73	8.42	9.12	8.57	

Clarke, Davian (JAM) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1998 NCAA Championships (Amherst, NY)																	
Track Newsletter (1998) - NCAA Championships																	
date 06-Jun-98 time				21.5				45.3	45.28	/ 2							
reaction time interval								23.80		# of strides					21.50	23.80	2.30
velocity				9.30				8.40	8.83						9.30	8.40	

Caines, Daniel (GBR) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 European Championships (Munich, GER)																	
Graubner (2009) - http://www.fgs.uni-halle.de																	
date 08-Aug-02 time		11.20		21.58		32.81		45.28	45.28	/ 3							
reaction time 0.141 interval				10.38		11.23		12.47		# of strides	11.20	10.38	11.23	12.47	21.58	23.70	2.12
velocity		8.93		9.63		8.90		8.02	8.83		8.93	9.63	8.90	8.02	9.27	8.44	

Harrison, Calvin (USA) (1974)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2003 USATF National Championships (Palo Alto, CA)																	
USATF Women's Sprint Development (2003)																	
date 20-Jun-03 time				22.11		33.47	39.06	45.28	45.28	4 / ~~3~~							
reaction time interval						11.36	5.59	6.22	DV	# of strides			11.36	11.81	22.11	23.17	1.06
velocity				9.05		8.80	8.94	8.04	8.83				8.80	8.47	9.05	8.63	

Borlée, Kevin (BEL) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)																	
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships																	
date 19-Aug-09 time		11.40		22.28		33.34		45.28	45.28	8 / 4							
reaction time 0.143 interval				10.88		11.06		11.94		# of strides	11.40	10.88	11.06	11.94	22.28	23.00	0.72
velocity		8.77		9.19		9.04		8.38	8.83		8.77	9.19	9.04	8.38	8.98	8.70	

Chambers, Marcus (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 NCAA Championships (Eugene, OR)																	
Track Newsletter (2017) - NCAA men's championships																	
date 09-Jun-17 time				21.0		32.4		45.3	45.28	/ 6							
reaction time interval						11.40		12.90		# of strides			11.40	12.90	21.00	24.30	3.30

		velocity			9.52		8.77		7.75	8.83				8.77	7.75	9.52	8.23		

Norwood, Vernon (USA) (1992)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2022 FBK Games (Hengelo, NED)																			
												Omega Timing (2022) - continental tour race analysis							
date	06-Jun-22	time	6.1	11.2	16.4	22.0	27.6	33.3	39.0	45.28	45.28	6 / 1							
reaction time	0.158	interval		5.10	5.20	5.60	5.60	5.70	5.70	6.28		# of strides	11.20	10.80	11.30	11.98	22.00	23.28	1.28
		velocity	8.20	9.80	9.62	8.93	8.93	8.77	8.77	7.96	8.83	176.5	8.93	9.26	8.85	8.35	9.09	8.59	

Cherry, Michael (USA) (1995)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)																			
												Timing by Seiko (2022) - world athletics championships race analysis							
date	20-Jul-22	time		11.23		21.85		32.92		45.28	45.28	5 / 4							
reaction time	0.143	interval				10.62		11.07		12.36		# of strides	11.23	10.62	11.07	12.36	21.85	23.43	1.58
		velocity		8.90		9.42		9.03		8.09	8.83	159.7	8.90	9.42	9.03	8.09	9.15	8.54	

Ingvalsen, Håvard Bentdal (NOR) (20(			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2023 Weltklasse (Zürich, SUI)																			
												Omega Timing (2023) - diamond league race analysis							
date	31-Aug-23	time	6.32	11.37	16.58	21.92	27.43	33.17	39.08	45.28	45.28	6 / 1							
reaction time	0.201	interval		5.05	5.21	5.34	5.51	5.74	5.91	6.20		# of strides	11.37	10.55	11.25	12.11	21.92	23.36	1.44
		velocity	7.91	9.90	9.60	9.36	9.07	8.71	8.46	8.06	8.83		8.80	9.48	8.89	8.26	9.12	8.56	

Spitz, Lionel (SUI) (2001)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)																			
												European Athletics (2024) - 2024 european athletics championships - results book							
date	09-Jun-24	time		11.21		21.78		33.09		45.28	45.28	9 / 3							
reaction time	0.166	interval				10.57		11.31		12.19		# of strides	11.21	10.57	11.31	12.19	21.78	23.50	1.72
		velocity		8.92		9.46		8.84		8.20	8.83	183.0	8.92	9.46	8.84	8.20	9.18	8.51	

Scotch, Leungo (BOT) (1996)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 5 - 2024 Olympic Games (Paris, FRA)																			
												Paris 2024 Olympic Games - Results Book (2024)							
date	04-Aug-24	time	6.06	11.02	16.14	21.47	26.99	32.79	38.72	45.28	45.28	7 / 5							
reaction time	0.167	interval		4.96	5.12	5.33	5.52	5.80	5.93	6.56		# of strides	11.02	10.45	11.32	12.49	21.47	23.81	2.34
		velocity	8.25	10.08	9.77	9.38	9.06	8.62	8.43	7.62	8.83	176.2	9.07	9.57	8.83	8.01	9.32	8.40	

Potter, Mitchell (USA) (1980)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2003 USATF National Championships (Palo Alto, CA)																			
												USATF Women's Sprint Development (2003)							
date	21-Jun-03	time				21.86		33.07	38.85	45.29	45.29	8 / ~~5~~ 3							
reaction time		interval						11.21	5.78	6.44		# of strides			11.21	12.22	21.86	23.43	1.57
		velocity				9.15		8.92	8.65	7.76	8.83				8.92	8.18	9.15	8.54	

Rooney, Martyn (GBR) (1987)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 3 - 2015 IAAF World Championships (Beijing, CHN)																			
												Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims							
date	24-Aug-15	time	6.23	11.21	16.33	21.65	27.18	32.69	38.66	45.29	45.29	8 / 6							
reaction time	0.153	interval		4.98	5.12	5.32	5.53	5.51	5.97	6.63		# of strides	11.21	10.44	11.04	12.60	21.65	23.64	1.99
		velocity	8.03	10.04	9.77	9.40	9.04	9.07	8.38	7.54	8.83	161.2	8.92	9.58	9.06	7.94	9.24	8.46	

James, Kirani (GRN) (1992)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 5 - 2022 World Athletics Championships (Eugene, OR)																			
												Timing by Seiko (2022) - world athletics championships race analysis							
date	17-Jul-22	time		11.42		21.96		33.12		45.29	45.29	4 / 2							
reaction time	0.152	interval				10.54		11.16		12.17		# of strides	11.42	10.54	11.16	12.17	21.96	23.33	1.37
		velocity		8.76		9.49		8.96		8.22	8.83	160.2	8.76	9.49	8.96	8.22	9.11	8.57	

Ndori, Bayapo (BOT) (1999)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2022 World Athletics Championships (Eugene, OR)																			
												Timing by Seiko (2022) - world athletics championships race analysis							
date	22-Jul-22	time		11.05		21.45		32.62		45.29	45.29	8 / 6							
reaction time	0.137	interval				10.40		11.17		12.67		# of strides	11.05	10.40	11.17	12.67	21.45	23.84	2.39
		velocity		9.05		9.62		8.95		7.89	8.83	178.0	9.05	9.62	8.95	7.89	9.32	8.39	

Re, Davide (ITA) (1993)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)																			
												Seiko Timing (2023) - world championship race analysis							
date	22-Aug-23	time		11.33		21.69		33.19		45.29	45.29	3 / 4							
reaction time	0.165	interval				10.36		11.50		12.10		# of strides	11.33	10.36	11.50	12.10	21.69	23.60	1.91
		velocity		8.83		9.65		8.70		8.26	8.83		8.83	9.65	8.70	8.26	9.22	8.47	

Barnes, Zandrion (JAM) (2001)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)																			
												Omega Timing (2023) - diamond league race analysis							
date	02-Sep-23	time	6.28	11.26	16.36	21.70	27.25	33.02	38.98	45.29	45.29	2 / 8							
reaction time	0.155	interval		4.98	5.10	5.34	5.55	5.77	5.96	6.31		# of strides	11.26	10.44	11.32	12.27	21.70	23.59	1.89
		velocity	7.96	10.04	9.80	9.36	9.01	8.67	8.39	7.92	8.83		8.88	9.58	8.83	8.15	9.22	8.48	

Scotch, Leungo (BOT) (1996)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2024 Seashore Doha Meeting (Doha, QAT)																			
												Omega Timing (2024) - diamond league race analysis							
date	10-May-24	time	6.24	11.35	16.68	22.09	27.63	33.39	39.14	45.29	45.29	8 / 3							
reaction time	0.156	interval		5.11	5.33	5.41	5.54	5.76	5.75	6.15		# of strides	11.35	10.74	11.30	11.90	22.09	23.20	1.11
		velocity	8.01	9.78	9.38	9.24	9.03	8.68	8.70	8.13	8.83	176.7	8.81	9.31	8.85	8.40	9.05	8.62	

Nene, Zakhiti (RSA) (1998)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)																			
												Omega Timing (2024) - diamond league race analysis							
date	02-Jun-24	time	6.14	11.00	16.05	21.34	26.90	32.63	38.61	45.29	45.29	7 / 3							
reaction time	0.153	interval		4.86	5.05	5.29	5.56	5.73	5.98	6.68		# of strides	11.00	10.34	11.29	12.66	21.34	23.95	2.61
		velocity	8.14	10.29	9.90	9.45	8.99	8.73	8.36	7.49	8.83		9.09	9.67	8.86	7.90	9.37	8.35	

Markin, Viktor (URS) (1957)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1982 European Championships (Athens, GRE)																			
												Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazyklus 1981/84							
date	09-Sep-82	time		11.58		22.16		33.20		45.30	45.30	/ 3							
reaction time		interval				10.58		11.04		12.10		# of strides	11.58	10.58	11.04	12.10	22.16	23.14	0.98
		velocity		8.64		9.45		9.06		8.26	8.83		8.64	9.45	9.06	8.26	9.03	8.64	

McQuay, Tony (USA) (1990)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**

FINAL - 2016 USA Olympic Trials (Eugene, OR) *Track Newsletter (2016) - US olympic trials men*

date	03-Jul-16	time	11.1		21.6		32.6		45.3	45.30	7 / 5						
reaction time	0.203	interval			10.50		11.00		12.70		# of strides	11.10	10.50	11.00	12.70	21.60	23.70	2.10
		velocity	9.01		9.52		9.09		7.87	8.83		9.01	9.52	9.09	7.87	9.26	8.44	

Anas, Y. Muhammed (IND) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2018 Asian Games (Jakarta, INA)											*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*						
date 25-Aug-18	time	6.15	11.16	16.32	21.76	27.29	32.97	38.93	45.30	45.30	3 / 1						
reaction time 0.150	interval		5.01	5.16	5.44	5.53	5.68	5.96	6.37		# of strides	11.16	10.60	11.21	12.33	21.76	23.54	1.78
	velocity	8.13	9.98	9.69	9.19	9.04	8.80	8.39	7.85	8.83		8.96	9.43	8.92	8.11	9.19	8.50	

Cedenio, Machel (TTO) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 IAAF World Championships (Doha, QAT)											*Yamanaka (2019) - race analysis of men and women 400m competition*						
date 04-Oct-19	time	6.01	10.78	15.67	20.73	26.07	31.83	38.05	45.30	45.30	6 / 7						
reaction time 0.221	interval		4.77	4.89	5.06	5.34	5.76	6.22	7.25		# of strides	10.78	9.95	11.10	13.47	20.73	24.57	3.84
	velocity	8.32	10.48	10.22	9.88	9.36	8.68	8.04	6.90	8.83	167.5	9.28	10.05	9.01	7.42	9.65	8.14	

Taylor, Christopher (JAM) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 World Athletics Championships (Eugene, OR)											*Timing by Seiko (2022) - world athletics championships race analysis*						
date 22-Jul-22	time		10.91		21.43		32.81		45.30	45.30	1 / 7						
reaction time 0.169	interval				10.52		11.38		12.49		# of strides	10.91	10.52	11.38	12.49	21.43	23.87	2.44
	velocity		9.17		9.51		8.79		8.01	8.83		9.17	9.51	8.79	8.01	9.33	8.38	

Nene, Zakhiti (RSA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Bauhaus Galan (Stockholm, SWE)											*Omega Timing (2023) - diamond league race analysis*						
date 02-Jul-23	time	6.21	11.20	16.39	21.79	27.32	33.05	38.89	45.30	45.30	7 / 1						
reaction time 0.163	interval		4.99	5.19	5.40	5.53	5.73	5.84	6.41		# of strides	11.20	10.59	11.26	12.25	21.79	23.51	1.72
	velocity	8.05	10.02	9.63	9.26	9.04	8.73	8.56	7.80	8.83		8.93	9.44	8.88	8.16	9.18	8.51	

Benson, James (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)											*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*						
date 23-Jun-24	time		10.94		21.33		32.66		45.30	45.30	3 / 6						
reaction time	interval				10.39		11.33		12.64		# of strides	10.94	10.39	11.33	12.64	21.33	23.97	2.64
	velocity		9.14		9.62		8.83		7.91	8.83		9.14	9.62	8.83	7.91	9.38	8.34	

Norman, Michael (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)											*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*						
date 23-Jun-24	time		10.85		21.35		32.67		45.30	45.30	5 / 1						
reaction time	interval				10.50		11.32		12.63		# of strides	10.85	10.50	11.32	12.63	21.35	23.95	2.60
	velocity		9.22		9.52		8.83		7.92	8.83	175.2	9.22	9.52	8.83	7.92	9.37	8.35	

Spitz, Lionel (SUI) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Weltklasse (Zürich, SUI)											*Omega Timing (2024) - diamond league race analysis*						
date 05-Sep-24	time	6.33	11.56	16.87	22.20	27.64	33.25	39.07	45.30	45.30	4 / 1						
reaction time 0.130	interval		5.23	5.31	5.33	5.44	5.61	5.82	6.23		# of strides	11.56	10.64	11.05	12.05	22.20	23.10	0.90
	velocity	7.90	9.56	9.42	9.38	9.19	8.91	8.59	8.03	8.83		8.65	9.40	9.05	8.30	9.01	8.66	

Schloske, Horst-Rudiger (FRG) (1946

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1972 Olympic Games (Munich, FRG)											*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*						
date 07-Sep-72	time				21.7		33.0		45.4	45.31	7 / 5						
reaction time	interval						11.30		12.40		# of strides			11.30	12.40	21.70	23.70	2.00
	velocity				9.22		8.85		8.06	8.83				8.85	8.06	9.22	8.44	

Wroe, Sean (AUS) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 7 - 2009 IAAF World Championships (Berlin, GER)											*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*						
date 18-Aug-09	time		11.13		21.57		32.90		45.31	45.31	8 / 2						
reaction time 0.166	interval				10.44		11.33		12.41		# of strides	11.13	10.44	11.33	12.41	21.57	23.74	2.17
	velocity		8.98		9.58		8.83		8.06	8.83		8.98	9.58	8.83	8.06	9.27	8.42	

Montgomery, Kahmari (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Memorial van Damme (Brussels, BEL)											*Omega Timing (2019) - diamond league race analysis*						
date 06-Sep-19	time	6.0	10.8	15.9	21.1	26.6	32.4	38.5	45.31	45.31	2 / 5						
reaction time 0.186	interval		4.8	5.1	5.2	5.5	5.8	6.1	12.9		# of strides	10.80	10.30	11.30	12.91	21.10	24.21	3.11
	velocity	8.33	10.42	9.80	9.62	9.09	8.62	8.20	7.75	8.83		9.26	9.71	8.85	7.75	9.48	8.26	

Petrucciani, Ricky (SUI) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Weltklasse (Zürich, SUI)											*Omega Timing (2022) - diamond league race analysis*						
date 08-Sep-22	time	6.18	11.28	16.46	21.79	27.26	32.94	38.89	45.31	45.31	8 / 5						
reaction time 0.188	interval		5.10	5.18	5.33	5.47	5.68	5.95	6.42		# of strides	11.28	10.51	11.15	12.37	21.79	23.52	1.73
	velocity	8.09	9.80	9.65	9.38	9.14	8.80	8.40	7.79	8.83	174.5	8.87	9.51	8.97	8.08	9.18	8.50	

Nakajima, Yuki Joseph (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Seiko Golden Grand Prix (Yokohama, JPN)											*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*						
date 21-May-23	time	6.15	11.16	16.28	21.55	26.99	32.75	38.83	45.31	45.31	6 / 1						
reaction time 0.171	interval		5.01	5.12	5.27	5.44	5.76	6.08	6.48	PB	# of strides	11.16	10.39	11.20	12.56	21.55	23.76	2.21
	velocity	8.13	9.98	9.77	9.49	9.19	8.68	8.22	7.72	8.83	172.5	8.96	9.62	8.93	7.96	9.28	8.42	

Norman, Michael (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 USA Olympic Trials (Eugene, OR)											*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*						
date 21-Jun-24	time		10.93		21.36		32.76		45.31	45.31	5 / 1						
reaction time	interval				10.43		11.40		12.55		# of strides	10.93	10.43	11.40	12.55	21.36	23.95	2.59
	velocity		9.15		9.59		8.77		7.97	8.83	173.5	9.15	9.59	8.77	7.97	9.36	8.35	

Bassitt, Trevor (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Miami (Miramar, FL)											*Grand Slam Track (2025) - results and splits by race*						
date 04-May-25	time		11.43		22.18		33.33		45.31	45.31	2 / 4						
reaction time 0.210	interval				10.75		11.15		11.98		# of strides	11.43	10.75	11.15	11.98	22.18	23.13	0.95

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		8.75		9.30		8.97		8.35	8.83		8.75	9.30	8.97	8.35	9.02	8.65	

Minor, Deon (USA) (1973)
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA) — *USATF Women's Sprint Development (1996)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jun-96	time		11.11		21.99		33.10	38.68	45.32	45.32	4 / 6							
reaction time		interval				10.88		11.11	5.58	6.64		# of strides	11.11	10.88	11.11	12.22	21.99	23.33	1.34
		velocity		9.00		9.19		9.00	8.96	7.53	8.83		9.00	9.19	9.00	8.18	9.10	8.57	

Wroe, Sean (AUS) (1985)
Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Aug-09	time		11.03		21.52		32.81		45.32	45.32	6 / 4							
reaction time	0.160	interval				10.49		11.29		12.51		# of strides	11.03	10.49	11.29	12.51	21.52	23.80	2.28
		velocity		9.07		9.53		8.86		7.99	8.83		9.07	9.53	8.86	7.99	9.29	8.40	

Hudson-Smith, Matthew (GBR) (1994
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR) — *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-May-22	time	6.06	11.00	16.18	21.56	27.07	32.48	38.80	45.32	45.32	6 / 1							
reaction time	0.144	interval		4.94	5.18	5.38	5.51	5.41	6.32	6.52		# of strides	11.00	10.56	10.92	12.84	21.56	23.76	2.20
		velocity	8.25	10.12	9.65	9.29	9.07	9.24	7.91	7.67	8.83	164.2	9.09	9.47	9.16	7.79	9.28	8.42	

Kent, Nathan (USA) (2003)
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-24	time		11.10		21.38		32.88		45.32	45.32	9 / 5							
reaction time		interval				10.28		11.50		12.44	PB	# of strides	11.10	10.28	11.50	12.44	21.38	23.94	2.56
		velocity		9.01		9.73		8.70		8.04	8.83		9.01	9.73	8.70	8.04	9.35	8.35	

Jellinghaus, Martin (FRG) (1944)
FINAL - 1968 Olympic Games (Mexico City, MEX) (*Altitude*) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Oct-68	time				22.0		33.2		45.3	45.33	3 / 5							
reaction time		interval						11.20		12.10		# of strides			11.20	12.10	22.00	23.30	1.30
		velocity				9.09		8.93		8.26	8.82				8.93	8.26	9.09	8.58	

Scotch, Leungo (BOT) (1996)
Repechage 3 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-24	time	6.20	11.30	16.50	21.89	27.33	32.96	38.86	45.33	45.33	6 / 2							
reaction time	0.172	interval		5.10	5.20	5.39	5.44	5.63	5.90	6.47		# of strides	11.30	10.59	11.07	12.37	21.89	23.44	1.55
		velocity	8.06	9.80	9.62	9.28	9.19	8.88	8.47	7.73	8.82	179.0	8.85	9.44	9.03	8.08	9.14	8.53	

Jones, Louis (USA) (1932)
FINAL - 1956 USA Olympic Trials (Los Angeles, CA) — *Hymans (2008) - history of the US olympic trials - track and field*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jun-56	time				21.3				45.2	45.2	8 / 1							
reaction time		interval								23.9	WR	# of strides					21.30	23.90	2.60
		velocity				9.39				8.37	8.85						9.39	8.37	

Mottley, Wendell (TTO) (1941)
FINAL - 1964 Olympic Games (Tokyo, JPN) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Sep-64	time				21.6		33.2		45.2	45.2	7 / 2							
reaction time		interval						11.60		12.00	*(45.24)*	# of strides		21.60	11.60	12.00	21.60	23.60	2.00
		velocity				9.26		8.62		8.33	8.85			9.26	8.62	8.33	9.26	8.47	

Kitur, David (KEN) (1962)
FINAL - 1987 IAAF World Championship (Rome, ITA) — *Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Sep-87	time		11.41		21.73		32.76		45.34	45.34	5 / 6							
reaction time		interval				10.32		11.03		12.58		# of strides	11.41	10.32	11.03	12.58	21.73	23.61	1.88
		velocity		8.76		9.69		9.07		7.95	8.82		8.76	9.69	9.07	7.95	9.20	8.47	

Williamson, Darold (USA) (1983)
FINAL - 2002 NCAA Championships (Baton Rouge, LA) — *Track Newsletter (2002) - NCAA championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Jun-02	time				21.8				45.3	45.34	/ 5							
reaction time		interval								23.50		# of strides					21.80	23.50	1.70
		velocity				9.17				8.51	8.82						9.17	8.51	

Smith, Miles (USA) (1984)
FINAL - 2011 USATF National Championships (Eugene, OR) — *Track Newsletter (2011) - USATF men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-11	time		11.2		21.8		33.2		45.3	45.34	/ 6							
reaction time	0.123	interval				10.60		11.40		12.10		# of strides	11.20	10.60	11.40	12.10	21.80	23.50	1.70
		velocity		8.93		9.43		8.77		8.26	8.82		8.93	9.43	8.77	8.26	9.17	8.51	

Verburg, David (USA) (1991)
FINAL - 2013 USATF National Championships (Des Moines, IA) — *Track Newsletter (2013) - USATF men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-13	time						32.7		45.3	45.34	/ 6							
reaction time	0.204	interval								12.60		# of strides				12.60			
		velocity						9.17		7.94	8.82					7.94			

Carvalho, Lucas (BRA) (1993)
Heat 6 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		11.30		21.67		32.95		45.34	45.34	7 / 4							
reaction time	0.175	interval				10.37		11.28		12.39		# of strides	11.30	10.37	11.28	12.39	21.67	23.67	2.00
		velocity		8.85		9.64		8.87		8.07	8.82	180.7	8.85	9.64	8.87	8.07	9.23	8.45	

Sanders, Manuel (GER) (1998)
Heat 6 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		11.61		21.90		33.31		45.34	45.34	6 / 4							
reaction time	0.187	interval				10.29		11.41		12.03		# of strides	11.61	10.29	11.41	12.03	21.90	23.44	1.54
		velocity		8.61		9.72		8.76		8.31	8.82	164.0	8.61	9.72	8.76	8.31	9.13	8.53	

Haydock-Wilson, Alex (GBR) (1999)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

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

date	02-Sep-23	time	6.20	11.13	16.26	21.58	27.03	32.76	38.79	45.34	45.34	1 / 9						
reaction time	0.149	interval		4.93	5.13	5.32	5.45	5.73	6.03	6.55		# of strides	11.13	10.45	11.18	12.58	21.58	23.76	2.18
		velocity	8.06	10.14	9.75	9.40	9.17	8.73	8.29	7.63	8.82		8.98	9.57	8.94	7.95	9.27	8.42	

Pillay, Lythe (RSA) (2003)

FINAL - 2024 Bislett Games (Oslo, NOR) *Omega Timing (2024) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-May-24	time	6.23	11.15	16.26	21.61	27.25	33.04	39.03	45.34	45.34	1 / 6							
reaction time	0.156	interval		4.92	5.11	5.35	5.64	5.79	5.99	6.31		# of strides	11.15	10.46	11.43	12.30	21.61	23.73	2.12
		velocity	8.03	10.16	9.78	9.35	8.87	8.64	8.35	7.92	8.82	175.0	8.97	9.56	8.75	8.13	9.25	8.43	

Bynum, Emmanuel (USA) (2000)

Heat 2 - 2024 USA Olympic Trials (Eugene, OR) *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-24	time		11.53		21.91		33.12		45.34	45.34	9 / 5							
reaction time		interval				10.38		11.21		12.22		# of strides	11.53	10.38	11.21	12.22	21.91	23.43	1.52
		velocity		8.67		9.63		8.92		8.18	8.82	166.0	8.67	9.63	8.92	8.18	9.13	8.54	

Popelka, Logan (USA) (2003)

Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR) *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-24	time		11.28		21.76		32.97		45.34	45.34	4 / 6							
reaction time		interval				10.48		11.21		12.37		# of strides	11.28	10.48	11.21	12.37	21.76	23.58	1.82
		velocity		8.87		9.54		8.92		8.08	8.82		8.87	9.54	8.92	8.08	9.19	8.48	

Egbunike, Innocent (NGR) (1961)

FINAL - 1984 Olympic Games (Los Angeles, CA) *Adams (1984) - 1984 olympic games - 200m & 400m*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-84	time				21.7				45.35	45.35	3 / 7							
reaction time	0.192	interval								23.65		# of strides					21.70	23.65	1.95
		velocity				9.22				8.46	8.82						9.22	8.46	

Moncur, Avard (BAH) (1978)

FINAL - 1999 NCAA Championships (Boise, ID) *Track Newsletter (1999) - NCAA Championships*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Jun-99	time				22.2				45.4	45.35	/ 4							
reaction time		interval								23.20		# of strides					22.20	23.20	1.00
		velocity				9.01				8.62	8.82						9.01	8.62	

Caines, Daniel (GBR) (1979)

Semi-Final 1 - 2002 European Championships (Munich, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-02	time		11.10		21.63		32.94		45.35	45.35	/ 1							
reaction time	0.144	interval				10.53		11.31		12.41		# of strides	11.10	10.53	11.31	12.41	21.63	23.72	2.09
		velocity		9.01		9.50		8.84		8.06	8.82		9.01	9.50	8.84	8.06	9.25	8.43	

Clemons, Kyle (USA) (1990)

FINAL - 2015 USATF National Championships (Eugene, OR) *Track Newsletter (2015) - USATF men's championships*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-15	time				22.1		33.5		45.4	45.35	/ 5							
reaction time		interval						11.4		11.9		# of strides			11.40	11.90	22.10	23.30	1.20
		velocity				9.05		8.77		8.40	8.82				8.77	8.40	9.05	8.58	

Walsh, Julian Jrummi (JPN) (1996)

FINAL - 2016 Japanese National Championships (Nagoya, JPN) *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-16	time	6.01	10.97	16.07	21.44	27.02	32.84	38.92	45.35	45.35	5 / 1							
reaction time	0.170	interval		4.96	5.10	5.37	5.58	5.82	6.08	6.43	PB	# of strides	10.97	10.47	11.40	12.51	21.44	23.91	2.47
		velocity	8.32	10.08	9.80	9.31	8.96	8.59	8.22	7.78	8.82		9.12	9.55	8.77	7.99	9.33	8.36	

Bonevacia, Liemarvin (NED) (1989)

FINAL - 2021 Weltklasse (Zürich, SUI) *Omega Timing (2021) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Sep-21	time	6.4	11.3	16.4	21.6	27.1	32.8	38.9	45.35	45.35	3 / 5							
reaction time	0.156	interval		4.90	5.10	5.20	5.50	5.70	6.10	6.45		# of strides	11.30	10.30	11.20	12.55	21.60	23.75	2.15
		velocity	7.81	10.20	9.80	9.62	9.09	8.77	8.20	7.75	8.82		8.85	9.71	8.93	7.97	9.26	8.42	

Makwala, Isaac (BOT) (1986)

FINAL - 2022 Prefontaine Classic (Eugene, OR) *Omega Timing (2022) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-22	time	6.33	11.38	16.54	21.77	27.14	32.71	38.71	45.35	45.35	9 / 7							
reaction time	0.198	interval		5.05	5.16	5.23	5.37	5.57	6.00	6.64		# of strides	11.38	10.39	10.94	12.64	21.77	23.58	1.81
		velocity	7.90	9.90	9.69	9.56	9.31	8.98	8.33	7.53	8.82	185.7	8.79	9.62	9.14	7.91	9.19	8.48	

Deadmon, Bryce (USA) (1997)

FINAL - 2022 Prefontaine Classic (Eugene, OR) *Omega Timing (2022) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-22	time	6.19	11.32	16.44	21.79	27.28	32.91	38.84	45.35	45.35	3 / 8							
reaction time	0.149	interval		5.13	5.12	5.35	5.49	5.63	5.93	6.51		# of strides	11.32	10.47	11.12	12.44	21.79	23.56	1.77
		velocity	8.08	9.75	9.77	9.35	9.11	8.88	8.43	7.68	8.82	173.0	8.83	9.55	8.99	8.04	9.18	8.49	

Allison, Champion (USA) (1998)

FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL) *Omega Timing (2022) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-22	time	6.13	11.09	16.20	21.45	27.00	32.77	38.81	45.35	45.35	4 / 5							
reaction time	0.150	interval		4.96	5.11	5.25	5.55	5.77	6.04	6.54		# of strides	11.09	10.36	11.32	12.58	21.45	23.90	2.45
		velocity	8.16	10.08	9.78	9.52	9.01	8.67	8.28	7.65	8.82	171.0	9.02	9.65	8.83	7.95	9.32	8.37	

Molnár, Attila (HUN) (2002)

Semi-Final 1 - 2023 European Athletics U23 Championships (Espoo, FIN) *European Athletics (2023) - european athletics U23 championships results book*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jul-23	time		11.43		21.97		33.60		45.35	45.35	6 / 1							
reaction time	0.216	interval				10.54		11.63		11.75		# of strides	11.43	10.54	11.63	11.75	21.97	23.38	1.41
		velocity		8.75		9.49		8.60		8.51	8.82		8.75	9.49	8.60	8.51	9.10	8.55	

Ingvalsen, Håvard Bentdal (NOR) (20(

Semi-Final 2 - 2023 European Athletics U23 Championships (Espoo, FIN) *European Athletics (2023) - european athletics U23 championships results book*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jul-23	time		11.47		21.97		33.48		45.35	45.35	7 / 1							
reaction time	0.205	interval				10.50		11.51		11.87		# of strides	11.47	10.50	11.51	11.87	21.97	23.38	1.41

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		8.72		9.52		8.69		8.42	8.82	183.0	8.72	9.52	8.69	8.42	9.10	8.55	

Coelho, João (POR) (1999)
Heat 6 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-24	time	6.46	11.54	16.69	22.04	27.50	33.12	38.98	45.35	45.35	9 / 4							
reaction time	0.216	interval		5.08	5.15	5.35	5.46	5.62	5.86	6.37		# of strides	11.54	10.50	11.08	12.23	22.04	23.31	1.27
		velocity	7.74	9.84	9.71	9.35	9.16	8.90	8.53	7.85	8.82	179.2	8.67	9.52	9.03	8.18	9.07	8.58	

Doom, Alexander (BEL) (1997)
FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN) — *Omega Timing (2025) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-25	time	6.32	11.32	16.43	21.67	27.22	33.04	39.09	45.35	45.35	2 / 6							
reaction time	0.159	interval		5.00	5.11	5.24	5.55	5.82	6.05	6.26		# of strides	11.32	10.35	11.37	12.31	21.67	23.68	2.01
		velocity	7.91	10.00	9.78	9.54	9.01	8.59	8.26	7.99	8.82		8.83	9.66	8.80	8.12	9.23	8.45	

Francique, Alleyne (GRN) (1976)
FINAL - 2001 NCAA Championships (Eugene, OR) — *Track Newsletter (2001) - NCAA championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Jun-01	time				21.5				45.4	45.36	/ 2							
reaction time		interval								23.90		# of strides					21.50	23.90	2.40
		velocity				9.30				8.37	8.82						9.30	8.37	

Brown, Chris (BAH) (1978)
FINAL - 2008 IAAF World Athletic Final (Stuttgart, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Sep-08	time		11.08		21.59		32.85		45.36	45.36	3 / 3							
reaction time	0.133	interval				10.51		11.26		12.51		# of strides	11.08	10.51	11.26	12.51	21.59	23.77	2.18
		velocity		9.03		9.51		8.88		7.99	8.82		9.03	9.51	8.88	7.99	9.26	8.41	

Verburg, David (USA) (1991)
FINAL - 2012 USA Olympic Trials (Eugene, OR) — *Hymans (2020) - history of the US olympic trials - track and field*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-12	time				21.7		33.1		45.36	45.36	1 / 7							
reaction time	0.230	interval						11.40		12.26		# of strides			11.40	12.26	21.70	23.66	1.96
		velocity				9.22		8.77		8.16	8.82				8.77	8.16	9.22	8.45	

Bloomfield, Akeem (JAM) (1997)
FINAL - 2019 IAAF World Championships (Doha, QAT) — *Yamanaka (2019) - race analysis of men and women 400m competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Oct-19	time	6.33	11.15	16.15	21.40	26.84	32.66	38.74	45.36	45.36	2 / 8							
reaction time	0.196	interval		4.82	5.00	5.25	5.44	5.82	6.08	6.62		# of strides	11.15	10.25	11.26	12.70	21.40	23.96	2.56
		velocity	7.90	10.37	10.00	9.52	9.19	8.59	8.22	7.55	8.82	164.0	8.97	9.76	8.88	7.87	9.35	8.35	

Molnár, Attila (HUN) (2002)
FINAL - 2023 European Athletics U23 Championships (Espoo, FIN) — *European Athletics (2023) - european athletics U23 championships results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Jul-23	time		11.19		21.47		32.92		45.36	45.36	7 / 3							
reaction time	0.187	interval				10.28		11.45		12.44		# of strides	11.19	10.28	11.45	12.44	21.47	23.89	2.42
		velocity		8.94		9.73		8.73		8.04	8.82	179.0	8.94	9.73	8.73	8.04	9.32	8.37	

Coelho, João (POR) (1999)
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA) — *European Athletics (2024) - 2024 european athletics championships - results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-24	time		11.18		21.62		32.93		45.36	45.36	6 / 4							
reaction time	0.176	interval				10.44		11.31		12.43		# of strides	11.18	10.44	11.31	12.43	21.62	23.74	2.12
		velocity		8.94		9.58		8.84		8.05	8.82	180.0	8.94	9.58	8.84	8.05	9.25	8.42	

Sombe, David (FRA) (2000)
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA) — *European Athletics (2024) - 2024 european athletics championships - results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-24	time		11.40		22.12		33.43		45.36	45.36	4 / 5							
reaction time	0.204	interval				10.72		11.31		11.93		# of strides	11.40	10.72	11.31	11.93	22.12	23.24	1.12
		velocity		8.77		9.33		8.84		8.38	8.82	170.2	8.77	9.33	8.84	8.38	9.04	8.61	

Dedewo, Paul (USA) (1991)
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-24	time		11.19		21.33		32.69		45.36	45.36	2 / 7							
reaction time		interval				10.14		11.36		12.67		# of strides	11.19	10.14	11.36	12.67	21.33	24.03	2.70
		velocity		8.94		9.86		8.80		7.89	8.82		8.94	9.86	8.80	7.89	9.38	8.32	

Borlée, Dylan (BEL) (1992)
Heat 3 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-24	time	6.22	11.23	16.30	21.56	27.07	32.86	38.90	45.36	45.36	7 / 5							
reaction time	0.158	interval		5.01	5.07	5.26	5.51	5.79	6.04	6.46		# of strides	11.23	10.33	11.30	12.50	21.56	23.80	2.24
		velocity	8.04	9.98	9.86	9.51	9.07	8.64	8.28	7.74	8.82	173.0	8.90	9.68	8.85	8.00	9.28	8.40	

Larrengina, Elián (ARG) (2000)
Repechage 1 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-24	time	6.33	11.51	16.67	22.02	27.58	33.24	39.10	45.36	45.36	4 / 1							
reaction time	0.143	interval		5.18	5.16	5.35	5.56	5.66	5.86	6.26		# of strides	11.51	10.51	11.22	12.12	22.02	23.34	1.32
		velocity	7.90	9.65	9.69	9.35	8.99	8.83	8.53	7.99	8.82	168.0	8.69	9.51	8.91	8.25	9.08	8.57	

Skamrahl, Erwin (FRG) (1958)
FINAL - 1983 IAAF World Championships (Helsinki, FIN) — *Butler (2013) - IAAF world championships statistics handbook- moscow 2013*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Aug-83	time				21.4				45.37	45.37	7 / 4							
reaction time		interval								23.97		# of strides					21.40	23.97	2.57
		velocity				9.35				8.34	8.82						9.35	8.34	

Taylor, Angelo (USA) (1978)
FINAL - 2008 IAAF World Athletic Final (Stuttgart, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Sep-08	time		11.15		21.73		33.22		45.37	45.37	6 / 4							
reaction time	0.161	interval				10.58		11.49		12.15		# of strides	11.15	10.58	11.49	12.15	21.73	23.64	1.91
		velocity		8.97		9.45		8.70		8.23	8.82		8.97	9.45	8.70	8.23	9.20	8.46	

Steffensen, John (AUS) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

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

date	18-Aug-09	time	11.18	21.51	32.78	45.37	45.37	3 / 2								
reaction time	0.150	interval		10.33	11.27	12.59		# of strides	11.18	10.33	11.27	12.59	21.51	23.86	2.35	
		velocity	8.94	9.68	8.87	7.94	8.82		8.94	9.68	8.87	7.94	9.30	8.38		

Smith, Calvin (USA) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2010 NCAA Championships (Eugene, OR)																	*Track Newsletter (2010) - NCAA men's championships*
date	11-Jun-10	time		21.9		33.1		45.4	45.37	/ 4							
reaction time		interval				11.2		12.3		# of strides			11.20	12.30	21.90	23.50	1.60
		velocity		9.13		8.93		8.13	8.82				8.93	8.13	9.13	8.51	

Omelko, Rafał (POL) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)																	*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*
date	06-Aug-17	time	11.05	21.45		32.61	38.57	45.17	45.37	2 / 7							
reaction time	0.201	interval		10.40		11.16	5.96	6.60		# of strides	11.05	10.40	11.16	12.56	21.45	23.72	2.27
		velocity	9.05	9.62		8.96	8.39	7.58	8.82	171.5	9.05	9.62	8.96	7.96	9.32	8.43	

Norman, Michael (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date	17-Jul-22	time	11.25	22.05		33.23		45.37	45.37	3 / 1							
reaction time	0.140	interval		10.80		11.18		12.14		# of strides	11.25	10.80	11.18	12.14	22.05	23.32	1.27
		velocity	8.89	9.26		8.94		8.24	8.82	174.2	8.89	9.26	8.94	8.24	9.07	8.58	

Jordier, Thomas (FRA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date	16-Aug-22	time	11.15	21.51		32.88		45.37	45.37	4 / 1							
reaction time	0.174	interval		10.36		11.37		12.49	PB	# of strides	11.15	10.36	11.37	12.49	21.51	23.86	2.35
		velocity	8.97	9.65		8.80		8.01	8.82	185.5	8.97	9.65	8.80	8.01	9.30	8.38	

Pohorilko, Oleksandr (UKR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date	20-Aug-23	time	11.80	22.21		33.13		45.37	45.37	3 / 5							
reaction time	0.233	interval		10.41		10.92		12.24		# of strides	11.80	10.41	10.92	12.24	22.21	23.16	0.95
		velocity	8.47	9.61		9.16		8.17	8.82	170.7	8.47	9.61	9.16	8.17	9.00	8.64	

Spitz, Lionel (SUI) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date	08-Jun-24	time	11.34	21.75		33.06		45.37	45.37	3 / 1							
reaction time	0.166	interval		10.41		11.31		12.31		# of strides	11.34	10.41	11.31	12.31	21.75	23.62	1.87
		velocity	8.82	9.61		8.84		8.12	8.82		8.82	9.61	8.84	8.12	9.20	8.47	

Ingvalsen, Håvard Bentdal (NOR) (20(

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date	09-Jun-24	time	11.23	21.49		32.75		45.37	45.37	6 / 4							
reaction time	0.210	interval		10.26		11.26		12.62		# of strides	11.23	10.26	11.26	12.62	21.49	23.88	2.39
		velocity	8.90	9.75		8.88		7.92	8.82	182.0	8.90	9.75	8.88	7.92	9.31	8.38	

Haydock-Wilson, Alex (GBR) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 London Athletics Meet (London, GBR)																	*Omega Timing (2024) - diamond league race analysis*
date	20-Jul-24	time	6.21	11.14	16.08	21.24	26.74	32.52	38.58	45.37	45.37	4 / 2						
reaction time	0.153	interval		4.93	4.94	5.16	5.50	5.78	6.06	6.79		# of strides	11.14	10.10	11.28	12.85	21.24	24.13	2.89
		velocity	8.05	10.14	10.12	9.69	9.09	8.65	8.25	7.36	8.82		8.98	9.90	8.87	7.78	9.42	8.29	

Nakajima, Yuki Joseph (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date	04-Aug-24	time	6.32	11.33	16.47	21.81	27.34	33.00	38.94	45.37	45.37	9 / 6						
reaction time	0.194	interval		5.01	5.14	5.34	5.53	5.66	5.94	6.43		# of strides	11.33	10.48	11.19	12.37	21.81	23.56	1.75
		velocity	7.91	9.98	9.73	9.36	9.04	8.83	8.42	7.78	8.82	174.0	8.83	9.54	8.94	8.08	9.17	8.49	

Chambers, Marcus (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 USATF National Championships (Eugene, OR)																	*Track Newsletter (2015) - USATF men's championships*
date	27-Jun-15	time		23.1		34.3		45.4	45.38	/ 6							
reaction time		interval				11.2		11.1		# of strides			11.20	11.10	23.10	22.30	-0.80
		velocity		8.66		8.93		9.01	8.81				8.93	9.01	8.66	8.97	

Taylor, Christopher (JAM) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)																	*Koyama (2018) - research on athlete performance and technique- 2018 data book*
date	13-Jul-18	time	6.05	10.90	15.81	21.05	26.55	32.41	38.65	45.38	45.38	6 / 2						
reaction time	0.197	interval		4.85	4.91	5.24	5.50	5.86	6.24	6.73		# of strides	10.90	10.15	11.36	12.97	21.05	24.33	3.28
		velocity	8.26	10.31	10.18	9.54	9.09	8.53	8.01	7.43	8.81		9.17	9.85	8.80	7.71	9.50	8.22	

Coelho, João (POR) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date	20-Aug-23	time	11.50	21.83		33.00		45.38	45.38	9 / 6							
reaction time	0.273	interval		10.33		11.17		12.38		# of strides	11.50	10.33	11.17	12.38	21.83	23.55	1.72
		velocity	8.70	9.68		8.95		8.08	8.81	175.0	8.70	9.68	8.95	8.08	9.16	8.49	

Barnes, Zandrion (JAM) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date	22-Aug-23	time	11.16	21.48		32.70		45.38	45.38	9 / 6							
reaction time	0.171	interval		10.32		11.22		12.68		# of strides	11.16	10.32	11.22	12.68	21.48	23.90	2.42
		velocity	8.96	9.69		8.91		7.89	8.81	179.0	8.96	9.69	8.91	7.89	9.31	8.37	

Segers, Daniel (BEL) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Invitational - 2024 Memorial van damme (Brussels, BEL)																	*Omega Timing (2024) - diamond league race analysis*
date	13-Sep-24	time	6.31	11.41	16.55	21.86	27.36	33.05	38.98	45.38	45.38	8 / 1						
reaction time	0.168	interval		5.10	5.14	5.31	5.50	5.69	5.93	6.40	PB	# of strides	11.41	10.45	11.19	12.33	21.86	23.52	1.66

		velocity	7.92	9.80	9.73	9.42	9.09	8.79	8.43	7.81	8.81		8.76	9.57	8.94	8.11	9.15	8.50	

Takano, Susumu (JPN) (1961)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1991 IAAF World Championships (Tokyo, JPN)																	*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*
date 29-Aug-91 time				21.41				45.39	45.39	7 / 7							
reaction time		interval						23.98		# of strides					21.41	23.98	2.57
		velocity				9.34			8.34	8.81	176.7					9.34	8.34	

Wissman, Johan (SWE) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 Olympic Games (Beijing, CHN)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 21-Aug-08 time				21.4		32.3		45.4	45.39	3 / 8							
reaction time 0.218		interval				10.90		13.10		# of strides			10.90	13.10	21.40	24.00	2.60
		velocity				9.35		9.17	7.63	8.81	177.0			9.17	7.63	9.35	8.33	

Smith, Calvin (USA) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 USATF National Championships (Eugene, OR)																	*Track Newsletter (2011) - USATF men's championships*
date 25-Jun-11 time		11.2		21.7		33.0		45.4	45.39	/ 7							
reaction time 0.126		interval		10.50		11.30		12.40		# of strides	11.20	10.50	11.30	12.40	21.70	23.70	2.00
		velocity	8.93		9.52		8.85		8.06	8.81	8.93	9.52	8.85	8.06	9.22	8.44	

Clemons, Kyle (USA) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 USA Olympic Trials (Eugene, OR)																	*Track Newsletter (2016) - US olympic trials men*
date 03-Jul-16 time		11.0		21.9		33.0		45.4	45.39	2 / 6							
reaction time 0.206		interval		10.90		11.10		12.40		# of strides	11.00	10.90	11.10	12.40	21.90	23.50	1.60
		velocity	9.09		9.17		9.01		8.06	8.81	9.09	9.17	9.01	8.06	9.13	8.51	

London, Wil (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 The Match - Europe v USA (Minsk, BLR)																	*Omega Timing (2019) - diamond league race analysis*
date 09-Sep-19 time		11.41		21.96		33.20		45.39	45.39	5 / 2							
reaction time 0.204		interval		10.55		11.24		12.19		# of strides	11.41	10.55	11.24	12.19	21.96	23.43	1.47
		velocity	8.76		9.48		8.90		8.20	8.81	178.2	8.76	9.48	8.90	8.20	9.11	8.54	

Jordier, Thomas (FRA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 15-Aug-22 time		11.36		21.57		32.86		45.39	45.39	3 / 1							
reaction time 0.190		interval		10.21		11.29		12.53	PB	# of strides	11.36	10.21	11.29	12.53	21.57	23.82	2.25
		velocity	8.80		9.79		8.86		7.98	8.81	8.80	9.79	8.86	7.98	9.27	8.40	

Borlée, Dylan (BEL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 17-Aug-22 time		11.25		21.66		32.98		45.39	45.39	7 / 5							
reaction time 0.157		interval		10.41		11.32		12.41		# of strides	11.25	10.41	11.32	12.41	21.66	23.73	2.07
		velocity	8.89		9.61		8.83		8.06	8.81	173.0	8.89	9.61	8.83	8.06	9.23	8.43	

Willie, Ryan (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 London Athletics Meet (London, GBR)																	*Omega Timing (2023) - diamond league race analysis*
date 23-Jul-23 time	6.19	11.12	16.21	21.42	26.88	32.54	38.59	45.39	45.39	7 / 6							
reaction time 0.160		interval	4.93	5.09	5.21	5.46	5.66	6.05	6.80		# of strides	11.12	10.30	11.12	12.85	21.42	23.97	2.55
	8.08	velocity	10.14	9.82	9.60	9.16	8.83	8.26	7.35	8.81	175.0	8.99	9.71	8.99	7.78	9.34	8.34	

Borlée, Dylan (BEL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2023) - diamond league race analysis*
date 08-Sep-23 time	6.14	11.09	16.16	21.35	26.85	32.66	38.81	45.39	45.39	3 / 6							
reaction time 0.160		interval	4.95	5.07	5.19	5.50	5.81	6.15	6.58		# of strides	11.09	10.26	11.31	12.73	21.35	24.04	2.69
	8.14	velocity	10.10	9.86	9.63	9.09	8.61	8.13	7.60	8.81	173.7	9.02	9.75	8.84	7.86	9.37	8.32	

Pillay, Lythe (RSA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)																	*Omega Timing (2025) - diamond league race analysis*
date 03-May-25 time	6.21	11.23	16.42	21.87	27.46	33.23	39.14	45.39	45.39	9 / 7							
reaction time 0.151		interval	5.02	5.19	5.45	5.59	5.77	5.91	6.25		# of strides	11.23	10.64	11.36	12.16	21.87	23.52	1.65
	8.05	velocity	9.96	9.63	9.17	8.94	8.67	8.46	8.00	8.81	171.0	8.90	9.40	8.80	8.22	9.14	8.50	

Mitchell, Richard (AUS) (1955)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1976 Olympic Games (Montreal, CAN)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 29-Jul-76 time				22.2		33.6		45.4	45.40	6 / 6							
reaction time		interval				11.40		11.80		# of strides			11.40	11.80	22.20	23.20	1.00
		velocity			9.01		8.77		8.47	8.81	170.0			8.77	8.47	9.01	8.62	

Plawgo, Marek (POL) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 European Championships (Munich, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 08-Aug-02 time		11.30		21.80		32.98		45.40	45.40	/ 4							
reaction time 0.145		interval		10.50		11.18		12.42		# of strides	11.30	10.50	11.18	12.42	21.80	23.60	1.80
		velocity	8.85		9.52		8.94		8.05	8.81	8.85	9.52	8.94	8.05	9.17	8.47	

Djhone, Leslie (FRA) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 European Championships (Göteborg, SWE)																	*Behm (2006) - Championnats d'Europe Göteborg 2006… Le 400m avec ou sans obstacles*
date 09-Aug-06 time				22.6		33.1		45.40	45.40	/ 3							
reaction time		interval				10.50		12.30		# of strides			10.50	12.30	22.60	22.80	0.20
		velocity		8.85		19.05		8.13	8.81				9.52	8.13	8.85	8.77	

Hurtault, Erison (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 NCAA Championships (Sacramento, CA)																	*Track Newsletter (2006) - NCAA men's championships*
date 09-Jun-07 time						33.2		45.4	45.40	/ 3							
reaction time		interval						12.2	PB	# of strides				12.20			
		velocity				9.04		8.20	8.81					8.20			

Moncur, Avard (BAH) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2007 IAAF World Championships (Osaka, JPN) — *Mochida (2008) - biomechancial analysis of the 400m final race at ehe 2007 world championships in athletics*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	31-Aug-07	time	6.24	11.06	15.93	21.10	26.59	32.43	38.61	45.40	45.40	2 / 8							
reaction time	0.164	interval		4.82	4.87	5.17	5.49	5.84	6.18	6.79		# of strides	11.06	10.04	11.33	12.97	21.10	24.30	3.20
		velocity	8.01	10.37	10.27	9.67	9.11	8.56	8.09	7.36	8.81	165.0	9.04	9.96	8.83	7.71	9.48	8.23	

Bonevacia, Liemarvin (NED) (1989)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		11.44		21.79		32.99		45.40	45.40	6 / 1							
reaction time	0.179	interval				10.35		11.20		12.41		# of strides	11.44	10.35	11.20	12.41	21.79	23.61	1.82
		velocity		8.74		9.66		8.93		8.06	8.81	177.7	8.74	9.66	8.93	8.06	9.18	8.47	

Norwood, Vernon (USA) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2024 USA Olympic Trials (Eugene, OR)																			*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	21-Jun-24	time		11.34		22.04		33.38		45.40	45.40	4 / 1							
reaction time		interval				10.70		11.34		12.02		# of strides	11.34	10.70	11.34	12.02	22.04	23.36	1.32
		velocity		8.82		9.35		8.82		8.32	8.81	173.5	8.82	9.35	8.82	8.32	9.07	8.56	

Pillay, Lythe (RSA) (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 2 - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	05-Aug-24	time	6.29	11.33	16.58	22.00	27.51	33.15	39.08	45.40	45.40	5 / 1							
reaction time	0.161	interval		5.04	5.25	5.42	5.51	5.64	5.93	6.32		# of strides	11.33	10.67	11.15	12.25	22.00	23.40	1.40
		velocity	7.95	9.92	9.52	9.23	9.07	8.87	8.43	7.91	8.81	173.7	8.83	9.37	8.97	8.16	9.09	8.55	

Bredau, Jean Paul (GER) (1999)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 4 - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	05-Aug-24	time	6.25	11.29	16.45	21.84	27.48	33.28	39.21	45.40	45.40	6 / 3							
reaction time	0.163	interval		5.04	5.16	5.39	5.64	5.80	5.93	6.19		# of strides	11.29	10.55	11.44	12.12	21.84	23.56	1.72
		velocity	8.00	9.92	9.69	9.28	8.87	8.62	8.43	8.08	8.81	172.0	8.86	9.48	8.74	8.25	9.16	8.49	

Scherer, Matt (USA) (1983)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 NCAA Championships (Sacramento, CA)																			*Track Newsletter (2006) - NCAA men's championships*
date	10-Jun-06	time		11.2		21.6		33.1		45.4	45.41	/ 5							
reaction time		interval				10.40		11.50		12.30		# of strides	11.20	10.40	11.50	12.30	21.60	23.80	2.20
		velocity		8.93		9.62		8.70		8.13	8.81		8.93	9.62	8.70	8.13	9.26	8.40	

Brenes, Nery (CRC) (1985)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2015 IAAF World Championships (Beijing, CHN)																			*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date	24-Aug-15	time	6.09	10.98	15.97	21.23	26.77	32.39	38.55	45.41	45.41	2 / 8							
reaction time	0.168	interval		4.89	4.99	5.26	5.54	5.62	6.16	6.86		# of strides	10.98	10.25	11.16	13.02	21.23	24.18	2.95
		velocity	8.21	10.22	10.02	9.51	9.03	8.90	8.12	7.29	8.81		9.11	9.76	8.96	7.68	9.42	8.27	

Thebe, Baboloki (BOT) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Weltklasse (Zürich, SUI)																			*Omega Timing (2018) - diamond league race analysis*
date	30-Aug-18	time		11.0		21.3		32.5		45.41	45.41	2 / 5							
reaction time	0.149	interval				10.3		11.2		12.9		# of strides	11.00	10.30	11.20	12.91	21.30	24.11	2.81
		velocity		9.09		9.71		8.93		7.75	8.81		9.09	9.71	8.93	7.75	9.39	8.30	

Bonevacia, Liemarvin (NED) (1989)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Athletissima (Lausanne, SUI)																			*Omega Timing (2021) - diamond league race analysis*
date	26-Aug-21	time	6.3	11.5	16.7	22.0	27.5	33.1	39.1	45.41	45.41	5 / 3							
reaction time	0.142	interval		5.20	5.20	5.30	5.50	5.60	6.00	6.31		# of strides	11.50	10.50	11.10	12.31	22.00	23.41	1.41
		velocity	7.94	9.62	9.62	9.43	9.09	8.93	8.33	7.92	8.81		8.70	9.52	9.01	8.12	9.09	8.54	

Makwala, Isaac (BOT) (1986)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Weltklasse (Zürich, SUI)																			*Omega Timing (2021) - diamond league race analysis*
date	09-Sep-21	time	6.2	11.2	16.2	21.4	26.7	32.3	38.4	45.41	45.41	7 / 6							
reaction time	0.198	interval		5.00	5.00	5.20	5.30	5.60	6.10	7.01		# of strides	11.20	10.20	10.90	13.11	21.40	24.01	2.61
		velocity	8.06	10.00	10.00	9.62	9.43	8.93	8.20	7.13	8.81	180.0	8.93	9.80	9.17	7.63	9.35	8.33	

Borlée, Dylan (BEL) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)																			*Timing by Seiko (2022) - world athletics championships race analysis*
date	20-Jul-22	time		11.33		21.82		33.01		45.41	45.41	4 / 5							
reaction time	0.163	interval				10.49		11.19		12.40		# of strides	11.33	10.49	11.19	12.40	21.82	23.59	1.77
		velocity		8.83		9.53		8.94		8.06	8.81	174.0	8.83	9.53	8.94	8.06	9.17	8.48	

Pohorilko, Oleksandr (UKR) (2000)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)																			*European Athletics (2024) - 2024 european athletics championships - results book*
date	09-Jun-24	time		11.43		21.73		32.83		45.41	45.41	7 / 5							
reaction time	0.207	interval				10.30		11.10		12.58		# of strides	11.43	10.30	11.10	12.58	21.73	23.68	1.95
		velocity		8.75		9.71		9.01		7.95	8.81	175.0	8.75	9.71	9.01	7.95	9.20	8.45	

Faust, Brian (USA) (1999)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)																			*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	23-Jun-24	time		10.81		21.21		32.94		45.41	45.41	9 / 7							
reaction time		interval				10.40		11.73		12.47		# of strides	10.81	10.40	11.73	12.47	21.21	24.20	2.99
		velocity		9.25		9.62		8.53		8.02	8.81		9.25	9.62	8.53	8.02	9.43	8.26	

Haydock-Wilson, Alex (GBR) (1999)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Weltklasse (Zürich, SUI)																			*Omega Timing (2024) - diamond league race analysis*
date	05-Sep-24	time	6.28	11.29	16.48	21.81	27.39	33.11	39.05	45.41	45.41	3 / 2							
reaction time	0.140	interval		5.01	5.19	5.33	5.58	5.72	5.94	6.36		# of strides	11.29	10.52	11.30	12.30	21.81	23.60	1.79
		velocity	7.96	9.98	9.63	9.38	8.96	8.74	8.42	7.86	8.81		8.86	9.51	8.85	8.13	9.17	8.47	

Bezabeh, Tegegne (ETH) (1941)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1968 Olympic Games (Mexico City, MEX) (*Altitude*)																			*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date	18-Oct-68	time				21.9		33.1		45.4	45.42	4 / 6							
reaction time		interval						11.20		12.30		# of strides			11.20	12.30	21.90	23.50	1.60
		velocity				9.13		8.93		8.13	8.81				8.93	8.13	9.13	8.51	

Badenski, Andrzej (POL) (1943)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1968 Olympic Games (Mexico City, MEX) (*Altitude*)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 18-Oct-68	time			21.7		33.2		45.4	45.42	7 / 7							
reaction time	interval					11.50		12.20	PB	# of strides			11.50	12.20	21.70	23.70	2.00
	velocity			9.22		8.70		8.20	8.81				8.70	8.20	9.22	8.44	

Pettigrew, Antonio (USA) (1967)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 Olympic Games (Sydney, AUS)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 25-Sep-00	time	11.7		22.1		33.0		45.4	45.42	3 / ~~7~~							
reaction time	interval			10.40		10.90		12.40	DV	# of strides	11.70	10.40	10.90	12.40	22.10	23.30	1.20
	velocity	8.55		9.62		9.17		8.06	8.81		8.55	9.62	9.17	8.06	9.05	8.58	

Henry, Tabarie (ISV) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 IAAF World Championships (Berlin, GER)										*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*							
date 21-Aug-09	time	11.18		21.83		33.17		45.42	45.42	7 / 4							
reaction time 0.162	interval			10.65		11.34		12.25		# of strides	11.18	10.65	11.34	12.25	21.83	23.59	1.76
	velocity	8.94		9.39		8.82		8.16	8.81		8.94	9.39	8.82	8.16	9.16	8.48	

Matthews, Peter (JAM) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2015 IAAF World Championships (Beijing, CHN)										*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*							
date 24-Aug-15	time 6.04	10.85	15.82	21.04	26.61	32.44	38.67	45.42	45.42	3 / 8							
reaction time 0.178	interval	4.81	4.97	5.22	5.57	5.83	6.23	6.75		# of strides	10.85	10.19	11.40	12.98	21.04	24.38	3.34
	velocity 8.28	10.40	10.06	9.58	8.98	8.58	8.03	7.41	8.81		9.22	9.81	8.77	7.70	9.51	8.20	

Gregan, Brian (IRL) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2017 IAAF World Championships (London, GBR)										*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*							
date 06-Aug-17	time	11.31		21.37		33.08	39.01	45.23	45.42	8 / 6							
reaction time 0.188	interval			10.06		11.71	5.93	6.22		# of strides	11.31	10.06	11.71	12.15	21.37	23.86	2.49
	velocity	8.84		9.94		8.54	8.43	8.04	8.81	166	8.84	9.94	8.54	8.23	9.36	8.38	

Makwala, Isaac (BOT) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)										*Omega Timing (2022) - diamond league race analysis*							
date 06-Aug-22	time 6.23	11.24	16.39	21.70	27.19	32.82	38.80	45.42	45.42	9 / 6							
reaction time 0.207	interval	5.01	5.15	5.31	5.49	5.63	5.98	6.62		# of strides	11.24	10.46	11.12	12.60	21.70	23.72	2.02
	velocity 8.03	9.98	9.71	9.42	9.11	8.88	8.36	7.55	8.81	183.0	8.90	9.56	8.99	7.94	9.22	8.43	

Larrengina, Elián (ARG) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 20-Aug-23	time	11.15		21.37		32.78		45.42	45.42	8 / ~~6~~ 5							
reaction time 0.181	interval			10.22		11.41		12.64		# of strides	11.15	10.22	11.41	12.64	21.37	24.05	2.68
	velocity	8.97		9.78		8.76		7.91	8.81	169.0	8.97	9.78	8.76	7.91	9.36	8.32	

Kent, Nathan (USA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 USA Olympic Trials (Eugene, OR)										*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date 21-Jun-24	time	10.86		21.08		32.75		45.42	45.42	5 / 4							
reaction time	interval			10.22		11.67		12.67	PB	# of strides			11.67	12.67	21.08	24.34	3.26
	velocity	9.21		9.78		8.57		7.89	8.81	169.0			8.57	7.89	9.49	8.22	

Klein Ikkink, Isaya (NED) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Weltklasse (Zürich, SUI)										*Omega Timing (2024) - diamond league race analysis*							
date 05-Sep-24	time 6.23	11.36	16.62	22.08	27.69	33.41	39.28	45.42	45.42	7 / 3							
reaction time 0.172	interval	5.13	5.26	5.46	5.61	5.72	5.87	6.14		# of strides	11.36	10.72	11.33	12.01	22.08	23.34	1.26
	velocity 8.03	9.75	9.51	9.16	8.91	8.74	8.52	8.14	8.81		8.80	9.33	8.83	8.33	9.06	8.57	

Akabusi, Kriss (GBR) (1958)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 10 - 1984 Olympic Games (Los Angeles, CA) (*TV Analysis*)										*Adams (1984) - 1984 olympic games - 200m & 400m*							
date 05-Aug-84	time			21.95				45.43	45.43	3 / 3							
reaction time	interval							23.48		# of strides					21.95	23.48	1.53
	velocity			9.11				8.52	8.80						9.11	8.52	

Larry, Lionel (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 NCAA Championships (Sacramento, CA)										*Track Newsletter (2006) - NCAA men's championships*							
date 10-Jun-06	time	11.2		21.8		33.2		45.4	45.43	/ 6							
reaction time	interval			10.60		11.40		12.20	PB	# of strides	11.20	10.60	11.40	12.20	21.80	23.60	1.80
	velocity	8.93		9.43		8.77		8.20	8.80		8.93	9.43	8.77	8.20	9.17	8.47	

Smith, Calvin (USA) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2008 USA Olympic Trials (Eugene, OR)										*USATF Women's Sprint Development with HPC (2008)*							
date 30-Jun-08	time	11.44	16.62	22.08	27.56	33.40	39.22	45.43	45.43	7 / 3							
reaction time	interval		5.18	5.46	5.48	5.84	5.82	6.21		# of strides	11.44	10.64	11.32	12.03	22.08	23.35	1.27
	velocity	8.74	9.65	9.16	9.12	8.56	8.59	8.05	8.80		8.74	9.40	8.83	8.31	9.06	8.57	

Mathieu, Michael (BAH) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2015 IAAF World Championships (Beijing, CHN)										*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*							
date 24-Aug-15	time 6.03	10.98	16.07	21.40	26.96	32.58	38.73	45.43	45.43	3 / 7							
reaction time 0.157	interval	4.95	5.09	5.33	5.56	5.62	6.15	6.70		# of strides	10.98	10.42	11.18	12.85	21.40	24.03	2.63
	velocity 8.29	10.10	9.82	9.38	8.99	8.90	8.13	7.46	8.80	182.2	9.11	9.60	8.94	7.78	9.35	8.32	

Jenkins, David (GBR) (1952)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1971 European Championships (Helsinki, FIN)										*(1971) - Walerij Borsow - ein souveräner Europameister*							
date 13-Aug-71	time			21.3		32.4		45.45	45.45	/ 1							
reaction time	interval					11.1		13.1	CR/NR/PB	# of strides			11.10	13.05	21.30	24.15	2.85
	velocity			9.39		9.01		7.66	8.80				9.01	7.66	9.39	8.28	

Rooney, Martyn (GBR) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 7 - 2009 IAAF World Championships (Berlin, GER)										*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*							

date	18-Aug-09	time		11.48		21.94		33.08		45.45	45.45	1 / 3						
reaction time	0.189	interval				10.46		11.14		12.37		# of strides	11.48	10.46	11.14	12.37	21.94	23.51	1.57
		velocity		8.71		9.56		8.98		8.08	8.80		8.71	9.56	8.98	8.08	9.12	8.51	

Bartholomew, Rondell (GRN) (1990) — **FINAL** - 2011 IAAF World Championships (Daegu, KOR)

Butler (2013) - IAAF world athletic results 2008-2011 full results

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Aug-11	time						32.7		45.45	45.45	2 / 6							
reaction time	0.314	interval								12.8		# of strides				12.75			
		velocity						9.17		7.84	8.80	170.2				7.84			

Norwood, Vernon (USA) (1992) — **FINAL** - 2014 NCAA Championships (Eugene, OR)

Track Newsletter (2014) - NCAA men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jun-14	time				21.8		33.1		45.5	45.46	3 / 3							
reaction time		interval						11.30		12.40		# of strides			11.30	12.40	21.80	23.70	1.90
		velocity				9.17		8.85		8.06	8.80				8.85	8.06	9.17	8.44	

Sibanda, Karabo (BOT) (1998) — **FINAL** - 2016 IAAF World Junior Championships (Bydgoszcz, POL)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jul-16	time	6.08	10.92	15.88	21.08	26.50	32.38	38.60	45.45	45.45	5 / 3							
reaction time	0.149	interval		4.84	4.96	5.20	5.42	5.88	6.22	6.85		# of strides	10.92	10.16	11.30	13.07	21.08	24.37	3.29
		velocity	8.22	10.33	10.08	9.62	9.23	8.50	8.04	7.30	8.80		9.16	9.84	8.85	7.65	9.49	8.21	

Walsh, Julian Jrummi (JPN) (1996) — **Heat 1** - 2019 Japanese National Championships (Fukuoka, JPN)

Yamanaka (2019) - race analysis of men and women 400m competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-19	time	6.18	11.25	16.45	21.81	27.40	33.15	39.10	45.45	45.45	6 / 1							
reaction time	0.148	interval		5.07	5.20	5.36	5.59	5.75	5.95	6.35		# of strides	11.25	10.56	11.34	12.30	21.81	23.64	1.83
		velocity	8.09	9.86	9.62	9.33	8.94	8.70	8.40	7.87	8.80		8.89	9.47	8.82	8.13	9.17	8.46	

Taylor, Christopher (JAM) (1999) — **FINAL** - 2022 FBK Games (Hengelo, NED)

Omega Timing (2022) - continental tour race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Jun-22	time	6.0	11.0	15.9	21.5	27.2	33.1	39.0	45.45	45.45	7 / 2							
reaction time	0.155	interval		5.00	4.90	5.60	5.70	5.90	5.90	6.45		# of strides	11.00	10.50	11.60	12.35	21.50	23.95	2.45
		velocity	8.33	10.00	10.20	8.93	8.77	8.47	8.47	7.75	8.80	182.0	9.09	9.52	8.62	8.10	9.30	8.35	

Makwala, Isaac (BOT) (1986) — **FINAL** - 2022 Bislett Games (Oslo, NOR)

Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Jun-22	time	6.24	11.33	16.57	21.92	27.32	32.91	38.83	45.45	45.45	7 / 2							
reaction time	0.201	interval		5.09	5.24	5.35	5.40	5.59	5.92	6.62		# of strides	11.33	10.59	10.99	12.54	21.92	23.53	1.61
		velocity	8.01	9.82	9.54	9.35	9.26	8.94	8.45	7.55	8.80	183.0	8.83	9.44	9.10	7.97	9.12	8.50	

Cherry, Michael (USA) (1995) — **FINAL** - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)

Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-22	time	6.14	11.11	16.24	21.55	27.09	32.88	38.95	45.45	45.45	7 / 7							
reaction time	0.171	interval		4.97	5.13	5.31	5.54	5.79	6.07	6.50		# of strides	11.11	10.44	11.33	12.57	21.55	23.90	2.35
		velocity	8.14	10.06	9.75	9.42	9.03	8.64	8.24	7.69	8.80	162.2	9.00	9.58	8.83	7.96	9.28	8.37	

Haydock-Wilson, Alex (GBR) (1999) — **Semi-Final 2** - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		11.14		21.69		32.83		45.45	45.45	5 / 2							
reaction time	0.176	interval				10.55		11.14		12.62		# of strides	11.14	10.55	11.14	12.62	21.69	23.76	2.07
		velocity		8.98		9.48		8.98		7.92	8.80	179.0	8.98	9.48	8.98	7.92	9.22	8.42	

Sombe, David (FRA) (2000) — **Heat 3** - 2024 European Athletics Championships (Roma, ITA)

European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jun-24	time		11.51		22.17		33.54		45.45	45.45	4 / 2							
reaction time	0.221	interval				10.66		11.37		11.91		# of strides	11.51	10.66	11.37	11.91	22.17	23.28	1.11
		velocity		8.69		9.38		8.80		8.40	8.80		8.69	9.38	8.80	8.40	9.02	8.59	

Molnár, Attila (HUN) (2002) — **Repechage 3** - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-24	time	6.31	11.25	16.41	21.74	27.21	32.91	38.95	45.45	45.45	3 / 3							
reaction time	0.166	interval		4.94	5.16	5.33	5.47	5.70	6.04	6.50		# of strides	11.25	10.49	11.17	12.54	21.74	23.71	1.97
		velocity	7.92	10.12	9.69	9.38	9.14	8.77	8.28	7.69	8.80	175.0	8.89	9.53	8.95	7.97	9.20	8.44	

Egbunike, Innocent (NGR) (1961) — **Quarter-Final 3** - 1987 IAAF World Championship (Rome, ITA)

Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	31-Aug-87	time		11.09		21.23		32.57		45.46	45.46	/ 1							
reaction time		interval				10.14		11.34		12.89		# of strides	11.09	10.14	11.34	12.89	21.23	24.23	3.00
		velocity		9.02		9.86		8.82		7.76	8.80		9.02	9.86	8.82	7.76	9.42	8.25	

Richardson, Mark (GBR) (1972) — **FINAL** - 2000 ISTAF (Berlin, GER)

Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Sep-00	time		11.24		22.06		33.28		45.46	45.46	/ 2							
reaction time		interval				10.82		11.22		12.18		# of strides	11.24	10.82	11.22	12.18	22.06	23.40	1.34
		velocity		8.90		9.24		8.91		8.21	8.80		8.90	9.24	8.91	8.21	9.07	8.55	

Steffensen, John (AUS) (1982) — **FINAL** - 2005 IAAF World Championships (Helsinki, FIN)

Track Newsletter (2005) - World championships- men

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Aug-05	time						32.5		45.5	45.46	2 / 8							
reaction time		interval								13.0		# of strides				13.00			
		velocity						9.23		7.69	8.80	175.0				7.69			

Kanemaru, Yuzo (JPN) (1987) — **FINAL** - 2014 Shizuoka International Athletics Meeting (Fukuori, JPN)

Maho (2014) - race analysis of men's 400m run in the 2014 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-14	time	6.18	11.25	16.35	21.63	27.22	33.08	39.11	45.46	45.46	/ 1							
reaction time		interval		5.07	5.10	5.28	5.59	5.86	6.03	6.35		# of strides	11.25	10.38	11.45	12.38	21.63	23.83	2.20
		velocity	8.09	9.86	9.80	9.47	8.94	8.53	8.29	7.87	8.80		8.89	9.63	8.73	8.08	9.25	8.39	

Feliz, Lidio Andres (DOM) (1997)
FINAL - 2022 Golden Gala Pietro Mennea (Rome, ITA)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-22	time	6.31	11.32	16.43	21.73	27.34	33.14	39.01	45.46	45.46	8 / 4							
reaction time	0.195	interval		5.01	5.11	5.30	5.61	5.80	5.87	6.45		# of strides	11.32	10.41	11.41	12.32	21.73	23.73	2.00
		velocity	7.92	9.98	9.78	9.43	8.91	8.62	8.52	7.75	8.80	175.7	8.83	9.61	8.76	8.12	9.20	8.43	

Jones, Jonathan (BAR) (1999)
Heat 1 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		11.34		21.93		33.02		45.46	45.46	3 / 2							
reaction time	0.169	interval				10.59		11.09		12.44		# of strides	11.34	10.59	11.09	12.44	21.93	23.53	1.60
		velocity		8.82		9.44		9.02		8.04	8.80	174.0	8.82	9.44	9.02	8.04	9.12	8.50	

Spitz, Lionel (SUI) (2001)
Heat 1 - 2022 European Athletics Championships (Munich, GER)
European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-22	time		11.15		21.71		32.92		45.46	45.46	8 / 1							
reaction time	0.193	interval				10.56		11.21		12.54	PB	# of strides	11.15	10.56	11.21	12.54	21.71	23.75	2.04
		velocity		8.97		9.47		8.92		7.97	8.80		8.97	9.47	8.92	7.97	9.21	8.42	

Borlée, Dylan (BEL) (1992)
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)
European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-24	time		11.23		21.73		33.03		45.46	45.46	7 / 6							
reaction time	0.163	interval				10.50		11.30		12.43		# of strides	11.23	10.50	11.30	12.43	21.73	23.73	2.00
		velocity		8.90		9.52		8.85		8.05	8.80	173.2	8.90	9.52	8.85	8.05	9.20	8.43	

Patterson, Jacory (USA) (2000)
Heat 2 - 2024 USA Olympic Trials (Eugene, OR)
USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-24	time		11.12		21.49		32.92		45.46	45.46	5 / 6							
reaction time		interval				10.37		11.43		12.54		# of strides	11.12	10.37	11.43	12.54	21.49	23.97	2.48
		velocity		8.99		9.64		8.75		7.97	8.80	174.0	8.99	9.64	8.75	7.97	9.31	8.34	

Ingvalsen, Håvard Bentdal (NOR) (20(
Heat 1 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-24	time	6.36	11.34	16.38	21.61	27.09	32.80	38.83	45.46	45.46	4 / 3							
reaction time	0.204	interval		4.98	5.04	5.23	5.48	5.71	6.03	6.63		# of strides	11.34	10.27	11.19	12.66	21.61	23.85	2.24
		velocity	7.86	10.04	9.92	9.56	9.12	8.76	8.29	7.54	8.80	182.7	8.82	9.74	8.94	7.90	9.25	8.39	

Petrucciani, Ricky (SUI) (2000)
FINAL - 2024 Weltklasse (Zürich, SUI)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Sep-24	time	6.13	11.28	16.57	21.95	27.51	33.22	39.14	45.46	45.46	6 / 4							
reaction time	0.142	interval		5.15	5.29	5.38	5.56	5.71	5.92	6.32		# of strides	11.28	10.67	11.27	12.24	21.95	23.51	1.56
		velocity	8.16	9.71	9.45	9.29	8.99	8.76	8.45	7.91	8.80		8.87	9.37	8.87	8.17	9.11	8.51	

Garner, Mark (AUS) (1969)
FINAL - 1991 IAAF World Championships (Tokyo, JPN)
Butler (2013) - IAAF world championships statistics handbook- moscow 2013

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Aug-91	time				21.39				45.47	45.47	2 / 8							
reaction time		interval								24.08		# of strides					21.39	24.08	2.69
		velocity				9.35				8.31	8.80	186.7					9.35	8.31	

Kanemaru, Yuzo (JPN) (1987)
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)
Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Sep-05	time		11.33		22.02		33.23	39.12	45.47	45.47	4 / 1							
reaction time		interval				10.69		11.21	5.89	6.35	PB	# of strides	11.33	10.69	11.21	12.24	22.02	23.45	1.43
		velocity		8.83		9.35		8.92	8.49	7.87	8.80		8.83	9.35	8.92	8.17	9.08	8.53	

Brown, Chris (BAH) (1978)
FINAL - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Aug-09	time		10.98		21.31		32.53		45.47	45.47	5 / 5							
reaction time	0.161	interval				10.33		11.22		12.94		# of strides	10.98	10.33	11.22	12.94	21.31	24.16	2.85
		velocity		9.11		9.68		8.91		7.73	8.80		9.11	9.68	8.91	7.73	9.39	8.28	

Taylor, Christopher (JAM) (1999)
FINAL - 2022 Golden Gala Pietro Mennea (Rome, ITA)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-22	time	6.03	11.01	16.22	21.59	27.14	32.93	38.95	45.47	45.47	2 / 5							
reaction time	0.148	interval		4.98	5.21	5.37	5.55	5.79	6.02	6.52		# of strides	11.01	10.58	11.34	12.54	21.59	23.88	2.29
		velocity	8.29	10.04	9.60	9.31	9.01	8.64	8.31	7.67	8.80		9.08	9.45	8.82	7.97	9.26	8.38	

Sato, Kentaro (JPN) (1994)
FINAL - 2023 Japanese National Championsips (Osaka, JPN)
Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Jun-23	time	6.16	11.16	16.28	21.55	26.97	32.80	38.95	45.47	45.47	4 / 3							
reaction time	0.232	interval		5.00	5.12	5.27	5.42	5.83	6.15	6.52		# of strides	11.16	10.39	11.25	12.67	21.55	23.92	2.37
		velocity	8.12	10.00	9.77	9.49	9.23	8.58	8.13	7.67	8.80		8.96	9.62	8.89	7.89	9.28	8.36	

Boers, Isayah (NED) (1999)
B Race - 2023 Memorial van Damme (Brussels, BEL)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-23	time	6.10	10.98	16.08	21.49	27.15	32.97	39.03	45.47	45.47	4 / 1							
reaction time	0.167	interval		4.88	5.10	5.41	5.66	5.82	6.06	6.44		# of strides	10.98	10.51	11.48	12.50	21.49	23.98	2.49
		velocity	8.20	10.25	9.80	9.24	8.83	8.59	8.25	7.76	8.80		9.11	9.51	8.71	8.00	9.31	8.34	

Petrucciani, Ricky (SUI) (2000)
Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)
European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-24	time		11.10		21.63		32.94		45.47	45.47	3 / 6							
reaction time	0.158	interval				10.53		11.31		12.53		# of strides	11.10	10.53	11.31	12.53	21.63	23.84	2.21
		velocity		9.01		9.50		8.84		7.98	8.80	177.2	9.01	9.50	8.84	7.98	9.25	8.39	

Davis, Howard (JAM) (1967)
Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)
Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	26-Sep-88	time	11.34	22.00	33.28	45.48	45.48	1 / 6									
reaction time	0.177	interval		10.66	11.28	12.20		# of strides	11.34	10.66	11.28	12.20	22.00	23.48	1.48		
		velocity	8.82	9.38	8.87	8.20	8.80		8.82	9.38	8.87	8.20	9.09	8.52			

Maćkowiak, Robert (POL) (1970)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2001 European Cup (Bremen, GER)																	*Graubner (2007) - http://www.fgs.uni-halle.de*
date	23-Jun-01	time	11.29		21.94		33.18		45.48	45.48	/ 2							
reaction time		interval			10.65		11.24		12.30		# of strides	11.29	10.65	11.24	12.30	21.94	23.54	1.60
		velocity	8.86		9.39		8.90		8.13	8.80		8.86	9.39	8.90	8.13	9.12	8.50	

Francique, Alleyne (GRN) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 IAAF World Championships (Paris, FRA)																	*Bonvin (2003) - Compte-rendu 400m et relais 4x 400m*
date	26-Aug-03	time			21.4		32.6		45.48	45.48	7 / ~~8~~ 6							
reaction time	0.270	interval					11.2		12.9		# of strides			11.20	12.88	21.40	24.08	2.68
		velocity			9.35		8.93		7.76	8.80				8.93	7.76	9.35	8.31	

Gehret, Brady (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 USA Olympic Trials (Eugene, OR)																	*Hymans (2020) - history of the US olympic trials - track and field*
date	24-Jun-12	time			21.3		32.4		45.48	45.48	8 / 8							
reaction time	0.219	interval					11.10		13.08		# of strides			11.10	13.08	21.30	24.18	2.88
		velocity			9.39		9.01		7.65	8.80				9.01	7.65	9.39	8.27	

Glass, Najee (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 USA Olympic Trials (Eugene, OR)																	*Track Newsletter (2016) - US olympic trials men*
date	03-Jul-16	time	11.3		21.9		32.8		45.5	45.48	8 / 7							
reaction time	0.190	interval			10.60		10.90		12.70		# of strides	11.30	10.60	10.90	12.70	21.90	23.60	1.70
		velocity	8.85		9.43		9.17		7.87	8.80		8.85	9.43	9.17	7.87	9.13	8.47	

Kitagawa, Takamasa (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2017 Japanese National Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/07/08/post-965/*
date	23-Jun-17	time	11.39		21.69		32.97		45.48	45.48	5 / 1							
reaction time	0.168	interval			10.30		11.28		12.51	PB	# of strides	11.39	10.30	11.28	12.51	21.69	23.79	2.10
		velocity	8.78		9.71		8.87		7.99	8.80	178.7	8.78	9.71	8.87	7.99	9.22	8.41	

Cherry, Michael (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shanghai (Shanghai, CHN)																	*Omega Timing (2019) - diamond league race analysis*
date	18-May-19	time	11.5		21.8		32.8		45.48	45.48	8 / 2							
reaction time	0.197	interval			10.3		11.0		12.7		# of strides	11.50	10.30	11.00	12.68	21.80	23.68	1.88
		velocity	8.70		9.71		9.09		7.89	8.80	163.0	8.70	9.71	9.09	7.89	9.17	8.45	

Bamidele, Emmanuel (NGR) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2023) - diamond league race analysis*
date	02-Jul-23	time	6.34	11.23	16.24	21.47	27.01	32.84	38.91	45.48	45.48	5 / 2						
reaction time	0.194	interval		4.89	5.01	5.23	5.54	5.83	6.07	6.57		# of strides	11.23	10.24	11.37	12.64	21.47	24.01	2.54
		velocity	7.89	10.22	9.98	9.56	9.03	8.58	8.24	7.61	8.80		8.90	9.77	8.80	7.91	9.32	8.33	

Kukkoaho, Markku (FIN) (1946)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1972 Olympic Games (Munich, FRG)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date	07-Sep-72	time			21.8		33.0		45.5	45.49	4 / 6							
reaction time		interval					11.20		12.50		# of strides			11.20	12.50	21.80	23.70	1.90
		velocity			9.17		8.93		8.00	8.79	169.5			8.93	8.00	9.17	8.44	

Weber, Hartmut (FRG) (1960)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1983 IAAF World Championships (Helsinki, FIN)																	*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*
date	10-Aug-83	time			21.6				45.49	45.49	3 / 5							
reaction time		interval							23.89		# of strides					21.60	23.89	2.29
		velocity			9.26				8.37	8.79						9.26	8.37	

Reynolds, Harry (Butch) (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 3 - 1987 IAAF World Championship (Rome, ITA)																	*Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*
date	31-Aug-87	time	11.58		22.05		33.46		45.49	45.49	/ 3							
reaction time		interval			10.47		11.41		12.03		# of strides	11.58	10.47	11.41	12.03	22.05	23.44	1.39
		velocity	8.64		9.55		8.76		8.31	8.79		8.64	9.55	8.76	8.31	9.07	8.53	

Schultz, Ingo (GER) (1975)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2002 European Championships (Munich, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date	07-Aug-02	time	11.30		21.60		32.85		45.59	45.49	/ 2							
reaction time	0.159	interval			10.30		11.25		12.74		# of strides	11.30	10.30	11.25	12.74	21.60	23.99	2.39
		velocity	8.85		9.71		8.89		7.85	8.79		8.85	9.71	8.89	7.85	9.26	8.34	

Spratling, Brycen (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 NCAA Championships (Eugene, OR)																	*Track Newsletter (2014) - NCAA men's championships*
date	13-Jun-14	time			22.0		33.1		45.5	45.49	/ 4							
reaction time		interval					11.10		12.40		# of strides			11.10	12.40	22.00	23.50	1.50
		velocity			9.09		9.01		8.06	8.79				9.01	8.06	9.09	8.51	

Collins, Kyle (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 USATF National Championships (Sacramento, CA)																	*Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/*
date	24-Jun-17	time	11.27		21.49		32.78		45.49	45.49	8 / 8							
reaction time		interval			10.22		11.29		12.71		# of strides	11.27	10.22	11.29	12.71	21.49	24.00	2.51
		velocity	8.87		9.78		8.86		7.87	8.79		8.87	9.78	8.86	7.87	9.31	8.33	

Janežič, Luka (SLO) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Müller Anniversary Games (London, GBR)																	*Omega Timing (2019) - diamond league race analysis*
date	21-Jul-19	time	11.4		21.7		33.2		45.49	45.49	1 / 7							
reaction time	0.145	interval			10.3		11.5		12.3		# of strides	11.40	10.30	11.50	12.29	21.70	23.79	2.09
		velocity	8.77		9.71		8.70		8.14	8.79		8.77	9.71	8.70	8.14	9.22	8.41	

Hudson-Smith, Matthew (GBR) (1994

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2022 World Athletics Championships (Eugene, OR)										*Timing by Seiko (2022) - world athletics championships race analysis*							
date 17-Jul-22	time	11.13		21.47		32.74		45.49	45.49	2 / 1							
reaction time 0.160	interval			10.34		11.27		12.75		# of strides	11.13	10.34	11.27	12.75	21.47	24.02	2.55
	velocity	8.98		9.67		8.87		7.84	8.79	166.0	8.98	9.67	8.87	7.84	9.32	8.33	

Nakajima, Yuki Joseph (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2023 Japanese National Championsips (Osaka, JPN)										*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*							
date 03-Jun-23	time	6.17	11.12	16.20	21.52	27.07	32.94	39.06	45.49	45.49	5 / 1							
reaction time 0.167	interval		4.95	5.08	5.32	5.55	5.87	6.12	6.43		# of strides	11.12	10.40	11.42	12.55	21.52	23.97	2.45
	velocity	8.10	10.10	9.84	9.40	9.01	8.52	8.17	7.78	8.79	172.0	8.99	9.62	8.76	7.97	9.29	8.34	

Re, Davide (ITA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Weltklasse (Zürich, SUI)										*Omega Timing (2023) - diamond league race analysis*							
date 31-Aug-23	time	6.33	11.49	16.79	22.20	27.72	33.43	39.32	45.49	45.49	3 / 2							
reaction time 0.161	interval		5.16	5.30	5.41	5.52	5.71	5.89	6.17		# of strides	11.49	10.71	11.23	12.06	22.20	23.29	1.09
	velocity	7.90	9.69	9.43	9.24	9.06	8.76	8.49	8.10	8.79		8.70	9.34	8.90	8.29	9.01	8.59	

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Seashore Doha Meeting (Doha, QAT)										*Omega Timing (2024) - diamond league race analysis*							
date 10-May-24	time	6.15	11.14	16.48	21.97	27.44	33.11	38.97	45.49	45.49	6 / 4							
reaction time 0.182	interval		4.99	5.34	5.49	5.47	5.67	5.86	6.52		# of strides	11.14	10.83	11.14	12.38	21.97	23.52	1.55
	velocity	8.13	10.02	9.36	9.11	9.14	8.82	8.53	7.67	8.79	175.0	8.98	9.23	8.98	8.08	9.10	8.50	

Zambrano, Anthony (COL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 Olympic Games (Paris, FRA)										*Paris 2024 Olympic Games - Results Book (2024)*							
date 04-Aug-24	time	6.32	11.41	16.59	21.89	27.32	33.03	38.98	45.49	45.49	7 / 7							
reaction time 0.159	interval		5.09	5.18	5.30	5.43	5.71	5.95	6.51		# of strides	11.41	10.48	11.14	12.46	21.89	23.60	1.71
	velocity	7.91	9.82	9.65	9.43	9.21	8.76	8.40	7.68	8.79	175.0	8.76	9.54	8.98	8.03	9.14	8.47	

Schönlebe, Thomas (GDR) (1965)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1983 IAAF World Championships (Helsinki, FIN)										*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*							
date 10-Aug-83	time			22.0				45.50	45.50	6 / 6							
reaction time	interval							23.50		# of strides					22.00	23.50	1.50
	velocity			9.09				8.51	8.79						9.09	8.51	

Bada, Sunday (NGR) (1969)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1995 IAAF World Championships (Göteborg, SWE)										*Track Newsletter (1995) - World Championships V*							
date 09-Aug-95	time			21.2				45.5	45.50	4 / 8							
reaction time	interval							24.30		# of strides					21.20	24.30	3.10
	velocity			9.43				8.23	8.79						9.43	8.23	

Potter, Mitchell (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2003 USATF National Championships (Palo Alto, CA)										*USATF Women's Sprint Development (2003)*							
date 20-Jun-03	time			21.57		32.93	38.87	45.50	45.50	5 / ~~4~~ 2							
reaction time	interval					11.36	5.94	6.63		# of strides			11.36	12.57	21.57	23.93	2.36
	velocity			9.27		8.80	8.42	7.54	8.79				8.80	7.96	9.27	8.36	

Tobin, Robert (GBR) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2009 IAAF World Championships (Berlin, GER)										*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*							
date 18-Aug-09	time	11.17		21.55		32.82		45.50	45.50	5 / 1							
reaction time 0.179	interval			10.38		11.27		12.68		# of strides	11.17	10.38	11.27	12.68	21.55	23.95	2.40
	velocity	8.95		9.63		8.87		7.89	8.79		8.95	9.63	8.87	7.89	9.28	8.35	

Steffensen, John (AUS) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)										*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*							
date 19-Aug-09	time	11.29		21.74		32.85		45.50	45.50	5 / 5							
reaction time 0.153	interval			10.45		11.11		12.65		# of strides	11.29	10.45	11.11	12.65	21.74	23.76	2.02
	velocity	8.86		9.57		9.00		7.91	8.79		8.86	9.57	9.00	7.91	9.20	8.42	

Bonevacia, Liemarvin (NED) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)										*Timing by Seiko (2022) - world athletics championships race analysis*							
date 20-Jul-22	time	11.54		21.77		32.86		45.50	45.50	5 / 6							
reaction time 0.159	interval			10.23		11.09		12.64		# of strides	11.54	10.23	11.09	12.64	21.77	23.73	1.96
	velocity	8.67		9.78		9.02		7.91	8.79	180.2	8.67	9.78	9.02	7.91	9.19	8.43	

Bonevacia, Liemarvin (NED) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)										*Omega Timing (2022) - diamond league race analysis*							
date 06-Aug-22	time	6.24	11.19	16.24	21.43	26.90	32.70	38.82	45.50	45.50	1 / 8							
reaction time 0.151	interval		4.95	5.05	5.19	5.47	5.80	6.12	6.68		# of strides	11.19	10.24	11.27	12.80	21.43	24.07	2.64
	velocity	8.01	10.10	9.90	9.63	9.14	8.62	8.17	7.49	8.79		8.94	9.77	8.87	7.81	9.33	8.31	

Vedel, Benjamin Lobo (DEN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2022 European Athletics Championships (Munich, GER)										*European Athletics (2022) - european athletics championships race analysis*							
date 15-Aug-22	time		11.26		21.64		32.76		45.50	45.50	7 / 1							
reaction time 0.185	interval				10.38		11.12		12.74	**=NR PB**	# of strides	11.26	10.38	11.12	12.74	21.64	23.86	2.22
	velocity		8.88		9.63		8.99		7.85	8.79		8.88	9.63	8.99	7.85	9.24	8.38	

McRae, Khaleb (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 USATF National Championships (Eugene, OR)										*Track Newsletter (2023) - USATF championships/WCT men*							
date 08-Jul-23	time		11.32		21.93		33.30		45.50	45.50	1 / 8							
reaction time 0.232	interval				10.61		11.37		12.20		# of strides	11.32	10.61	11.37	12.20	21.93	23.57	1.64
	velocity		8.83		9.43		8.80		8.20	8.79		8.83	9.43	8.80	8.20	9.12	8.49	

Spitz, Lionel (SUI) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 European Athletics U23 Championships (Espoo, FIN)										*European Athletics (2023) - european athletics U23 championships results book*							

date	13-Jul-23	time		11.47		22.25		33.86		45.50	45.50	5 / 2						
reaction time	0.193	interval				10.78		11.61		11.64		# of strides	11.47	10.78	11.61	11.64	22.25	23.25	1.00
		velocity		8.72		9.28		8.61		8.59	8.79		8.72	9.28	8.61	8.59	8.99	8.60	

Joseph, Michael (LCA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 22-Aug-23	time		11.17		21.36		33.01		45.50	45.50	2 / 7							
reaction time 0.161	interval				10.19		11.65		12.49		# of strides	11.17	10.19	11.65	12.49	21.36	24.14	2.78
	velocity		8.95		9.81		8.58		8.01	8.79		8.95	9.81	8.58	8.01	9.36	8.29	

Sacoor, Jonathan (BEL) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 08-Jun-24	time		11.44		22.19		33.42		45.50	45.50	8 / 1							
reaction time 0.174	interval				10.75		11.23		12.08		# of strides	11.44	10.75	11.23	12.08	22.19	23.31	1.12
	velocity		8.74		9.30		8.90		8.28	8.79		8.74	9.30	8.90	8.28	9.01	8.58	

Jones, William (USA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 21-Jun-24	time		11.16		21.47		32.90		45.50	45.50	4 / 5							
reaction time	interval				10.31		11.43		12.60		# of strides			11.43	12.60	21.47	24.03	2.56
	velocity		8.96		9.70		8.75		7.94	8.79	166.5			8.75	7.94	9.32	8.32	

Bennett, Todd (GBR) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 1984 Olympic Games (Los Angeles, CA) (*TV Analysis*)																	*Adams (1984) - 1984 olympic games - 200m & 400m*
date 05-Aug-84	time				21.70				45.51	45.51	6 / 5							
reaction time	interval								23.81	PB	# of strides					21.70	23.81	2.11
	velocity				9.22				8.40	8.79						9.22	8.40	

Reynolds, Harry (Butch) (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 1987 IAAF World Championship (Rome, ITA)																	*Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*
date 30-Aug-87	time		11.56		22.50		33.80		45.51	45.51	2 / 1							
reaction time	interval				10.94		11.30		11.71		# of strides	11.56	10.94	11.30	11.71	22.50	23.01	0.51
	velocity		8.65		9.14		8.85		8.54	8.79		8.65	9.14	8.85	8.54	8.89	8.69	

Steele, Adam (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 USATF National Championships (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 21-Jun-03	time				22.32		33.45	39.21	45.51	45.51	9 / ~~6~~ 4							
reaction time	interval						11.13	5.76	6.30		# of strides			11.13	12.06	22.32	23.19	0.87
	velocity				8.96		8.98	8.68	7.94	8.79				8.98	8.29	8.96	8.62	

Campbell, Milton (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Championships (Indianapolis, IN)																	*Track Newsletter (2006) - USATF men's championships*
date 24-Jun-06	time		11.26		21.54		32.65		45.51	45.51	/ 8							
reaction time	interval				10.28		11.11		12.86		# of strides	11.26	10.28	11.11	12.86	21.54	23.97	2.43
	velocity		8.88		9.73		9.00		7.78	8.79		8.88	9.73	9.00	7.78	9.29	8.34	

Masheto, Garologelwane (BOT) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 NCAA Championships (Sacramento, CA)																	*Track Newsletter (2006) - NCAA men's championships*
date 09-Jun-07	time					33.2		45.5	45.51	/ 4								
reaction time	interval							12.3		# of strides				12.30				
	velocity					9.04		8.13	8.79					8.13				

Warholm, Karsten (NOR) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Athletissima (Lausanne, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 26-Aug-21	time	6.1	11.1	16.2	21.5	27.1	32.9	39.0	45.51	45.51	7 / 4							
reaction time 0.136	interval		5.00	5.10	5.30	5.60	5.80	6.10	6.51		# of strides	11.10	10.40	11.40	12.61	21.50	24.01	2.51
	velocity	8.20	10.00	9.80	9.43	8.93	8.62	8.20	7.68	8.79	170.2	9.01	9.62	8.77	7.93	9.30	8.33	

Deadmon, Bryce (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)																	*Omega Timing (2022) - diamond league race analysis*
date 21-May-22	time	6.18	11.29	16.50	21.89	27.51	33.26	39.16	45.51	45.51	4 / 2							
reaction time 0.151	interval		5.11	5.21	5.39	5.62	5.75	5.90	6.35		# of strides	11.29	10.60	11.37	12.25	21.89	23.62	1.73
	velocity	8.09	9.78	9.60	9.28	8.90	8.70	8.47	7.87	8.79	173.0	8.86	9.43	8.80	8.16	9.14	8.47	

Bonevacia, Liemarvin (NED) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 London Athletics Meet (London, GBR)																	*Omega Timing (2023) - diamond league race analysis*
date 23-Jul-23	time	6.25	11.24	16.42	21.76	27.36	33.09	39.03	45.51	45.51	8 / 7							
reaction time 0.159	interval		4.99	5.18	5.34	5.60	5.73	5.94	6.48		# of strides	11.24	10.52	11.33	12.42	21.76	23.75	1.99
	velocity	8.00	10.02	9.65	9.36	8.93	8.73	8.42	7.72	8.79	182.0	8.90	9.51	8.83	8.05	9.19	8.42	

Vanderbemden, Robin (BEL) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2023 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2023) - diamond league race analysis*
date 08-Sep-23	time	6.14	11.15	16.25	21.56	27.12	32.89	38.92	45.51	45.51	5 / 2							
reaction time 0.145	interval		5.01	5.10	5.31	5.56	5.77	6.03	6.59	PB	# of strides	11.15	10.41	11.33	12.62	21.56	23.95	2.39
	velocity	8.14	9.98	9.80	9.42	8.99	8.67	8.29	7.59	8.79		8.97	9.61	8.83	7.92	9.28	8.35	

Biron, Gilles (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Prefontaine Classic (Eugene, OR)																	*Omega Timing (2023) - diamond league race analysis*
date 16-Sep-23	time	6.37	11.48	16.72	22.06	27.56	33.20	39.14	45.51	45.51	1 / 7							
reaction time 0.174	interval		5.11	5.24	5.34	5.50	5.64	5.94	6.37		# of strides	11.48	10.58	11.14	12.31	22.06	23.45	1.39
	velocity	7.85	9.78	9.54	9.36	9.09	8.87	8.42	7.85	8.79		8.71	9.45	8.98	8.12	9.07	8.53	

Ingvalsen, Håvard Bentdal (NOR) (200)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bislett Games (Oslo, NOR)																	*Omega Timing (2024) - diamond league race analysis*
date 30-May-24	time	6.24	11.13	16.15	21.38	26.84	32.70	38.78	45.41	45.51	6 / 7							
reaction time 0.191	interval		4.89	5.02	5.23	5.46	5.86	6.08	6.63		# of strides	11.13	10.25	11.32	12.71	21.38	24.03	2.65
	velocity	8.01	10.22	9.96	9.56	9.16	8.53	8.22	7.54	8.79	182.0	8.98	9.76	8.83	7.87	9.35	8.32	

O'Bryant, Jevon (USA) (2001)
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)
USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-24	time		11.23		21.57		33.18		45.51	45.51	6 / 6							
reaction time		interval				10.34		11.61		12.33		# of strides	11.23	10.34	11.61	12.33	21.57	23.94	2.37
		velocity		8.90		9.67		8.61		8.11	8.79	171.5	8.90	9.67	8.61	8.11	9.27	8.35	

Spitz, Lionel (SUI) (2001)
Repechage 3 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-24	time	6.27	11.37	16.56	21.94	27.52	33.20	39.10	45.51	45.51	5 / 4							
reaction time	0.148	interval		5.10	5.19	5.38	5.58	5.68	5.90	6.41		# of strides	11.37	10.57	11.26	12.31	21.94	23.57	1.63
		velocity	7.97	9.80	9.63	9.29	8.96	8.80	8.47	7.80	8.79	185.2	8.80	9.46	8.88	8.12	9.12	8.49	

Borlée, Dylan (BEL) (1992)
Repechage 4 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-24	time	6.27	11.34	16.50	21.83	27.40	33.16	39.13	45.51	45.51	7 / 4							
reaction time	0.161	interval		5.07	5.16	5.33	5.57	5.76	5.97	6.38		# of strides	11.34	10.49	11.33	12.35	21.83	23.68	1.85
		velocity	7.97	9.86	9.69	9.38	8.98	8.68	8.38	7.84	8.79	173.0	8.82	9.53	8.83	8.10	9.16	8.45	

Canal, David (ESP) (1978)
FINAL - 2001 European Cup (Bremen, GER)
Graubner (2007) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-01	time		11.50		21.78		32.93		45.52	45.52	/ 3							
reaction time		interval				10.28		11.15		12.59		# of strides	11.50	10.28	11.15	12.59	21.78	23.74	1.96
		velocity		8.70		9.73		8.97		7.94	8.79		8.70	9.73	8.97	7.94	9.18	8.42	

Harris, Jerry (USA) (1981)
Semi-Final 1 - 2003 USATF National Championships (Palo Alto, CA)
USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-03	time				21.63		33.07	39.01	45.52	45.52	8 / ~~5~~ 3							
reaction time		interval						11.44	5.94	6.51	PB	# of strides			11.44	12.45	21.63	23.89	2.26
		velocity				9.25		8.74	8.42	7.68	8.79				8.74	8.03	9.25	8.37	

Collazo, William (CUB) (1986)
Heat 2 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-09	time		11.11		21.66		33.02		45.52	45.52	1 / 2							
reaction time	0.171	interval				10.55		11.36		12.50		# of strides	11.11	10.55	11.36	12.50	21.66	23.86	2.20
		velocity		9.00		9.48		8.80		8.00	8.79		9.00	9.48	8.80	8.00	9.23	8.38	

Kitagawa, Takamasa (JPN) (1996)
Heat 1 - 2015 Japanese National Championships (Niigata, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-15	time	6.32	11.36	16.59	21.97	27.51	33.13	39.11	45.52	45.52	9 / 2							
reaction time	0.158	interval		5.04	5.23	5.38	5.54	5.62	5.98	6.41	PB	# of strides	11.36	10.61	11.16	12.39	21.97	23.55	1.58
		velocity	7.91	9.92	9.56	9.29	9.03	8.90	8.36	7.80	8.79		8.80	9.43	8.96	8.07	9.10	8.49	

Merritt, LaShawn (USA) (1986)
Semi-Final 2 - 2017 IAAF World Championships (London, GBR)
Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-17	time		10.85		21.03		32.18	38.35	45.32	45.52	7 / 7							
reaction time	0.195	interval				10.18		11.15	6.17	6.97		# of strides	10.85	10.18	11.15	13.14	21.03	24.29	3.26
		velocity		9.22		9.82		8.97	8.10	7.17	8.79	177.5	9.22	9.82	8.97	7.61	9.51	8.23	

Strother, Nathan (USA) (1995)
FINAL - 2019 Shanghai (Shanghai, CHN)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-May-19	time		11.0		21.9		33.5		45.52	45.52	3 / 3							
reaction time	0.181	interval				10.9		11.6		12.0		# of strides	11.00	10.90	11.60	12.02	21.90	23.62	1.72
		velocity		9.09		9.17		8.62		8.32	8.79	180.2	9.09	9.17	8.62	8.32	9.13	8.47	

Yousif, Rabah (GBR) (1986)
FINAL - 2019 Müller Anniversary Games (London, GBR)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-19	time		11.3		21.7		32.9		45.52	45.52	9 / 8							
reaction time	0.121	interval				10.4		11.2		12.6		# of strides	11.30	10.40	11.20	12.62	21.70	23.82	2.12
		velocity		8.85		9.62		8.93		7.92	8.79	165.2	8.85	9.62	8.93	7.92	9.22	8.40	

Montgomery, Kahmari (USA) (1997)
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-May-22	time	6.00	10.99	16.15	21.55	27.23	33.02	39.01	45.52	45.52	8 / 3							
reaction time	0.134	interval		4.99	5.16	5.40	5.68	5.79	5.99	6.51		# of strides	10.99	10.56	11.47	12.50	21.55	23.97	2.42
		velocity	8.33	10.02	9.69	9.26	8.80	8.64	8.35	7.68	8.79	176.5	9.10	9.47	8.72	8.00	9.28	8.34	

Taylor, Christopher (JAM) (1999)
FINAL - 2022 Bislett Games (Oslo, NOR)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Jun-22	time	6.08	10.96	16.07	21.42	26.99	32.81	38.88	45.52	45.52	4 / 3							
reaction time	0.182	interval		4.88	5.11	5.35	5.57	5.82	6.07	6.64		# of strides	10.96	10.46	11.39	12.71	21.42	24.10	2.68
		velocity	8.22	10.25	9.78	9.35	8.98	8.59	8.24	7.53	8.79	185.0	9.12	9.56	8.78	7.87	9.34	8.30	

Zalewski, Karol (POL) (1993)
Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)
European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		10.92		21.19		32.58		45.52	45.52	3 / 3							
reaction time	0.209	interval				10.27		11.39		12.94		# of strides	10.92	10.27	11.39	12.94	21.19	24.33	3.14
		velocity		9.16		9.74		8.78		7.73	8.79	170.7	9.16	9.74	8.78	7.73	9.44	8.22	

Sato, Fuga (JPN) (1996)
FINAL - 2023 Seiko Golden Grand Prix (Yokohama, JPN)
Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-May-23	time	6.04	11.06	16.27	21.63	27.21	33.06	39.13	45.52	45.52	4 / 3							
reaction time	0.151	interval		5.02	5.21	5.36	5.58	5.85	6.07	6.39		# of strides	11.06	10.57	11.43	12.46	21.63	23.89	2.26
		velocity	8.28	9.96	9.60	9.33	8.96	8.55	8.24	7.82	8.79	175.0	9.04	9.46	8.75	8.03	9.25	8.37	

Ferlan, Rok (SLO) (1997)
Heat 3 - 2024 European Athletics Championships (Roma, ITA)
European Athletics (2024) - 2024 european athletics championships - results book

date	08-Jun-24	time		11.19		21.74		33.24		45.52	45.52	6 / 3						
reaction time	0.172	interval				10.55		11.50		12.28	PB	# of strides	11.19	10.55	11.50	12.28	21.74	23.78	2.04
		velocity		8.94		9.48		8.70		8.14	8.79		8.94	9.48	8.70	8.14	9.20	8.41	

Okezie, Chidi (NGR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 04-Aug-24 time	6.25	11.20	16.26	21.63	27.23	32.98	39.04	45.52	45.52	7 / 4							
reaction time 0.192 interval		4.95	5.06	5.37	5.60	5.75	6.06	6.48		# of strides	11.20	10.43	11.35	12.54	21.63	23.89	2.26
velocity	8.00	10.10	9.88	9.31	8.93	8.70	8.25	7.72	8.79	166.0	8.93	9.59	8.81	7.97	9.25	8.37	

dos Santos, Alison (BRA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Kingston (Kingston, JAM)																	*Grand Slam Track (2025) - results and splits by race*
date 06-Apr-25 time		11.29		21.70		32.67		45.52	45.52	6 / 1							
reaction time 0.260 interval				10.41		10.97		12.85		# of strides	11.29	10.41	10.97	12.85	21.70	23.82	2.12
velocity		8.86		9.61		9.12		7.78	8.79	159.0	8.86	9.61	9.12	7.78	9.22	8.40	

Deadmon, Bryce (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Miami (Miramar, FL)																	*Grand Slam Track (2025) - results and splits by race*
date 03-May-25 time		11.49		22.23		33.74		45.52	45.52	3 / 7							
reaction time 0.200 interval				10.74		11.51		11.78		# of strides	11.49	10.74	11.51	11.78	22.23	23.29	1.06
velocity		8.70		9.31		8.69		8.49	8.79		8.70	9.31	8.69	8.49	9.00	8.59	

Schultz, Ingo (GER) (1975)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2001 European Cup (Bremen, GER)																	*Graubner (2007) - http://www.fgs.uni-halle.de*
date 23-Jun-01 time		11.08		21.41		32.93		45.53	45.53	/ 4							
reaction time interval				10.33		11.52		12.60		# of strides	11.08	10.33	11.52	12.60	21.41	24.12	2.71
velocity		9.03		9.68		8.68		7.94	8.79		9.03	9.68	8.68	7.94	9.34	8.29	

Brown, Chris (BAH) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 18-Aug-09 time		11.10		21.78		33.47		45.53	45.53	2 / 1							
reaction time 0.158 interval				10.68		11.69		12.06		# of strides	11.10	10.68	11.69	12.06	21.78	23.75	1.97
velocity		9.01		9.36		8.55		8.29	8.79		9.01	9.36	8.55	8.29	9.18	8.42	

Gillick, David (IRL) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 21-Aug-09 time		11.24		21.83		33.18		45.53	45.53	2 / 6							
reaction time 0.148 interval				10.59		11.35		12.35		# of strides	11.24	10.59	11.35	12.35	21.83	23.70	1.87
velocity		8.90		9.44		8.81		8.10	8.79		8.90	9.44	8.81	8.10	9.16	8.44	

Kimura, Kazushi (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2017 Japanese National Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/07/08/post-965/*
date 23-Jun-17 time		11.34		21.89		32.83		45.53	45.53	4 / 1							
reaction time 0.181 interval				10.55		10.94		12.70	PB	# of strides	11.34	10.55	10.94	12.70	21.89	23.64	1.75
velocity		8.82		9.48		9.14		7.87	8.79	184.0	8.82	9.48	9.14	7.87	9.14	8.46	

Igbokwe, Obi (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Müller Grand Prix (Birmingham, GBR)																	*Omega Timing (2019) - diamond league race analysis*
date 18-Aug-19 time		11.1		21.5		33.0		45.53	45.53	1 / 2							
reaction time 0.136 interval				10.4		11.5		12.5		# of strides	11.10	10.40	11.50	12.53	21.50	24.03	2.53
velocity		9.01		9.62		8.70		7.98	8.79	177.7	9.01	9.62	8.70	7.98	9.30	8.32	

Norwood, Vernon (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)																	*Omega Timing (2022) - diamond league race analysis*
date 21-May-22 time	6.12	11.09	16.29	21.70	27.13	32.76	38.81	45.53	45.53	5 / 4							
reaction time 0.171 interval		4.97	5.20	5.41	5.43	5.63	6.05	6.72		# of strides	11.09	10.61	11.06	12.77	21.70	23.83	2.13
velocity	8.17	10.06	9.62	9.24	9.21	8.88	8.26	7.44	8.79	177.7	9.02	9.43	9.04	7.83	9.22	8.39	

Spitz, Lionel (SUI) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Weltklasse (Zürich, SUI)																	*Omega Timing (2022) - diamond league race analysis*
date 08-Sep-22 time	6.21	11.21	16.38	21.64	27.09	32.84	38.92	45.53	45.53	4 / 3							
reaction time 0.145 interval		5.00	5.17	5.26	5.45	5.75	6.08	6.61		# of strides	11.21	10.43	11.20	12.69	21.64	23.89	2.25
velocity	8.05	10.00	9.67	9.51	9.17	8.70	8.22	7.56	8.79		8.92	9.59	8.93	7.88	9.24	8.37	

Godwin, Elija (USA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 21-Jun-24 time		10.71		21.07		32.53		45.53	45.53	8 / 5							
reaction time interval				10.36		11.46		13.00		# of strides	10.71	10.36	11.46	13.00	21.07	24.46	3.39
velocity		9.34		9.65		8.73		7.69	8.79	182.0	9.34	9.65	8.73	7.69	9.49	8.18	

Krsek, Matěj (CZE) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 2 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24 time	6.27	11.34	16.60	21.98	27.49	33.22	39.19	45.53	45.53	7 / 2							
reaction time 0.145 interval		5.07	5.26	5.38	5.51	5.73	5.97	6.34	PB	# of strides	11.34	10.64	11.24	12.31	21.98	23.55	1.57
velocity	7.97	9.86	9.51	9.29	9.07	8.73	8.38	7.89	8.79	179.7	8.82	9.40	8.90	8.12	9.10	8.49	

Jones, Louis (USA) (1932)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1955 Pan American Games (Mexico City, MEX) (*Altitude*)																	*Drake (1967) - der schnellste sprint der geschichte*
date 18-Mar-55 time				21.1				45.4	45.4	5 / 1							
reaction time interval								24.3	WR	# of strides					21.10	24.30	3.20
velocity				9.48				8.23	8.81						9.48	8.23	

Davis, Glenn (USA) (1934)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1958 NCAA Championships (Berkeley, CA) (yards)																	*Track & Field News (1963)*
date 14-Jun-58 time				21.9				45.4	45.4	/ 1							
reaction time interval								23.5	WR yards	# of strides					21.90	23.50	1.60
velocity				9.13				8.51	8.81	*(45.7/440y)*					9.13	8.51	

Kaufmann, Carl (FRG) (1936)
FINAL - 1960 West German National Championships (Berlin, FRG)
Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jul-60	time				21.9				45.4	45.4	/ 1							
reaction time		interval								23.5	AR	# of strides					21.90	23.50	1.60
		velocity				9.13				8.51	8.81						9.13	8.51	

Newhouse, Fred (USA) (1948)
FiNAL - 1971 USA National Championships (Eugene, OR) (yards)
Hymans (2015) - progression of IAAF world records - 2015 edition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Jun-71	time				22.0				45.4	45.4	/ 3							
reaction time		interval								23.4	*(45.7/440y)*	# of strides					22.00	23.40	1.40
		velocity				9.09				8.55	8.81						9.09	8.55	

Newhouse, Fred (USA) (1948)
FiNAL - 1972 USA Olympic Trials (Eugene, OR)
Hymans (2008) - history of the US olympic trials - track and field

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jul-72	time				20.6				45.4	45.4	7 / 7							
reaction time		interval								24.8		# of strides					20.60	24.80	4.20
		velocity				9.71				8.06	8.81						9.71	8.06	

Djhone, Leslie (FRA) (1981)
FINAL - 2007 European Cup (Munich, GER)
Graubner (2007) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-07	time		11.70		22.13		33.27		45.54	45.54	/ 1							
reaction time	0.242	interval				10.43		11.14		12.27		# of strides	11.70	10.43	11.14	12.27	22.13	23.41	1.28
		velocity		8.55		9.59		8.98		8.15	8.78		8.55	9.59	8.98	8.15	9.04	8.54	

Bolt, Usain (JAM) (1986)
Heat 4 - 2009 University of West Indies Invitational (Kingston, JAM)
Vazel (2009) - http://futuranterieur.files.wordpress.com

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Feb-09	time		10.9		21.6		33.0		45.54	45.54	/ 1							
reaction time		interval				10.7		11.4		12.54		# of strides	10.90	10.70	11.40	12.54	21.60	23.94	2.34
		velocity		9.17		9.35		8.77		7.97	8.78		9.17	9.35	8.77	7.97	9.26	8.35	

Gillick, David (IRL) (1983)
Heat 1 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-09	time		11.25		21.67		33.00		45.54	45.54	7 / 2							
reaction time	0.169	interval				10.42		11.33		12.54		# of strides	11.25	10.42	11.33	12.54	21.67	23.87	2.20
		velocity		8.89		9.60		8.83		7.97	8.78		8.89	9.60	8.83	7.97	9.23	8.38	

Bingham, Michael (GBR) (1986)
Heat 3 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-09	time		11.11		21.90		33.34		45.54	45.54	5 / 2							
reaction time	0.149	interval				10.79		11.44		12.20		# of strides	11.11	10.79	11.44	12.20	21.90	23.64	1.74
		velocity		9.00		9.27		8.74		8.20	8.78		9.00	9.27	8.74	8.20	9.13	8.46	

Wariner, Jeremy (USA) (1984)
Heat 6 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-09	time		11.04		21.30		32.81		45.54	45.54	4 / 1							
reaction time	0.178	interval				10.26		11.51		12.73		# of strides	11.04	10.26	11.51	12.73	21.30	24.24	2.94
		velocity		9.06		9.75		8.69		7.86	8.78		9.06	9.75	8.69	7.86	9.39	8.25	

Strother, Nathan (USA) (1995)
FINAL - 2019 Herculis Meeting International d'Athlétisme (Monaco, MON)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Jul-19	time		11.3		21.9		33.2		45.54	45.54	2 / 3							
reaction time	0.179	interval				10.6		11.3		12.3		# of strides	11.30	10.60	11.30	12.34	21.90	23.64	1.74
		velocity		8.85		9.43		8.85		8.10	8.78		8.85	9.43	8.85	8.10	9.13	8.46	

Kerley, Fred (USA) (1995)
FINAL - 2018 Müller Grand Prix (Birmingham, GBR)
Omega Timing (2018) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-18	time		11.3		22.0		33.3		45.54	45.54	6 / 1							
reaction time	0.145	interval				10.7		11.3		12.2		# of strides	11.30	10.70	11.30	12.24	22.00	23.54	1.54
		velocity		8.85		9.35		8.85		8.17	8.78	178.2	8.85	9.35	8.85	8.17	9.09	8.50	

Imaizumi, Kenki (JPN) (2001)
FINAL - 2023 Japanese National Championsips (Osaka, JPN)
Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Jun-23	time	6.16	11.18	16.32	21.67	27.21	33.04	39.09	45.54	45.54	5 / 4							
reaction time	0.192	interval		5.02	5.14	5.35	5.54	5.83	6.05	6.45	PB	# of strides	11.18	10.49	11.37	12.50	21.67	23.87	2.20
		velocity	8.12	9.96	9.73	9.35	9.03	8.58	8.26	7.75	8.78	177.2	8.94	9.53	8.80	8.00	9.23	8.38	

Robinson, Chris (USA) (2001)
Long Hurdles - 2025 Grand Slam Track Kingston (Kingston, JAM)
Grand Slam Track (2025) - results and splits by race

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Apr-25	time		11.05		21.25		32.24		45.54	45.54	4 / 2							
reaction time	0.160	interval				10.20		10.99		13.30	PB	# of strides	11.05	10.20	10.99	13.30	21.25	24.29	3.04
		velocity		9.05		9.80		9.10		7.52	8.78	173.0	9.05	9.80	9.10	7.52	9.41	8.23	

Solomon, Michael (TRI) (1954)
FINAL - 1980 Olympic Games (Moscow, URS)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jul-80	time				21.4		32.7		45.6	45.55	7 / 6							
reaction time	0.164	interval						11.3		12.90		# of strides			11.30	12.90	21.40	24.20	2.80
		velocity				9.35		8.85		7.75	8.78				8.85	7.75	9.35	8.26	

McFarlane, Danny (JAM) (1972)
FINAL - 2000 Olympic Games (Sydney, AUS)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Sep-00	time		11.5		22.0		33.0		45.6	45.55	5 / ~~8~~ 7							
reaction time		interval				10.50		11.00		12.60		# of strides	11.50	10.50	11.00	12.60	22.00	23.60	1.60
		velocity		8.70		9.52		9.09		7.94	8.78		8.70	9.52	9.09	7.94	9.09	8.47	

Blackwood, Michael (JAM) (1976)
FINAL - 2004 Olympic Games (Athens, GRE)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

date	23-Aug-04	time			21.6		32.7		45.6	45.55	1 / 8							
reaction time	0.218	interval					11.1		12.9		# of strides			11.10	12.90	21.60	24.00	2.40
		velocity			9.26		9.01		7.75	8.78				9.01	7.75	9.26	8.33	

Jackson, Bershawn (USA) (1983)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2007 USATF National Championships (Indianapolis, IN)

Track Newsletter (2007) - USATF men's championships

date	23-Jun-07	time					32.4		45.6	45.55	/ 5							
reaction time		interval							13.2		# of strides				13.20			
		velocity					9.26		7.58	8.78					7.58			

Larry, Lionel (USA) (1986)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 1 - 2008 USA Olympic Trials (Eugene, OR)

USATF Women's Sprint Development with HPC (2008)

date	30-Jun-08	time		11.04	16.25	21.82	27.31	33.23	39.09	45.55	45.55	4 / 4						
reaction time		interval			5.21	5.57	5.49	5.92	5.86	6.46		# of strides	11.04	10.78	11.41	12.32	21.82	23.73	1.91
		velocity		9.06	9.60	8.98	9.11	8.45	8.53	7.74	8.78		9.06	9.28	8.76	8.12	9.17	8.43	

Betters, LaJerald (USA) (1988)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 2 - 2008 USA Olympic Trials (Eugene, OR)

USATF Women's Sprint Development with HPC (2008)

date	30-Jun-08	time		11.16	16.19	21.56	27.11	32.98	38.92	45.55	45.55	6 / 5						
reaction time		interval			5.03	5.37	5.55	5.87	5.94	6.63		# of strides	11.16	10.40	11.42	12.57	21.56	23.99	2.43
		velocity		8.96	9.94	9.31	9.01	8.52	8.42	7.54	8.78		8.96	9.62	8.76	7.96	9.28	8.34	

Yousif, Rabah (SUD) (1986)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 1 - 2009 IAAF World Championships (Berlin, GER)

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

date	18-Aug-09	time		11.25		21.66		32.89		45.55	45.55	4 / 3						
reaction time	0.143	interval				10.41		11.23		12.66	PB	# of strides	11.25	10.41	11.23	12.66	21.66	23.89	2.23
		velocity		8.89		9.61		8.90		7.90	8.78		8.89	9.61	8.90	7.90	9.23	8.37	

Hurtault, Erison (DMA) (1984)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 7 - 2009 IAAF World Championships (Berlin, GER)

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

date	18-Aug-09	time		11.09		21.82		33.11		45.55	45.55	6 / 4						
reaction time	0.148	interval				10.73		11.29		12.44		# of strides	11.09	10.73	11.29	12.44	21.82	23.73	1.91
		velocity		9.02		9.32		8.86		8.04	8.78		9.02	9.32	8.86	8.04	9.17	8.43	

Henry, Tabarie (ISV) (1987)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2011 IAAF World Championships (Daegu, KOR)

Butler (2013) - IAAF world athletic results 2008-2011 full results

date	30-Aug-11	time						33.1		45.55	45.55	7 / 7						
reaction time	0.167	interval								12.5		# of strides				12.45			
		velocity						9.06		8.03	8.78	166.7				8.03			

Ogunode, Femi (QAT) (1991)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2011 IAAF World Championships (Daegu, KOR)

Butler (2013) - IAAF world athletic results 2008-2011 full results

date	30-Aug-11	time						33.5		45.55	45.55	1 / 8						
reaction time	0.167	interval								12.1		# of strides				12.05			
		velocity						8.96		8.30	8.78	184.2				8.30			

Hudson-Smith, Matthew (GBR) (1994

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2019 Müller Grand Prix (Birmingham, GBR)

Omega Timing (2019) - diamond league race analysis

date	18-Aug-19	time		11.3		21.9		33.1		45.55	45.55	7 / 3						
reaction time	0.165	interval				10.6		11.2		12.5		# of strides	11.30	10.60	11.20	12.45	21.90	23.65	1.75
		velocity		8.85		9.43		8.93		8.03	8.78	163.7	8.85	9.43	8.93	8.03	9.13	8.46	

Cherry, Michael (USA) (1995)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2019 Memorial van Damme (Brussels, BEL)

Omega Timing (2019) - diamond league race analysis

date	06-Sep-19	time	6.2	11.0	15.9	21.1	26.6	32.5	38.6	45.55	45.55	8 / 6						
reaction time	0.209	interval		4.8	4.9	5.2	5.5	5.9	6.1	13.1		# of strides	11.00	10.10	11.40	13.05	21.10	24.45	3.35
		velocity	8.06	10.42	10.20	9.62	9.09	8.47	8.20	7.66	8.78		9.09	9.90	8.77	7.66	9.48	8.18	

Walsh, Julian Jrummi (JPN) (1996)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2019 Asian Athletics Championships (Doha, QAT)

Yamanaka (2019) - race analysis of men and women 400m competition

date	22-Apr-19	time	6.20	11.21	16.37	21.67	27.24	33.09	39.12	45.55	45.55	2 / 5						
reaction time	0.151	interval		5.01	5.16	5.30	5.57	5.85	6.03	6.43		# of strides	11.21	10.46	11.42	12.46	21.67	23.88	2.21
		velocity	8.06	9.98	9.69	9.43	8.98	8.55	8.29	7.78	8.78		8.92	9.56	8.76	8.03	9.23	8.38	

Petrucciani, Ricky (SUI) (2000)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

date	16-Aug-22	time		11.07		21.49		32.91		45.55	45.55	3 / 2						
reaction time	0.227	interval				10.42		11.42		12.64		# of strides	11.07	10.42	11.42	12.64	21.49	24.06	2.57
		velocity		9.03		9.60		8.76		7.91	8.78	176.0	9.03	9.60	8.76	7.91	9.31	8.31	

McDonald, Rusheen (JAM) (1992)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)

Omega Timing (2023) - diamond league race analysis

date	28-May-23	time	6.28	11.30	16.52	21.96	27.57	33.41	39.29	45.55	45.55	7 / 3						
reaction time	0.203	interval		5.02	5.22	5.44	5.61	5.84	5.88	6.26		# of strides	11.30	10.66	11.45	12.14	21.96	23.59	1.63
		velocity	7.96	9.96	9.58	9.19	8.91	8.56	8.50	7.99	8.78	181.7	8.85	9.38	8.73	8.24	9.11	8.48	

Wright, Willington (USA) (2000)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 3 - 2024 USA Olympic Trials (Eugene, OR)

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

date	21-Jun-24	time		10.76		21.14		32.70		45.55	45.55	3 / 7						
reaction time		interval				10.38		11.56		12.85		# of strides	10.76	10.38	11.56	12.85	21.14	24.41	3.27
		velocity		9.29		9.63		8.65		7.78	8.78	169.5	9.29	9.63	8.65	7.78	9.46	8.19	

Jenkins, David (GBR) (1952)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1980 Olympic Games (Moscow, URS)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

date	30-Jul-80	time				21.2		32.4		45.6	45.56	8 / 7						
reaction time	0.169	interval						11.2		13.20		# of strides			11.20	13.20	21.20	24.40	3.20
		velocity				9.43		8.93		7.58	8.78				8.93	7.58	9.43	8.20	

Dabrowski, Daniel (POL) (1983)
FINAL - 2006 European Championships (Göteborg, SWE)
Behm (2006) - Championnats d'Europe Göteborg 2006… Le 400m avec ou sans obstacles

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Aug-06	time				22.4		33.0		45.56	45.56	/ 4							
reaction time		interval						10.60		12.56		# of strides			10.60	12.56	22.40	23.16	0.76
		velocity				8.93		18.87		7.96	8.78				9.43	7.96	8.93	8.64	

Milburn, Joel (AUS) (1986)
Heat 3 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-09	time		11.31		21.74		33.06		45.56	45.56	8 / 3							
reaction time	0.162	interval				10.43		11.32		12.50		# of strides	11.31	10.43	11.32	12.50	21.74	23.82	2.08
		velocity		8.84		9.59		8.83		8.00	8.78		8.84	9.59	8.83	8.00	9.20	8.40	

Khouaja, Mohamed Ashour (LBA) (1
Heat 7 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-09	time		11.27		21.63		33.02		45.56	45.56	3 / 5							
reaction time	0.207	interval				10.36		11.39		12.54	NR	# of strides	11.27	10.36	11.39	12.54	21.63	23.93	2.30
		velocity		8.87		9.65		8.78		7.97	8.78		8.87	9.65	8.78	7.97	9.25	8.36	

Bingham, Michael (GBR) (1986)
FINAL - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Aug-09	time		11.19		21.84		33.02		45.56	45.56	8 / 7							
reaction time	0.172	interval				10.65		11.18		12.54		# of strides	11.19	10.65	11.18	12.54	21.84	23.72	1.88
		velocity		8.94		9.39		8.94		7.97	8.78		8.94	9.39	8.94	7.97	9.16	8.43	

Tate, Tavaris (USA) (1990)
FINAL - 2010 NCAA Championships (Eugene, OR)
Track Newsletter (2010) - NCAA men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-Jun-10	time				21.8		33.0		45.6	45.56	/ 5							
reaction time		interval						11.2		12.6		# of strides			11.20	12.60	21.80	23.80	2.00
		velocity				9.17		8.93		7.94	8.78				8.93	7.94	9.17	8.40	

Pinder, Demetrius (BAH) (1989)
FINAL - 2010 NCAA Championships (Eugene, OR)
Track Newsletter (2010) - NCAA men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-Jun-10	time				21.8		33.1		45.6	45.56	/ 6							
reaction time		interval						11.3		12.5		# of strides			11.30	12.50	21.80	23.80	2.00
		velocity				9.17		8.85		8.00	8.78				8.85	8.00	9.17	8.40	

Harris, James (USA) (1991)
FINAL - 2013 NCAA Championships (Eugene, OR)
Track Newsletter (2013) - NCAA men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Jun-13	time				22.1		33.4		45.6	45.56	/ 5							
reaction time		interval						11.30		12.20		# of strides			11.30	12.20	22.10	23.50	1.40
		velocity				9.05		8.85		8.20	8.78				8.85	8.20	9.05	8.51	

Turner, Ismail (USA) (2001)
FINAL - 2022 USATF National Championships (Eugene, OR)
Track Newsletter (2022) - USATF championships men

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-22	time		10.75		21.32		32.83		45.56	45.56	/ ~~8~~ 7							
reaction time		interval				10.57		11.51		12.73		# of strides	10.75	10.57	11.51	12.73	21.32	24.24	2.92
		velocity		9.30		9.46		8.69		7.86	8.78		9.30	9.46	8.69	7.86	9.38	8.25	

Allison, Champion (USA) (1998)
Heat 4 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		11.51		21.91		33.32		45.56	45.56	3 / 1							
reaction time	0.146	interval				10.40		11.41		12.24		# of strides	11.51	10.40	11.41	12.24	21.91	23.65	1.74
		velocity		8.69		9.62		8.76		8.17	8.78	168.0	8.69	9.62	8.76	8.17	9.13	8.46	

Spitz, Lionel (SUI) (2001)
Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)
European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		11.08		21.66		33.12		45.56	45.56	7 / 4							
reaction time	0.170	interval				10.58		11.46		12.44		# of strides	11.08	10.58	11.46	12.44	21.66	23.90	2.24
		velocity		9.03		9.45		8.73		8.04	8.78	177.0	9.03	9.45	8.73	8.04	9.23	8.37	

Makwala, Isaac (BOT) (1986)
FINAL - 2022 Weltklasse (Zürich, SUI)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-22	time	6.17	11.26	16.52	21.85	27.29	32.87	38.81	45.56	45.56	2 / 6							
reaction time	0.165	interval		5.09	5.26	5.33	5.44	5.58	5.94	6.75		# of strides	11.26	10.59	11.02	12.69	21.85	23.71	1.86
		velocity	8.10	9.82	9.51	9.38	9.19	8.96	8.42	7.41	8.78		8.88	9.44	9.07	7.88	9.15	8.44	

Dringo, Mihai Sorin (ROU) (2001)
FINAL - 2023 European Athletics U23 Championships (Espoo, FIN)
European Athletics (2023) - european athletics U23 championships results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Jul-23	time		11.36		21.55		32.99		45.56	45.56	6 / 4							
reaction time	0.181	interval				10.19		11.44		12.57		# of strides	11.36	10.19	11.44	12.57	21.55	24.01	2.46
		velocity		8.80		9.81		8.74		7.96	8.78	178.2	8.80	9.81	8.74	7.96	9.28	8.33	

Jenkins, David (GBR) (1952)
FINAL - 1976 Olympic Games (Montreal, CAN)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-76	time				21.9		32.9		45.6	45.57	5 / 7							
reaction time		interval						11.00		12.70		# of strides			11.00	12.70	21.90	23.70	1.80
		velocity				9.13		9.09		7.87	8.78	173.0			9.09	7.87	9.13	8.44	

Young, Jerome (USA) (1976)
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)
USATF Women's Sprint Development (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jun-96	time		11.60		21.66		33.46	39.29	45.57	45.57	8 / 7							
reaction time		interval				10.06		11.80	5.83	6.28		# of strides	11.60	10.06	11.80	12.11	21.66	23.91	2.25
		velocity		8.62		9.94		8.47	8.58	7.96	8.78		8.62	9.94	8.47	8.26	9.23	8.36	

Brew, Derrick (USA) (1977)
Semi-Final 2 - 2003 USATF National Championships (Palo Alto, CA)
USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	20-Jun-03	time			21.67		33.38	39.26	45.57	45.57	4 / 1							
reaction time		interval					11.71	5.88	6.31		# of strides			11.71	12.19	21.67	23.90	2.23
		velocity			9.23		8.54	8.50	7.92	8.78				8.54	8.20	9.23	8.37	

Bingham, Michael (USA) (1986) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2007 NCAA Championships (Sacramento, CA) — *Track Newsletter (2006) - NCAA men's championships*

date	09-Jun-07	time					33.2		45.6	45.57	/ 5							
reaction time		interval							12.4	PB	# of strides				12.40			
		velocity					9.04		8.06	8.78					8.06			

Smith, Calvin (USA) (1987) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FiNAL - 2008 USA Olympic Trials (Eugene, OR) — *USATF Women's Sprint Development with HPC (2008)*

date	03-Jul-08	time		11.39	16.03	21.93	27.56	33.42	39.47	45.57	45.57	3 / 5						
reaction time		interval			4.64	5.90	5.63	5.86	6.05	6.10		# of strides	11.39	10.54	11.49	12.15	21.93	23.64	1.71
		velocity		8.78	10.78	8.47	8.88	8.53	8.26	8.20	8.78		8.78	9.49	8.70	8.23	9.12	8.46	

Chambers, Ricardo (JAM) (1984) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

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

date	18-Aug-09	time		11.22		21.62		32.91		45.57	45.57	5 / 3						
reaction time	0.172	interval				10.40		11.29		12.66		# of strides	11.22	10.40	11.29	12.66	21.62	23.95	2.33
		velocity		8.91		9.62		8.86		7.90	8.78		8.91	9.62	8.86	7.90	9.25	8.35	

Graham, Hugh (JAM) (1992) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2013 NCAA Championships (Eugene, OR) — *Track Newsletter (2013) - NCAA men's championships*

date	07-Jun-13	time				22.2		33.6		45.6	45.57	/ 6						
reaction time		interval						11.40		12.00		# of strides			11.40	12.00	22.20	23.40	1.20
		velocity				9.01		8.77		8.33	8.78				8.77	8.33	9.01	8.55	

Hudson-Smith, Matthew (GBR) (1994 — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2023 Bauhaus Galan (Stockholm, SWE) — *Omega Timing (2023) - diamond league race analysis*

date	02-Jul-23	time	6.22	11.30	16.47	21.72	27.15	32.90	39.00	45.57	45.57	6 / 3						
reaction time	0.156	interval		5.08	5.17	5.25	5.43	5.75	6.10	6.57		# of strides	11.30	10.42	11.18	12.67	21.72	23.85	2.13
		velocity	8.04	9.84	9.67	9.52	9.21	8.70	8.20	7.61	8.78		8.85	9.60	8.94	7.89	9.21	8.39	

Doom, Alexander (BEL) (1997) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

date	22-Aug-23	time		11.36		21.56		33.18		45.57	45.57	5 / 4						
reaction time	0.168	interval				10.20		11.62		12.39		# of strides	11.36	10.20	11.62	12.39	21.56	24.01	2.45
		velocity		8.80		9.80		8.61		8.07	8.78		8.80	9.80	8.61	8.07	9.28	8.33	

Yahia Ibrahim, Ammar Ismail (QAT) (1 — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2024 Seashore Doha Meeting (Doha, QAT) — *Omega Timing (2024) - diamond league race analysis*

date	10-May-24	time	6.34	11.45	16.73	22.14	27.67	33.46	39.33	45.47	45.57	1 / 5						
reaction time	0.144	interval		5.11	5.28	5.41	5.53	5.79	5.87	6.14	PB	# of strides	11.45	10.69	11.32	12.01	22.14	23.33	1.19
		velocity	7.89	9.78	9.47	9.24	9.04	8.64	8.52	8.14	8.78		8.73	9.35	8.83	8.33	9.03	8.57	

Ndori, Bayapo (BOT) (1999) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2024 Seashore Doha Meeting (Doha, QAT) — *Omega Timing (2024) - diamond league race analysis*

date	10-May-24	time	6.21	11.26	16.58	22.06	27.58	33.30	39.15	45.57	45.57	7 / 6						
reaction time	0.171	interval		5.05	5.32	5.48	5.52	5.72	5.85	6.42		# of strides	11.26	10.80	11.24	12.27	22.06	23.51	1.45
		velocity	8.05	9.90	9.40	9.12	9.06	8.74	8.55	7.79	8.78	177.0	8.88	9.26	8.90	8.15	9.07	8.51	

Ingvalsen, Håvard Bentdal (NOR) (20(— 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2024 Weltklasse (Zürich, SUI) — *Omega Timing (2024) - diamond league race analysis*

date	05-Sep-24	time	6.33	11.41	16.61	21.94	27.48	33.19	39.15	45.57	45.57	5 / 5						
reaction time	0.176	interval		5.08	5.20	5.33	5.54	5.71	5.96	6.42		# of strides	11.41	10.53	11.25	12.38	21.94	23.63	1.69
		velocity	7.90	9.84	9.62	9.38	9.03	8.76	8.39	7.79	8.78		8.76	9.50	8.89	8.08	9.12	8.46	

Parks, Maxie (USA) (1951) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 1976 USA Olympic Trials (Eugene, OR) — *Hymans (2008) - history of the US olympic trials - track and field*

date	25-Jun-76	time				21.6				45.58	45.58	/ 1						
reaction time		interval								24.0		# of strides				21.60	23.98	2.38
		velocity				9.26				8.34	8.78					9.26	8.34	

Kikaya, Gary (COD) (1980) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2007 IAAF World Athletic Final (Stuttgart, GER) — *Graubner (2007) - http://www.fgs.uni-halle.de*

date	22-Sep-07	time		11.24		21.65		38.77		45.58	45.58	4 / 4						
reaction time	0.155	interval				10.41		17.12		6.81		# of strides	11.24	10.41	17.12	6.81	21.65	23.93	2.28
		velocity		8.90		9.61		5.84		14.68	8.78		8.90	9.61	5.84	14.68	9.24	8.36	

Williamson, Darold (USA) (1983) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FiNAL - 2008 USA Olympic Trials (Eugene, OR) — *USATF Women's Sprint Development with HPC (2008)*

date	03-Jul-08	time		11.18	16.02	21.94	27.41	33.05	39.21	45.58	45.58	4 / 6						
reaction time		interval			4.84	5.92	5.47	5.64	6.16	6.37		# of strides	11.18	10.76	11.11	12.53	21.94	23.64	1.70
		velocity		8.94	10.33	8.45	9.14	8.87	8.12	7.85	8.78		8.94	9.29	9.00	7.98	9.12	8.46	

Sato, Kentaro (JPN) (1994) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Heat 1 - 2015 Japanese National Championships (Niigata, JPN) — *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

date	27-Jun-15	time	6.35	11.50	16.59	21.78	27.18	32.89	39.01	45.58	45.58	4 / 3						
reaction time	0.174	interval		5.15	5.09	5.19	5.40	5.71	6.12	6.57	PB	# of strides	11.50	10.28	11.11	12.69	21.78	23.80	2.02
		velocity	7.87	9.71	9.82	9.63	9.26	8.76	8.17	7.61	8.78	180.5	8.70	9.73	9.00	7.88	9.18	8.40	

Schneider, Patrick (GER) (1992) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Heat 4 - 2022 European Athletics Championships (Munich, GER) — *European Athletics (2022) - european athletics championships race analysis*

date	15-Aug-22	time		11.31		21.77		32.91		45.58	45.58	7 / 2						
reaction time	0.141	interval				10.46		11.14		12.67		# of strides	11.31	10.46	11.14	12.67	21.77	23.81	2.04
		velocity		8.84		9.56		8.98		7.89	8.78		8.84	9.56	8.98	7.89	9.19	8.40	

Nene, Zakhiti (RSA) (1998)

FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)

Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-23	time	6.11	10.99	16.13	21.52	27.06	32.88	38.90	45.58	45.58	8 / 4							
reaction time	0.158	interval		4.88	5.14	5.39	5.54	5.82	6.02	6.68		# of strides	10.99	10.53	11.36	12.70	21.52	24.06	2.54
		velocity	8.18	10.25	9.73	9.28	9.03	8.59	8.31	7.49	8.78	178.2	9.10	9.50	8.80	7.87	9.29	8.31	

Pillay, Lythe (RSA) (2003)

Heat 5 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		11.20		21.67		33.25		45.58	45.58	7 / 4							
reaction time	0.161	interval				10.47		11.58		12.33		# of strides	11.20	10.47	11.58	12.33	21.67	23.91	2.24
		velocity		8.93		9.55		8.64		8.11	8.78		8.93	9.55	8.64	8.11	9.23	8.36	

Faust, Brian (USA) (1999)

Heat 4 - 2024 USA Olympic Trials (Eugene, OR)

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-24	time		11.13		21.72		33.30		45.58	45.58	3 / 3							
reaction time		interval				10.59		11.58		12.28		# of strides	11.13	10.59	11.58	12.28	21.72	23.86	2.14
		velocity		8.98		9.44		8.64		8.14	8.78	183.0	8.98	9.44	8.64	8.14	9.21	8.38	

Fiasconaro, Marcello (ITA) (1949)

FINAL - 1971 European Championships (Helsinki, FIN)

Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Aug-71	time				22.0				45.5	45.59	/ 2							
reaction time		interval								23.5	NR / PB	# of strides					22.00	23.50	1.50
		velocity				9.09				8.51	8.77						9.09	8.51	

Hurtault, Erison (DMA) (1984)

Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Aug-09	time						32.97		45.59	45.59	2 / 5							
reaction time	0.151	interval								12.62		# of strides				12.62			
		velocity						9.10		7.92	8.77					7.92			

Chambers, Marcus (USA) (1994)

FINAL - 2015 NCAA Championships (Eugene, OR)

Track Newsletter (2015) - NCAA men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Jun-15	time				22.6				45.6	45.59	/ 2							
reaction time		interval								23.00		# of strides					22.60	23.00	0.40
		velocity				8.85				8.70	8.77						8.85	8.70	

Gayle, Steven (JAM) (1994)

FINAL - 2017 NCAA Championships (Eugene, OR)

Track Newsletter (2017) - NCAA men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-17	time				21.5		33.0		45.6	45.59	/ 7							
reaction time		interval						11.50		12.60		# of strides			11.50	12.60	21.50	24.10	2.60
		velocity				9.30		8.70		7.94	8.77				8.70	7.94	9.30	8.30	

Hudson-Smith, Matthew (GBR) (1994

FINAL - 2018 Müller Grand Prix (Birmingham, GBR)

Omega Timing (2018) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-18	time		11.3		22.0		33.2		45.59	45.59	5 / 2							
reaction time	0.141	interval				10.7		11.2		12.4		# of strides	11.30	10.70	11.20	12.39	22.00	23.59	1.59
		velocity		8.85		9.35		8.93		8.07	8.77	176.5	8.85	9.35	8.93	8.07	9.09	8.48	

Abubaker, Abbas (BRN) (1996)

Semi-Final 1 - 2018 Asian Games (Jakarta, INA)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Aug-18	time	6.36	11.41	16.57	22.03	27.63	33.33	39.22	45.59	45.59	3 / 1							
reaction time	0.178	interval		5.05	5.16	5.46	5.60	5.70	5.89	6.37		# of strides	11.41	10.62	11.30	12.26	22.03	23.56	1.53
		velocity	7.86	9.90	9.69	9.16	8.93	8.77	8.49	7.85	8.77		8.76	9.42	8.85	8.16	9.08	8.49	

Montgomery, Kahmari (USA) (1997)

FINAL - 2019 Müller Grand Prix (Birmingham, GBR)

Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-19	time		11.2		21.7		33.1		45.59	45.59	2 / 4							
reaction time	0.213	interval				10.5		11.4		12.5		# of strides	11.20	10.50	11.40	12.49	21.70	23.89	2.19
		velocity		8.93		9.52		8.77		8.01	8.77	178.7	8.93	9.52	8.77	8.01	9.22	8.37	

Norwood, Vernon (USA) (1992)

FINAL - 2021 Athletissima (Lausanne, SUI)

Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-21	time	6.1	11.1	16.3	21.7	27.2	32.9	39.0	45.59	45.59	4 / 5							
reaction time	0.167	interval		5.00	5.20	5.40	5.50	5.70	6.10	6.59		# of strides	11.10	10.60	11.20	12.69	21.70	23.89	2.19
		velocity	8.20	10.00	9.62	9.26	9.09	8.77	8.20	7.59	8.77		9.01	9.43	8.93	7.88	9.22	8.37	

Re, Davide (ITA) (1993)

National FINAL - 2022 Weltklasse (Zürich, SUI)

Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-22	time	6.31	11.35	16.55	21.91	27.44	33.21	39.21	45.59	45.59	3 / 4							
reaction time	0.152	interval		5.04	5.20	5.36	5.53	5.77	6.00	6.38		# of strides	11.35	10.56	11.30	12.38	21.91	23.68	1.77
		velocity	7.92	9.92	9.62	9.33	9.04	8.67	8.33	7.84	8.77		8.81	9.47	8.85	8.08	9.13	8.45	

Haydock-Wilson, Alex (GBR) (1999)

FINAL - 2023 London Athletics Meet (London, GBR)

Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jul-23	time	6.18	11.25	16.41	21.56	26.93	32.66	38.79	45.59	45.59	1 / 8							
reaction time	0.142	interval		5.07	5.16	5.15	5.37	5.73	6.13	6.80		# of strides	11.25	10.31	11.10	12.93	21.56	24.03	2.47
		velocity	8.09	9.86	9.69	9.71	9.31	8.73	8.16	7.35	8.77	177.0	8.89	9.70	9.01	7.73	9.28	8.32	

Borlée, Dylan (BEL) (1992)

Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-23	time		11.16		21.38		32.93		45.59	45.59	3 / 7							
reaction time	0.153	interval				10.22		11.55		12.66		# of strides	11.16	10.22	11.55	12.66	21.38	24.21	2.83
		velocity		8.96		9.78		8.66		7.90	8.77	175.0	8.96	9.78	8.66	7.90	9.35	8.26	

Scotti, Edoardo (ITA) (2000)

Heat 1 - 2024 European Athletics Championships (Roma, ITA)

European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	08-Jun-24	time		11.41		22.04		33.54		45.59	45.59	7 / 2						
reaction time	0.180	interval				10.63		11.50		12.05		# of strides	11.41	10.63	11.50	12.05	22.04	23.55	1.51
		velocity		8.76		9.41		8.70		8.30	8.77		8.76	9.41	8.70	8.30	9.07	8.49	

McRae, Khaleb (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)																	
date	23-Jun-24	time		11.13		21.73		33.20		45.59	45.59	7 / 2							
reaction time		interval				10.60		11.47		12.39		# of strides	11.13	10.60	11.47	12.39	21.73	23.86	2.13
		velocity		8.98		9.43		8.72		8.07	8.77	178.0	8.98	9.43	8.72	8.07	9.20	8.38	

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

Diouf, Cheikh Tidiane (SEN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2024 Olympic Games (Paris, FRA)																	
date	04-Aug-24	time	6.19	11.14	16.22	21.44	26.97	32.80	38.98	45.59	45.59	2 / 5							
reaction time	0.217	interval		4.95	5.08	5.22	5.53	5.83	6.18	6.61		# of strides	11.14	10.30	11.36	12.79	21.44	24.15	2.71
		velocity	8.08	10.10	9.84	9.58	9.04	8.58	8.09	7.56	8.77	165.0	8.98	9.71	8.80	7.82	9.33	8.28	

Paris 2024 Olympic Games - Results Book (2024)

Pohorilko, Oleksandr (UKR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 2 - 2024 Olympic Games (Paris, FRA)																	
date	05-Aug-24	time	6.39	11.67	17.05	22.46	27.92	33.53	39.38	45.59	45.59	3 / 3							
reaction time	0.193	interval		5.28	5.38	5.41	5.46	5.61	5.85	6.21		# of strides	11.67	10.79	11.07	12.06	22.46	23.13	0.67
		velocity	7.82	9.47	9.29	9.24	9.16	8.91	8.55	8.05	8.77	175.0	8.57	9.27	9.03	8.29	8.90	8.65	

Paris 2024 Olympic Games - Results Book (2024)

Ndori, Bayapo (BOT) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Memorial van damme (Brussels, BEL)																	
date	13-Sep-24	time	6.13	10.97	16.05	21.35	26.86	32.67	38.84	45.59	45.59	8 / 5							
reaction time	0.176	interval		4.84	5.08	5.30	5.51	5.81	6.17	6.75		# of strides	10.97	10.38	11.32	12.92	21.35	24.24	2.89
		velocity	8.16	10.33	9.84	9.43	9.07	8.61	8.10	7.41	8.77	178.0	9.12	9.63	8.83	7.74	9.37	8.25	

Omega Timing (2024) - diamond league race analysis

Borlée, Dylan (BEL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Invitational - 2024 Memorial van damme (Brussels, BEL)																	
date	13-Sep-24	time	6.27	11.41	16.64	22.00	27.50	33.26	39.20	45.59	45.59	4 / 2							
reaction time	0.160	interval		5.14	5.23	5.36	5.50	5.76	5.94	6.39		# of strides	11.41	10.59	11.26	12.33	22.00	23.59	1.59
		velocity	7.97	9.73	9.56	9.33	9.09	8.68	8.42	7.82	8.77		8.76	9.44	8.88	8.11	9.09	8.48	

Omega Timing (2024) - diamond league race analysis

Nwachukwu, Debem (NGR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2023 World Athletics Championships (Budapest, HUN)																	
date	20-Aug-23	time		11.02		21.82		33.37		45.60	45.60	9 / 6							
reaction time	0.190	interval				10.80		11.55		12.23		# of strides	11.02	10.80	11.55	12.23	21.82	23.78	1.96
		velocity		9.07		9.26		8.66		8.18	8.77		9.07	9.26	8.66	8.18	9.17	8.41	

Seiko Timing (2023) - world championship race analysis

Watrin, Julien (BEL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2023 Memorial van Damme (Brussels, BEL)																	
date	08-Sep-23	time	6.25	11.20	16.23	21.46	27.03	32.87	38.99	45.60	45.60	6 / 3							
reaction time	0.246	interval		4.95	5.03	5.23	5.57	5.84	6.12	6.61		# of strides	11.20	10.26	11.41	12.73	21.46	24.14	2.68
		velocity	8.00	10.10	9.94	9.56	8.98	8.56	8.17	7.56	8.77		8.93	9.75	8.76	7.86	9.32	8.29	

Omega Timing (2023) - diamond league race analysis

Scotch, Leungo (BOT) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)																	
date	02-Jun-24	time	6.17	11.20	16.36	21.66	27.24	33.00	38.96	45.60	45.60	3 / 4							
reaction time	0.173	interval		5.03	5.16	5.30	5.58	5.76	5.96	6.64		# of strides	11.20	10.46	11.34	12.60	21.66	23.94	2.28
		velocity	8.10	9.94	9.69	9.43	8.96	8.68	8.39	7.53	8.77		8.93	9.56	8.82	7.94	9.23	8.35	

Omega Timing (2024) - diamond league race analysis

Sato, Kentaro (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 Olympic Games (Paris, FRA)																	
date	04-Aug-24	time	6.30	11.41	16.59	21.85	27.32	33.01	39.09	45.60	45.60	2 / 5							
reaction time	0.185	interval		5.11	5.18	5.26	5.47	5.69	6.08	6.51		# of strides	11.41	10.44	11.16	12.59	21.85	23.75	1.90
		velocity	7.94	9.78	9.65	9.51	9.14	8.79	8.22	7.68	8.77	175.0	8.76	9.58	8.96	7.94	9.15	8.42	

Paris 2024 Olympic Games - Results Book (2024)

Pillay, Lythe (RSA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 Olympic Games (Paris, FRA)																	
date	04-Aug-24	time	6.16	11.07	16.12	21.37	26.87	32.65	38.79	45.60	45.60	6 / 7							
reaction time	0.157	interval		4.91	5.05	5.25	5.50	5.78	6.14	6.81		# of strides	11.07	10.30	11.28	12.95	21.37	24.23	2.86
		velocity	8.12	10.18	9.90	9.52	9.09	8.65	8.14	7.34	8.77	174.5	9.03	9.71	8.87	7.72	9.36	8.25	

Paris 2024 Olympic Games - Results Book (2024)

Ingvalsen, Håvard Bentdal (NOR) (20(

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 Olympic Games (Paris, FRA)																	
date	06-Aug-24	time	6.33	11.31	16.44	21.78	27.33	33.17	39.22	45.60	45.60	9 / 7							
reaction time	0.209	interval		4.98	5.13	5.34	5.55	5.84	6.05	6.38		# of strides	11.31	10.47	11.39	12.43	21.78	23.82	2.04
		velocity	7.90	10.04	9.75	9.36	9.01	8.56	8.26	7.84	8.77		8.84	9.55	8.78	8.05	9.18	8.40	

Paris 2024 Olympic Games - Results Book (2024)

Pettigrew, Antonio (USA) (1967)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 ISTAF (Berlin, GER)																	
date	01-Sep-00	time		11.96		22.99		33.82		45.61	45.61	/ ~~3~~							
reaction time		interval				11.03		10.83		11.79	DV	# of strides	11.96	11.03	10.83	11.79	22.99	22.62	-0.37
		velocity		8.36		9.07		9.23		8.48	8.77		8.36	9.07	9.23	8.48	8.70	8.84	

Graubner (2009) - http://www.fgs.uni-halle.de

Washington, Tyree (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Championships (Carson, CA)																	
date	25-Jun-05	time		11.40	16.65	22.11	27.58	33.29	39.34	45.61	45.61	1 / 7							
reaction time		interval			5.25	5.46	5.47	5.71	6.05	6.27		# of strides	11.40	10.71	11.18	12.32	22.11	23.50	1.39
		velocity		8.77	9.52	9.16	9.14	8.76	8.26	7.97	8.77		8.77	9.34	8.94	8.12	9.05	8.51	

USATF Women's Sprint Development (2005)

Brown, Chris (BAH) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 ISTAF (Berlin, GER)																	
date	14-Jun-09	time		11.09		21.55		32.93		45.61	45.61	4 / 1							
reaction time	0.277	interval				10.46		11.38		12.68		# of strides	11.09	10.46	11.38	12.68	21.55	24.06	2.51
		velocity		9.02		9.56		8.79		7.89	8.77		9.02	9.56	8.79	7.89	9.28	8.31	

Graubner (2009) - http://www.fgs.uni-halle.de

Borlée, Kevin (BEL) (1988)
Heat 2 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-09	time		11.17		21.70		33.12		45.61	45.61	8 / 3							
reaction time	0.144	interval				10.53		11.42		12.49		# of strides	11.17	10.53	11.42	12.49	21.70	23.91	2.21
		velocity		8.95		9.50		8.76		8.01	8.77		8.95	9.50	8.76	8.01	9.22	8.36	

Glass, Najee (USA) (1994)
FINAL - 2016 NCAA Championships (Eugene, OR)
Track Newsletter (2016) - NCAA men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Jun-16	time				21.8		32.9		45.6	45.61	/ ~~5~~							
reaction time		interval						11.10		12.70	DQ	# of strides			11.10	12.70	21.80	23.80	2.00
		velocity				9.17		9.01		7.87	8.77				9.01	7.87	9.17	8.40	

Cherry, Michael (USA) (1995)
FINAL - 2019 Müller Grand Prix (Birmingham, GBR)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-19	time		11.4		22.3		33.5		45.61	45.61	8 / 5							
reaction time	0.148	interval				10.9		11.2		12.1		# of strides	11.40	10.90	11.20	12.11	22.30	23.31	1.01
		velocity		8.77		9.17		8.93		8.26	8.77	164.2	8.77	9.17	8.93	8.26	8.97	8.58	

Sato, Kentaro (JPN) (1994)
FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)
Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-May-21	time	6.04	10.93	15.97	21.33	27.03	32.97	39.11	45.61	45.61	7 / 1							
reaction time	0.176	interval		4.89	5.04	5.36	5.70	5.94	6.14	6.50		# of strides	10.93	10.40	11.64	12.64	21.33	24.28	2.95
		velocity	8.28	10.22	9.92	9.33	8.77	8.42	8.14	7.69	8.77	178.0	9.15	9.62	8.59	7.91	9.38	8.24	

Allen, Nathon (JAM) (1995)
Heat 5 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		11.48		22.13		33.45		45.61	45.61	3 / 3							
reaction time	0.142	interval				10.65		11.32		12.16		# of strides	11.48	10.65	11.32	12.16	22.13	23.48	1.35
		velocity		8.71		9.39		8.83		8.22	8.77	166.2	8.71	9.39	8.83	8.22	9.04	8.52	

Maybank, Anthuan (USA) (1969)
FINAL - 2003 USATF National Championships (Palo Alto, CA)
USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-03	time				21.67		32.91	39.00	45.62	45.62	3 / ~~7~~ 5							
reaction time		interval						11.24	6.09	6.62		# of strides			11.24	12.71	21.67	23.95	2.28
		velocity				9.23		8.90	8.21	7.55	8.77				8.90	7.87	9.23	8.35	

Dabrowski, Daniel (POL) (1983)
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)
Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Sep-05	time		11.45		22.12		33.22	39.21	45.62	45.62	7 / 2							
reaction time		interval				10.67		11.10	5.99	6.41	PB	# of strides	11.45	10.67	11.10	12.40	22.12	23.50	1.38
		velocity		8.73		9.37		9.01	8.35	7.80	8.77		8.73	9.37	9.01	8.06	9.04	8.51	

Dedewo, Paul (USA) (1991)
FINAL - 2018 Müller Grand Prix (Birmingham, GBR)
Omega Timing (2018) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-18	time		11.5		22.1		33.4		45.62	45.62	4 / 3							
reaction time	0.233	interval				10.6		11.3		12.2		# of strides	11.50	10.60	11.30	12.22	22.10	23.52	1.42
		velocity		8.70		9.43		8.85		8.18	8.77	179.7	8.70	9.43	8.85	8.18	9.05	8.50	

Haydock-Wilson, Alex (GBR) (1999)
Heat 1 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		11.45		22.19		33.25		45.62	45.62	7 / 3							
reaction time	0.156	interval				10.74		11.06		12.37		# of strides	11.45	10.74	11.06	12.37	22.19	23.43	1.24
		velocity		8.73		9.31		9.04		8.08	8.77		8.73	9.31	9.04	8.08	9.01	8.54	

Adoli, Aaron (UGA) (1994)
FINAL - 2022 Commonwealth Games (Birmingham, GBR)
Longines Timing (2022) - commonwealth games race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-22	time	6.4	11.4	16.5	21.7	27.2	33.0	38.8	45.62	45.62	4 / 5							
reaction time	0.234	interval		5.00	5.10	5.20	5.50	5.80	5.80	6.82	PB	# of strides	11.40	10.30	11.30	12.62	21.70	23.92	2.22
		velocity	7.81	10.00	9.80	9.62	9.09	8.62	8.62	7.33	8.77		8.77	9.71	8.85	7.92	9.22	8.36	

Zalewski, Karol (POL) (1993)
FINAL - 2022 European Athletics Championships (Munich, GER)
European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Aug-22	time		11.06		21.57		33.07		45.62	45.62	1 / 6							
reaction time	0.178	interval				10.51		11.50		12.55		# of strides	11.06	10.51	11.50	12.55	21.57	24.05	2.48
		velocity		9.04		9.51		8.70		7.97	8.77	169.0	9.04	9.51	8.70	7.97	9.27	8.32	

Ndori, Bayapo (BOT) (1999)
FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-23	time	6.06	11.01	16.20	21.60	27.12	32.93	39.03	45.62	45.62	3 / 5							
reaction time	0.164	interval		4.95	5.19	5.40	5.52	5.81	6.10	6.59		# of strides	11.01	10.59	11.33	12.69	21.60	24.02	2.42
		velocity	8.25	10.10	9.63	9.26	9.06	8.61	8.20	7.59	8.77	177.0	9.08	9.44	8.83	7.88	9.26	8.33	

Sato, Fuga (JPN) (1996)
Heat 1 - 2023 Japanese National Championsips (Osaka, JPN)
Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Jun-23	time	6.13	11.12	16.22	21.53	27.10	32.95	39.06	45.62	45.62	6 / 1							
reaction time	0.180	interval		4.99	5.10	5.31	5.57	5.85	6.11	6.56		# of strides	11.12	10.41	11.42	12.67	21.53	24.09	2.56
		velocity	8.16	10.02	9.80	9.42	8.98	8.55	8.18	7.62	8.77	175.0	8.99	9.61	8.76	7.89	9.29	8.30	

Borlée, Dylan (BEL) (1992)
Heat 3 - 2024 European Athletics Championships (Roma, ITA)
European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jun-24	time		11.41		21.88		33.27		45.62	45.62	5 / 4							
reaction time	0.157	interval				10.47		11.39		12.35		# of strides	11.41	10.47	11.39	12.35	21.88	23.74	1.86
		velocity		8.76		9.55		8.78		8.10	8.77		8.76	9.55	8.78	8.10	9.14	8.42	

Norman, Michael (USA) (1997)
FINAL - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	07-Aug-24	time	5.96	10.85	15.85	21.11	26.73	32.59	38.87	45.62	45.62	4 / 8						
reaction time	0.150	interval		4.89	5.00	5.26	5.62	5.86	6.28	6.75		# of strides	10.85	10.26	11.48	13.03	21.11	24.51	3.40
		velocity	8.39	10.22	10.00	9.51	8.90	8.53	7.96	7.41	8.77	172.0	9.22	9.75	8.71	7.67	9.47	8.16	

Malual, Ismail Daoud (QAT) (2006) — **Invitational FINAL** - 2025 Jetour Doha Meeting (Doha, QAT) — *Omega Timing (2025) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-May-25	time	6.55	11.65	17.12	22.79	28.35	33.90	39.53	45.62	45.62	6 / 1							
reaction time	0.189	interval		5.10	5.47	5.67	5.56	5.55	5.63	6.09		# of strides	11.65	11.14	11.11	11.72	22.79	22.83	0.04
		velocity	7.63	9.80	9.14	8.82	8.99	9.01	8.88	8.21	8.77		8.58	8.98	9.00	8.53	8.78	8.76	

Werner, Jan (POL) (1946) — **FINAL** - 1976 Olympic Games (Montreal, CAN) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-76	time				22.1		33.1		45.7	45.63	1 / 8							
reaction time		interval						11.00		12.60		# of strides		22.10	11.00	12.60	22.10	23.60	1.50
		velocity				9.05		9.09		7.94	8.77	169.2		9.05	9.09	7.94	9.05	8.47	

Haughton, Gregory (JAM) (1973) — **FINAL** - 1993 IAAF World Championships (Stuttgart, GER) — *Butler (2013) - IAAF world championships statistics handbook- moscow 2013*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Aug-93	time				21.88				45.63	45.63	2 / 6							
reaction time		interval								23.75		# of strides					21.88	23.75	1.87
		velocity				9.14				8.42	8.77	167.0					9.14	8.42	

Black, Roger (GBR) (1966) — **FINAL** - 1997 European Cup (Munich, GER) — *Jung (2003) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-97	time		11.61		22.41		33.56		45.65	45.63	/ 1							
reaction time		interval				10.80		11.15		12.09		# of strides	11.61	10.80	11.15	12.09	22.41	23.24	0.83
		velocity		8.61		9.26		8.97		8.27	8.77		8.61	9.26	8.97	8.27	8.92	8.61	

Yousif, Rabah (SUD) (1986) — **Semi-Final 2** - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Aug-09	time		11.33		21.80		33.07		45.63	45.63	7 / 6							
reaction time	0.175	interval				10.47		11.27		12.56		# of strides	11.33	10.47	11.27	12.56	21.80	23.83	2.03
		velocity		8.83		9.55		8.87		7.96	8.77		8.83	9.55	8.87	7.96	9.17	8.39	

Glass, Najee (USA) (1994) — **FINAL** - 2014 NCAA Championships (Eugene, OR) — *Track Newsletter (2014) - NCAA men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jun-14	time				21.7		32.9		45.6	45.63	/ 5							
reaction time		interval						11.20		12.70		# of strides			11.20	12.70	21.70	23.90	2.20
		velocity				9.22		8.93		7.87	8.77				8.93	7.87	9.22	8.37	

Walsh, Julian Jrummi (JPN) (1996) — **FINAL** - 2018 Seiko Golden Grand Prix (Osaka, JPN) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-May-18	time	6.10	11.04	16.10	21.38	26.99	32.90	39.11	45.63	45.63	6 / 1							
reaction time	0.133	interval		4.94	5.06	5.28	5.61	5.91	6.21	6.52		# of strides	11.04	10.34	11.52	12.73	21.38	24.25	2.87
		velocity	8.20	10.12	9.88	9.47	8.91	8.46	8.05	7.67	8.77	169.5	9.06	9.67	8.68	7.86	9.35	8.25	

Anas, Y. Muhammed (IND) (1994) — **Heat 1** - 2018 Asian Games (Jakarta, INA) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Aug-18	time	6.13	11.04	16.16	21.56	27.21	33.06	39.25	45.63	45.63	3 / 1							
reaction time	0.180	interval		4.91	5.12	5.40	5.65	5.85	6.19	6.38		# of strides	11.04	10.52	11.50	12.57	21.56	24.07	2.51
		velocity	8.16	10.18	9.77	9.26	8.85	8.55	8.08	7.84	8.77		9.06	9.51	8.70	7.96	9.28	8.31	

Hudson-Smith, Matthew (GBR) (1994 — **National FINAL** - 2019 Memorial van Damme (Brussels, BEL) — *Omega Timing (2019) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Sep-19	time	6.2	11.2	16.2	21.5	26.9	32.8	38.9	45.63	45.63	6 / 2							
reaction time		interval		5.0	5.0	5.3	5.4	5.9	6.1	12.8		# of strides	11.20	10.30	11.30	12.83	21.50	24.13	2.63
		velocity	8.06	10.00	10.00	9.43	9.26	8.47	8.20	7.79	8.77		8.93	9.71	8.85	7.79	9.30	8.29	

Litvin, Mikhail (KAZ) (1996) — **Semi-Final 3** - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-22	time		11.37		21.67		33.04		45.63	45.63	1 / 7							
reaction time	0.189	interval				10.30		11.37		12.59		# of strides	11.37	10.30	11.37	12.59	21.67	23.96	2.29
		velocity		8.80		9.71		8.80		7.94	8.77		8.80	9.71	8.80	7.94	9.23	8.35	

Ferlan, Rok (SLO) (1997) — **Semi-Final 1** - 2024 European Athletics Championships (Roma, ITA) — *European Athletics (2024) - 2024 european athletics championships - results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-24	time		11.10		21.76		33.08		45.63	45.63	2 / 7							
reaction time	0.156	interval				10.66		11.32		12.55		# of strides	11.10	10.66	11.32	12.55	21.76	23.87	2.11
		velocity		9.01		9.38		8.83		7.97	8.77	188.7	9.01	9.38	8.83	7.97	9.19	8.38	

Blockburger, Johnnie (USA) (2002) — **Semi-Final 3** - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-24	time		11.05		21.56		33.11		45.63	45.63	6 / 3							
reaction time		interval				10.51		11.55		12.52		# of strides	11.05	10.51	11.55	12.52	21.56	24.07	2.51
		velocity		9.05		9.51		8.66		7.99	8.77	171.0	9.05	9.51	8.66	7.99	9.28	8.31	

Lea, Jim (USA) (1932) — **FINAL** - 1956 California Relays (Modesto, CA) (yards) — *Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-56	time				22.7				45.5	45.5	/ 1							
reaction time		interval								22.8	**WR** yards	# of strides					22.70	22.80	0.10
		velocity				8.81				8.77	8.79	*(45.8/440y)*					8.81	8.77	

Davis, Glenn (USA) (1934) — **FINAL** - 1958 Big 10 Championships (Lafayette, IN) (*yards*) — *Hymans (2015) - progression of IAAF world records - 2015 edition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-May-58	time				22.3				45.5	45.5	/ 1							
reaction time		interval								23.2	**=WR** yards	# of strides					22.30	23.20	0.90
		velocity				8.97				8.62	8.79	*(45.8/440y)*					8.97	8.62	

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

Davis, Otis (USA) (1932)
Semi-Final 1 - 1960 Olympic Games (Rome, ITA)
Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Sep-60	time				22.5				45.5	45.5	/ 1							
reaction time		interval								23.0	OR	# of strides					22.50	23.00	0.50
		velocity				8.89				8.70	8.79	*(45.62)*					8.89	8.70	

Spence, Malcolm (RSA) (1937)
FINAL - 1960 Olympic Games (Rome, ITA)
Khomenkov (1982) - a textbook for a track and field coach

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Sep-60	time		11.1		21.4		32.7		45.5	45.5	4 / 3							
reaction time		interval				10.3		11.3		12.8	*(45.60)*	# of strides	11.10	10.30	11.30	12.80	21.40	24.10	2.70
		velocity		9.01		9.71		8.85		7.81	8.79		9.01	9.71	8.85	7.81	9.35	8.30	

James, Larry (USA) (1947)
FINAL - 1969 NCAA Championships (Knoxville, TN) (*yards*)
Hymans (2015) - progression of IAAF world records - 2015 edition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-69	time				20.9				45.5	45.5	/ 5							
reaction time		interval								24.6		# of strides					20.90	24.60	3.70
		velocity				9.57				8.13	8.79	*(45.8/440y)*					9.57	8.13	

Murphy, Miles (AUS) (1967)
FINAL - 1986 IAAF World Junior Championships (Athens, GRE)
Moravec (1986) - IAAF biomechanical research - Athens 1986 - sprints

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Jul-86	time		11.15		21.46		32.74		45.64	45.64	/ 1							
reaction time		interval				10.31		11.28		12.90	CR	# of strides	11.15	10.31	11.28	12.90	21.46	24.18	2.72
		velocity		8.97		9.70		8.87		7.75	8.76		8.97	9.70	8.87	7.75	9.32	8.27	

Hernández, Roberto (CUB) (1967)
FINAL - 1986 IAAF World Junior Championships (Athens, GRE)
Moravec (1986) - IAAF biomechanical research - Athens 1986 - sprints

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Jul-86	time		11.23		21.36		32.59		45.64	45.64	/ 2							
reaction time		interval				10.13		11.23		13.05		# of strides	11.23	10.13	11.23	13.05	21.36	24.28	2.92
		velocity		8.90		9.87		8.90		7.66	8.76		8.90	9.87	8.90	7.66	9.36	8.24	

Watts, Quincy (USA) (1970)
FINAL - 1996 USA Olympic Trials (Atlanta, GA)
USATF Women's Sprint Development (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Jun-96	time		10.92		21.16		32.52	38.68	45.64	45.64	2 / ~~8~~ 7							
reaction time		interval				10.24		11.36	6.16	6.96		# of strides	10.92	10.24	11.36	13.12	21.16	24.48	3.32
		velocity		9.16		9.77		8.80	8.12	7.18	8.76		9.16	9.77	8.80	7.62	9.45	8.17	

Collins, Ashton (USA) (1984)
FINAL - 2003 USATF National Junior Championships (Palo Alto, CA)
USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-03	time				22.36		33.72	39.42	45.64	45.64	4 / 1							
reaction time		interval						11.36	5.70	6.22	PB	# of strides			11.36	11.92	22.36	23.28	0.92
		velocity				8.94		8.80	8.77	8.04	8.76				8.80	8.39	8.94	8.59	

Nixon, Greg (USA) (1981)
FINAL - 2008 USA Olympic Trials (Eugene, OR)
USATF Women's Sprint Development with HPC (2008)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Jul-08	time		11.16	15.70	21.52	27.01	32.79	38.95	45.64	45.64	2 / 7							
reaction time		interval			4.54	5.82	5.49	5.78	6.16	6.69		# of strides	11.16	10.36	11.27	12.85	21.52	24.12	2.60
		velocity		8.96	11.01	8.59	9.11	8.65	8.12	7.47	8.76		8.96	9.65	8.87	7.78	9.29	8.29	

Larry, Lionel (USA) (1986)
Heat 1 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-09	time		11.07		21.49		32.92		45.64	45.64	3 / 4							
reaction time	0.152	interval				10.42		11.43		12.72		# of strides	11.07	10.42	11.43	12.72	21.49	24.15	2.66
		velocity		9.03		9.60		8.75		7.86	8.76		9.03	9.60	8.75	7.86	9.31	8.28	

Harris, James (USA) (1991)
FINAL - 2014 NCAA Championships (Eugene, OR)
Track Newsletter (2014) - NCAA men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jun-14	time				21.5		32.8		45.6	45.64	/ 6							
reaction time		interval						11.30		12.80		# of strides			11.30	12.80	21.50	24.10	2.60
		velocity				9.30		8.85		7.81	8.76				8.85	7.81	9.30	8.30	

Kiprotich, Geoffrey (KEN) (1997)
FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jul-16	time	6.42	11.45	16.55	21.76	27.21	33.02	39.07	45.64	45.64	4 / 4							
reaction time	0.192	interval		5.03	5.10	5.21	5.45	5.81	6.05	6.57		# of strides	11.45	10.31	11.26	12.62	21.76	23.88	2.12
		velocity	7.79	9.94	9.80	9.60	9.17	8.61	8.26	7.61	8.76		8.73	9.70	8.88	7.92	9.19	8.38	

Gaye, Demish (JAM) (1993)
FINAL - 2019 Müller Grand Prix (Birmingham, GBR)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-19	time		11.4		21.8		33.3		45.64	45.64	4 / 6							
reaction time	0.153	interval				10.4		11.5		12.3		# of strides	11.40	10.40	11.50	12.34	21.80	23.84	2.04
		velocity		8.77		9.62		8.70		8.10	8.76	182.5	8.77	9.62	8.70	8.10	9.17	8.39	

Coelho, João (POR) (1999)
Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)
European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		11.13		21.41		32.82		45.64	45.64	8 / 3							
reaction time	0.206	interval				10.28		11.41		12.82		# of strides	11.13	10.28	11.41	12.82	21.41	24.23	2.82
		velocity		8.98		9.73		8.76		7.80	8.76	177.5	8.98	9.73	8.76	7.80	9.34	8.25	

Nene, Zakhiti (RSA) (1998)
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)
Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-23	time		11.06		21.45		32.64		45.64	45.64	2 / 6							
reaction time	0.151	interval				10.39		11.19		13.00		# of strides	11.06	10.39	11.19	13.00	21.45	24.19	2.74
		velocity		9.04		9.62		8.94		7.69	8.76		9.04	9.62	8.94	7.69	9.32	8.27	

Joseph, Michael (LCA) (2002)
Repechage 2 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	05-Aug-24	time	6.19	11.24	16.51	21.93	27.54	33.34	39.34	45.64	45.64	6 / 4						
reaction time	0.186	interval		5.05	5.27	5.42	5.61	5.80	6.00	6.30		# of strides	11.24	10.69	11.41	12.30	21.93	23.71	1.78
		velocity	8.08	9.90	9.49	9.23	8.91	8.62	8.33	7.94	8.76	175.2.	8.90	9.35	8.76	8.13	9.12	8.44	

Coelho, João (POR) (1999) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

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

date	05-Aug-24	time	6.38	11.45	16.71	22.11	27.65	33.40	39.30	45.64	45.64	4 / 5						
reaction time	0.175	interval		5.07	5.26	5.40	5.54	5.75	5.90	6.34		# of strides	11.45	10.66	11.29	12.24	22.11	23.53	1.42
		velocity	7.84	9.86	9.51	9.26	9.03	8.70	8.47	7.89	8.76	181.0	8.73	9.38	8.86	8.17	9.05	8.50	

Kemboi, Simon (KEN) (1967) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 1993 IAAF World Championships (Stuttgart, GER) — *Butler (2013) - IAAF world championships statistics handbook- moscow 2013*

date	17-Aug-93	time				22.42				45.65	45.65	1 / 7						
reaction time		interval								23.23		# of strides					22.42	23.23	0.81
		velocity				8.92				8.61	8.76						8.92	8.61	

Kanemaru, Yuzo (JPN) (1987) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Semi-Final 1 - 2015 IAAF World Championships (Beijing, CHN) — *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

date	23-Aug-15	time	6.15	11.13	16.25	21.60	27.21	33.02	39.20	45.65	45.65	9 / 6						
reaction time	0.156	interval		4.98	5.12	5.35	5.61	5.81	6.18	6.45		# of strides	11.13	10.47	11.42	12.63	21.60	24.05	2.45
		velocity	8.13	10.04	9.77	9.35	8.91	8.61	8.09	7.75	8.76		8.98	9.55	8.76	7.92	9.26	8.32	

Bonevacia, Liemarvin (NED) (1989) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Semi-Final 3 - 2015 IAAF World Championships (Beijing, CHN) — *Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*

date	24-Aug-15	time	6.24	11.30	16.43	21.83	27.40	33.10	39.12	45.65	45.65	2 / 8						
reaction time	0.170	interval		5.06	5.13	5.40	5.57	5.70	6.02	6.53		# of strides	11.30	10.53	11.27	12.55	21.83	23.82	1.99
		velocity	8.01	9.88	9.75	9.26	8.98	8.77	8.31	7.66	8.76	182.7	8.85	9.50	8.87	7.97	9.16	8.40	

Cowan, Dwayne (GBR) (1985) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

National FINAL - 2018 Müller Anniversary Games (London, GBR) — *Omega Timing (2018) - diamond league race analysis*

date	21-Jul-18	time		11.2		21.7		33.1		45.65	45.65	6 / 1						
reaction time	0.131	interval				10.5		11.4		12.6		# of strides	11.20	10.50	11.40	12.55	21.70	23.95	2.25
		velocity		8.93		9.52		8.77		7.97	8.76		8.93	9.52	8.77	7.97	9.22	8.35	

Andant, Teo (FRA) (1999) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Heat 1 - 2024 European Athletics Championships (Roma, ITA) — *European Athletics (2024) - 2024 european athletics championships - results book*

date	08-Jun-24	time		11.27		21.91		33.33		45.65	45.65	4 / 3						
reaction time	0.187	interval				10.64		11.42		12.32		# of strides	11.27	10.64	11.42	12.32	21.91	23.74	1.83
		velocity		8.87		9.40		8.76		8.12	8.76		8.87	9.40	8.76	8.12	9.13	8.42	

Elkhatib, Omar (POR) (2001) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA) — *European Athletics (2024) - 2024 european athletics championships - results book*

date	09-Jun-24	time		11.67		22.44		33.76		45.65	45.65	9 / 3						
reaction time	0.188	interval				10.77		11.32		11.89		# of strides	11.67	10.77	11.32	11.89	22.44	23.21	0.77
		velocity		8.57		9.29		8.83		8.41	8.76	179.7	8.57	9.29	8.83	8.41	8.91	8.62	

Betters, LaJerald (USA) (1988) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 2007 NCAA Championships (Sacramento, CA) — *Track Newsletter (2006) - NCAA men's championships*

date	09-Jun-07	time						33.5		45.7	45.66	/ 6						
reaction time		interval								12.2		# of strides				12.20			
		velocity						8.96		8.20	8.76					8.20			

Šorm, Patrik (CZE) (1993) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Heat 1 - 2022 European Athletics Championships (Munich, GER) — *European Athletics (2022) - european athletics championships race analysis*

date	15-Aug-22	time		11.21		21.47		32.74		45.66	45.66	6 / 2						
reaction time	0.197	interval				10.26		11.27		12.92		# of strides	11.21	10.26	11.27	12.92	21.47	24.19	2.72
		velocity		8.92		9.75		8.87		7.74	8.76		8.92	9.75	8.87	7.74	9.32	8.27	

Šorm, Patrik (CZE) (1993) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Semi-Final 1 - 2022 European Athletics Championships (Munich, GER) — *European Athletics (2022) - european athletics championships race analysis*

date	16-Aug-22	time		11.21		21.80		33.20		45.66	45.66	2 / 4						
reaction time	0.227	interval				10.59		11.40		12.46		# of strides	11.21	10.59	11.40	12.46	21.80	23.86	2.06
		velocity		8.92		9.44		8.77		8.03	8.76	173.7	8.92	9.44	8.77	8.03	9.17	8.38	

Spitz, Lionel (SUI) (2001) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 2022 European Athletics Championships (Munich, GER) — *European Athletics (2022) - european athletics championships race analysis*

date	17-Aug-22	time		11.16		21.76		33.04		45.66	45.66	2 / 7						
reaction time	0.175	interval				10.60		11.28		12.62		# of strides	11.16	10.60	11.28	12.62	21.76	23.90	2.14
		velocity		8.96		9.43		8.87		7.92	8.76	183.0	8.96	9.43	8.87	7.92	9.19	8.37	

Coelho, João (POR) (1999) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 2023 Bauhaus Galan (Stockholm, SWE) — *Omega Timing (2023) - diamond league race analysis*

date	02-Jul-23	time	6.44	11.51	16.74	22.14	27.71	33.49	39.40	45.66	45.66	2 / 4						
reaction time	0.224	interval		5.07	5.23	5.40	5.57	5.78	5.91	6.26		# of strides	11.51	10.63	11.35	12.17	22.14	23.52	1.38
		velocity	7.76	9.86	9.56	9.26	8.98	8.65	8.46	7.99	8.76		8.69	9.41	8.81	8.22	9.03	8.50	

Nielsen, Gustav Lundholm (DEN) (19 — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Heat 4 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

date	20-Aug-23	time		11.36		21.98		33.40		45.66	45.66	7 / 7						
reaction time	0.176	interval				10.62		11.42		12.26	PB	# of strides	11.36	10.62	11.42	12.26	21.98	23.68	1.70
		velocity		8.80		9.42		8.76		8.16	8.76		8.80	9.42	8.76	8.16	9.10	8.45	

Byrd, Leonard (USA) (1975) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

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

date	25-Jun-05	time				21.72	27.25	33.03	39.27	45.67	45.67	8 / 8						
reaction time		interval					5.53	5.78	6.24	6.40		# of strides			11.31	12.64	21.72	23.95	2.23
		velocity				9.21	9.04	8.65	8.01	7.81	8.76				8.84	7.91	9.21	8.35	

Sato, Kentaro (JPN) (1994)
Heat 2 - 2017 Japanese National Championships (Osaka, JPN)
(2017) - tfdata-store.com/2017/07/08/post-965/

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 23-Jun-17	time	11.31		21.61		32.78		45.67	45.67	2 / 2							
reaction time 0.145	interval			10.30		11.17		12.89		# of strides	11.31	10.30	11.17	12.89	21.61	24.06	2.45
	velocity	8.84		9.71		8.95		7.76	8.76	180.0	8.84	9.71	8.95	7.76	9.25	8.31	

Walsh, Julian Jrummi (JPN) (1996)
Semi-Final 1 - 2019 Asian Athletics Championships (Doha, QAT)
Yamanaka (2019) - race analysis of men and women 400m competition

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 21-Apr-19	time	6.14	11.23	16.43	21.82	27.44	33.20	39.22	45.67	45.67	4 / 4						
reaction time 0.139	interval		5.09	5.20	5.39	5.62	5.76	6.02	6.45		# of strides	11.23	10.59	11.38	12.47	21.82	23.85	2.03
	velocity	8.14	9.82	9.62	9.28	8.90	8.68	8.31	7.75	8.76		8.90	9.44	8.79	8.02	9.17	8.39	

Borlée, Dylan (BEL) (1992)
Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)
European Athletics (2022) - european athletics championships race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 16-Aug-22	time		11.60		21.98		33.21		45.67	45.67	3 / 2						
reaction time 0.157	interval				10.38		11.23		12.46		# of strides	11.60	10.38	11.23	12.46	21.98	23.69	1.71
	velocity		8.62		9.63		8.90		8.03	8.76	173.0	8.62	9.63	8.90	8.03	9.10	8.44	

Jordier, Thomas (FRA) (1994)
FINAL - 2022 European Athletics Championships (Munich, GER)
European Athletics (2022) - european athletics championships race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 17-Aug-22	time		11.12		21.67		33.15		45.67	45.67	3 / 8						
reaction time 0.171	interval				10.55		11.48		12.52		# of strides	11.12	10.55	11.48	12.52	21.67	24.00	2.33
	velocity		8.99		9.48		8.71		7.99	8.76	188.0	8.99	9.48	8.71	7.99	9.23	8.33	

Borlée, Dylan (BEL) (1992)
FINAL - 2023 Weltklasse (Zürich, SUI)
Omega Timing (2023) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 31-Aug-23	time	6.21	11.25	16.40	21.70	27.22	33.07	39.18	45.67	45.67	8 / 3						
reaction time 0.184	interval		5.04	5.15	5.30	5.52	5.85	6.11	6.49		# of strides	11.25	10.45	11.37	12.60	21.70	23.97	2.27
	velocity	8.05	9.92	9.71	9.43	9.06	8.55	8.18	7.70	8.76		8.89	9.57	8.80	7.94	9.22	8.34	

Honz, Karl (FRG) (1951)
FINAL - 1972 Olympic Games (Munich, FRG)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 07-Sep-72	time			21.8		33.2		45.7	45.68	1 / 7							
reaction time	interval					11.40		12.50		# of strides			11.40	12.50	21.80	23.90	2.10
	velocity			9.17		8.77		8.00	8.76	174.5			8.77	8.00	9.17	8.37	

Morris, Devon (JAM) (1961)
Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)
Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 26-Sep-88	time		11.51		22.04		33.27		45.68	45.68	8 / 7						
reaction time 0.239	interval				10.53		11.23		12.41		# of strides	11.51	10.53	11.23	12.41	22.04	23.64	1.60
	velocity		8.69		9.50		8.90		8.06	8.76		8.69	9.50	8.90	8.06	9.07	8.46	

Ochieng, Kennedy (KEN) (1971)
FINAL - 1993 IAAF World Championships (Stuttgart, GER)
Butler (2013) - IAAF world championships statistics handbook- moscow 2013

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 17-Aug-93	time			22.30				45.68	45.68	8 / 8							
reaction time	interval							23.38		# of strides					22.30	23.38	1.08
	velocity			8.97				8.55	8.76						8.97	8.55	

Gatson, Terry (USA) (1982)
FINAL - 2005 NCAA Championships (Sacramento, CA)
Track Newsletter (2005) - NCAA men's championships

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 11-Jun-05	time		11.2		21.7		33.2		45.7	45.68	/ 7						
reaction time	interval				10.50		11.50		12.50		# of strides	11.20	10.50	11.50	12.50	21.70	24.00	2.30
	velocity		8.93		9.52		8.70		8.00	8.76		8.93	9.52	8.70	8.00	9.22	8.33	

Kikaya, Gary (COD) (1980)
FINAL - 2009 ISTAF (Berlin, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 14-Jun-09	time		11.02		21.45		32.94		45.68	45.68	3 / 2						
reaction time 0.161	interval				10.43		11.49		12.74		# of strides	11.02	10.43	11.49	12.74	21.45	24.23	2.78
	velocity		9.07		9.59		8.70		7.85	8.76		9.07	9.59	8.70	7.85	9.32	8.25	

Kanemaru, Yuzo (JPN) (1987)
FINAL - 2011 Japanese National Championships (Kumagaya, JPN)
Maho (2013) - race analysis of the men's 400m run in competition

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 12-Jun-11	time	6.07	11.01	16.02	21.33	26.98	32.91	39.10	45.68	45.68	/ 1						
reaction time	interval		4.94	5.01	5.31	5.65	5.93	6.19	6.58		# of strides	11.01	10.32	11.58	12.77	21.33	24.35	3.02
	velocity	8.24	10.12	9.98	9.42	8.85	8.43	8.08	7.60	8.76		9.08	9.69	8.64	7.83	9.38	8.21	

Walsh, Julian Jrummi (JPN) (1996)
FINAL - 2016 Seiko Golden Grand Prix (Kawasaki, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 08-May-16	time	6.05	11.07	16.24	21.58	27.10	32.90	39.09	45.68	45.68	1 / 1						
reaction time 0.155	interval		5.02	5.17	5.34	5.52	5.80	6.19	6.59	PB	# of strides	11.07	10.51	11.32	12.78	21.58	24.10	2.52
	velocity	8.26	9.96	9.67	9.36	9.06	8.62	8.08	7.59	8.76		9.03	9.51	8.83	7.82	9.27	8.30	

Taylor, Christopher (JAM) (1999)
Heat 2 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 17-Jul-22	time		11.32		22.16		33.51		45.68	45.68	4 / 2						
reaction time 0.167	interval				10.84		11.35		12.17		# of strides	11.32	10.84	11.35	12.17	22.16	23.52	1.36
	velocity		8.83		9.23		8.81		8.22	8.76	184.0	8.83	9.23	8.81	8.22	9.03	8.50	

Dean, Caleb (USA) (2001)
Long Hurdles - 2025 Grand Slam Track Kingston (Kingston, JAM)
Grand Slam Track (2025) - results and splits by race

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 06-Apr-25	time		10.99		21.30		32.53		45.68	45.68	7 / 3						
reaction time 0.150	interval				10.31		11.23		13.15	PB	# of strides	10.99	10.31	11.23	13.15	21.30	24.38	3.08
	velocity		9.10		9.70		8.90		7.60	8.76	169.5	9.10	9.70	8.90	7.60	9.39	8.20	

Young, Jerome (USA) (1976)
FINAL - 2000 ISTAF (Berlin, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	01-Sep-00	time		11.36		22.04		33.06		45.69	45.69	/ ~~4~~						
reaction time		interval				10.68		11.02		12.63	DV	# of strides	11.36	10.68	11.02	12.63	22.04	23.65	1.61
		velocity		8.80		9.36		9.07		7.92	8.75		8.80	9.36	9.07	7.92	9.07	8.46	

Kanemaru, Yuzo (JPN) (1987)

FINAL - 2014 Japanese National Championships (Fukushima, JPN)

Maho (2014) - race analysis of men's 400m run in the 2014 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jun-14	time	6.18	11.21	16.28	21.70	27.32	33.18	39.25	45.69	45.69	7 / 1							
reaction time		interval		5.03	5.07	5.42	5.62	5.86	6.07	6.44		# of strides	11.21	10.49	11.48	12.51	21.70	23.99	2.29
		velocity	8.09	9.94	9.86	9.23	8.90	8.53	8.24	7.76	8.75	178.0	8.92	9.53	8.71	7.99	9.22	8.34	

Anas, Y. Muhammed (IND) (1994)

FINAL - 2018 Asian Games (Jakarta, INA)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-18	time	6.06	11.07	16.27	21.67	27.21	32.97	39.12	45.69	45.69	5 / 2							
reaction time	0.151	interval		5.01	5.20	5.40	5.54	5.76	6.15	6.57		# of strides	11.07	10.60	11.30	12.72	21.67	24.02	2.35
		velocity	8.25	9.98	9.62	9.26	9.03	8.68	8.13	7.61	8.75	174.5	9.03	9.43	8.85	7.86	9.23	8.33	

Yamaki, Kakeru (JPN) (1996)

B Final - 2021 Denka Athletics Challenge Cup (Niigata, JPN)

Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Jun-21	time	6.20	11.19	16.25	21.53	27.03	32.84	38.94	45.69	45.69	9 / 1							
reaction time		interval		4.99	5.06	5.28	5.50	5.81	6.10	6.75	PB	# of strides	11.19	10.34	11.31	12.85	21.53	24.16	2.63
		velocity	8.06	10.02	9.88	9.47	9.09	8.61	8.20	7.41	8.75	195.0	8.94	9.67	8.84	7.78	9.29	8.28	

Nene, Zakhiti (RSA) (1998)

Heat 2 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		11.29		22.18		33.42		45.69	45.69	7 / 3							
reaction time	0.123	interval				10.89		11.24		12.27		# of strides	11.29	10.89	11.24	12.27	22.18	23.51	1.33
		velocity		8.86		9.18		8.90		8.15	8.75	176.0	8.86	9.18	8.90	8.15	9.02	8.51	

Spitz, Lionel (SUI) (2001)

Heat 5 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		11.37		21.85		33.18		45.69	45.69	9 / 5							
reaction time	0.180	interval				10.48		11.33		12.51		# of strides	11.37	10.48	11.33	12.51	21.85	23.84	1.99
		velocity		8.80		9.54		8.83		7.99	8.75		8.80	9.54	8.83	7.99	9.15	8.39	

O'Donnell, Christopher (IRL) (1998)

Heat 1 - 2024 European Athletics Championships (Roma, ITA)

European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jun-24	time		11.48		22.14		33.44		45.69	45.69	5 / 4							
reaction time	0.154	interval				10.66		11.30		12.25		# of strides	11.48	10.66	11.30	12.25	22.14	23.55	1.41
		velocity		8.71		9.38		8.85		8.16	8.75		8.71	9.38	8.85	8.16	9.03	8.49	

Spitz, Lionel (SUI) (2001)

FINAL - 2024 European Athletics Championships (Roma, ITA)

European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Jun-24	time		11.14		21.53		32.83		45.69	45.69	2 / 8							
reaction time	0.162	interval				10.39		11.30		12.86		# of strides	11.14	10.39	11.30	12.86	21.53	24.16	2.63
		velocity		8.98		9.62		8.85		7.78	8.75	190.0	8.98	9.62	8.85	7.78	9.29	8.28	

Joseph, Michael (LCA) (2002)

Heat 2 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-24	time	6.06	11.04	16.06	21.31	26.87	32.72	38.91	45.69	45.69	3 / 8							
reaction time	0.175	interval		4.98	5.02	5.25	5.56	5.85	6.19	6.78		# of strides	11.04	10.27	11.41	12.97	21.31	24.38	3.07
		velocity	8.25	10.04	9.96	9.52	8.99	8.55	8.08	7.37	8.75	176.0	9.06	9.74	8.76	7.71	9.39	8.20	

Raquil, Marc (FRA) (1977)

Heat 1 - 2002 European Championships (Munich, GER)

Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-02	time		11.73		22.56		33.98		45.70	45.70	/ 1							
reaction time	0.209	interval				10.83		11.42		11.72		# of strides	11.73	10.83	11.42	11.72	22.56	23.14	0.58
		velocity		8.53		9.23		8.76		8.53	8.75		8.53	9.23	8.76	8.53	8.87	8.64	

Williamson, Darold (USA) (1983)

Semi-Final 2 - 2003 USATF National Championships (Palo Alto, CA)

USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-03	time				21.84		33.28	38.19	45.70	45.70	9 / 2							
reaction time		interval						11.44	4.91	7.51		# of strides			11.44	12.42	21.84	23.86	2.02
		velocity				9.16		8.74	10.18	6.66	8.75				8.74	8.05	9.16	8.38	

Everhart, Craig (USA) (1983)

FINAL - 2006 NCAA Championships (Sacramento, CA)

Track Newsletter (2006) - NCAA men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Jun-06	time		11.2		22.1		33.3		45.7	45.70	/ 7							
reaction time		interval				10.90		11.20		12.40		# of strides	11.20	10.90	11.20	12.40	22.10	23.60	1.50
		velocity		8.93		9.17		8.93		8.06	8.75		8.93	9.17	8.93	8.06	9.05	8.47	

Barberi, Andrea (ITA) (1979)

FINAL - 2006 European Championships (Göteborg, SWE)

Behm (2006) - Championnats d'Europe Göteborg 2006… Le 400m avec ou sans obstacles

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Aug-06	time				22.9		33.4		45.70	45.70	/ 5							
reaction time		interval						10.50		12.30		# of strides			10.50	12.30	22.90	22.80	-0.10
		velocity				8.73		19.05		8.13	8.75				9.52	8.13	8.73	8.77	

Abbas, Abdulrahman Khamis (BRN)

FINAL - 2018 Asian Games (Jakarta, INA)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-18	time	6.17	11.18	16.40	21.91	27.53	33.31	39.38	45.70	45.70	7 / 3							
reaction time	0.153	interval		5.01	5.22	5.51	5.62	5.78	6.07	6.32	PB	# of strides	11.18	10.73	11.40	12.39	21.91	23.79	1.88
		velocity	8.10	9.98	9.58	9.07	8.90	8.65	8.24	7.91	8.75	172.2	8.94	9.32	8.77	8.07	9.13	8.41	

Borlée, Dylan (BEL) (1992)

Heat 4 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		11.47		21.79		33.26		45.70	45.70	7 / 2							
reaction time	0.148	interval				10.32		11.47		12.44		# of strides	11.47	10.32	11.47	12.44	21.79	23.91	2.12
		velocity		8.72		9.69		8.72		8.04	8.75	176.0	8.72	9.69	8.72	8.04	9.18	8.36	

Benati, Lorenzo (ITA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 14-Jul-23	time		11.53		21.96		33.27		45.70	45.70	3 / 5							
reaction time 0.181	interval				10.43		11.31		12.43		# of strides	11.53	10.43	11.31	12.43	21.96	23.74	1.78
	velocity		8.67		9.59		8.84		8.05	8.75	170.0	8.67	9.59	8.84	8.05	9.11	8.42	

Dharshana, Aruna (SRI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23	time		11.63		22.35		33.86		45.70	45.70	4 / 6							
reaction time 0.214	interval				10.72		11.51		11.84		# of strides	11.63	10.72	11.51	11.84	22.35	23.35	1.00
	velocity		8.60		9.33		8.69		8.45	8.75		8.60	9.33	8.69	8.45	8.95	8.57	

Miller, Evan (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 21-Jun-24	time		11.07		21.74		33.27		45.70	45.70	8 / 2							
reaction time	interval				10.67		11.53		12.43		# of strides	11.07	10.67	11.53	12.43	21.74	23.96	2.22
	velocity		9.03		9.37		8.67		8.05	8.75	176.0	9.03	9.37	8.67	8.05	9.20	8.35	

Swift, Bailey (GBR) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 London Athletics Meet (London, GBR)																	*Omega Timing (2024) - diamond league race analysis*
date 20-Jul-24	time	6.21	11.32	16.57	21.96	27.50	33.23	39.21	45.70	45.70	8 / 3							
reaction time 0.144	interval		5.11	5.25	5.39	5.54	5.73	5.98	6.49	PB	# of strides	11.32	10.64	11.27	12.47	21.96	23.74	1.78
	velocity	8.05	9.78	9.52	9.28	9.03	8.73	8.36	7.70	8.75		8.83	9.40	8.87	8.02	9.11	8.42	

Kato, Nobuya (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Championships (Nagoya, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 25-Jun-16	time	6.34	11.44	16.63	22.08	27.74	33.51	39.40	45.71	45.71	4 / 2							
reaction time 0.170	interval		5.10	5.19	5.45	5.66	5.77	5.89	6.31	PB	# of strides	11.44	10.64	11.43	12.20	22.08	23.63	1.55
	velocity	7.89	9.80	9.63	9.17	8.83	8.67	8.49	7.92	8.75		8.74	9.40	8.75	8.20	9.06	8.46	

Sato, Fuga (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 20-Jul-22	time		11.45		22.21		33.42		45.71	45.71	1 / 5							
reaction time 0.175	interval				10.76		11.21		12.29		# of strides	11.45	10.76	11.21	12.29	22.21	23.50	1.29
	velocity		8.73		9.29		8.92		8.14	8.75	175.0	8.73	9.29	8.92	8.14	9.00	8.51	

Klein Ikkink, Isaya (NED) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2023 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2023) - diamond league race analysis*
date 08-Sep-23	time	6.20	11.22	16.44	21.81	27.40	33.19	39.28	45.71	45.71	1 / 4							
reaction time 0.159	interval		5.02	5.22	5.37	5.59	5.79	6.09	6.43	PB	# of strides	11.22	10.59	11.38	12.52	21.81	23.90	2.09
	velocity	8.06	9.96	9.58	9.31	8.94	8.64	8.21	7.78	8.75		8.91	9.44	8.79	7.99	9.17	8.37	

Pohorilko, Oleksandr (UKR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 04-Aug-24	time	6.37	11.53	16.68	22.08	27.67	33.34	39.28	45.71	45.71	8 / 6							
reaction time 0.175	interval		5.16	5.15	5.40	5.59	5.67	5.94	6.43		# of strides	11.53	10.55	11.26	12.37	22.08	23.63	1.55
	velocity	7.85	9.69	9.71	9.26	8.94	8.82	8.42	7.78	8.75	175.2	8.67	9.48	8.88	8.08	9.06	8.46	

Krsek, Matěj (CZE) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 04-Aug-24	time	6.21	11.30	16.58	21.94	27.48	33.22	39.21	45.71	45.71	4 / 8							
reaction time 0.130	interval		5.09	5.28	5.36	5.54	5.74	5.99	6.50		# of strides	11.30	10.64	11.28	12.49	21.94	23.77	1.83
	velocity	8.05	9.82	9.47	9.33	9.03	8.71	8.35	7.69	8.75	180.0	8.85	9.40	8.87	8.01	9.12	8.41	

Itt, Edgar (FRG) (1967)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1986 IAAF World Junior Championships (Athens, GRE)																	*Moravec (1986) - IAAF biomechanical research - Athens 1986 - sprints*
date 18-Jul-86	time		11.34		21.85		33.08		45.72	45.72	/ 3							
reaction time	interval				10.51		11.23		12.64		# of strides	11.34	10.51	11.23	12.64	21.85	23.87	2.02
	velocity		8.82		9.51		8.90		7.91	8.75		8.82	9.51	8.90	7.91	9.15	8.38	

Strother, Nathan (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 NCAA Championships (Eugene, OR)																	*Track Newsletter (2016) - NCAA men's championships*
date 10-Jun-16	time				21.7		33.0		45.7	45.72	/ ~~6~~ 5							
reaction time	interval						11.30		12.70		# of strides			11.30	12.70	21.70	24.00	2.30
	velocity				9.22		8.85		7.87	8.75				8.85	7.87	9.22	8.33	

London, Wil (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 NCAA Championships (Eugene, OR)																	*Track Newsletter (2017) - NCAA men's championships*
date 09-Jun-17	time				21.6		32.9		45.7	45.72	/ 8							
reaction time	interval						11.30		12.80		# of strides			11.30	12.80	21.60	24.10	2.50
	velocity				9.26		8.85		7.81	8.75				8.85	7.81	9.26	8.30	

Sacoor, Jonathan (BEL) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2019) - diamond league race analysis*
date 06-Sep-19	time	6.2	11.1	16.2	21.5	27.1	32.9	39.0	45.72	45.72	9 / 7							
reaction time 0.147	interval		4.9	5.1	5.3	5.6	5.8	6.1	12.8		# of strides	11.10	10.40	11.40	12.82	21.50	24.22	2.72
	velocity	8.06	10.20	9.80	9.43	8.93	8.62	8.20	7.80	8.75		9.01	9.62	8.77	7.80	9.30	8.26	

Faulds, Edward (GBR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 European Athletics U20 Championships (Tallin, EST)																	*European Athletics (2021) - european athletics U20 championships results book*
date 16-Jul-21	time		11.74		22.43		33.77		45.72	45.72	3 / 1							
reaction time 0.223	interval				10.69		11.34		11.95	PB	# of strides	11.74	10.69	11.34	11.95	22.43	23.29	0.86
	velocity		8.52		9.35		8.82		8.37	8.75		8.52	9.35	8.82	8.37	8.92	8.59	

Borlée, Kevin (BEL) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*

date	17-Jul-22	time		11.72		22.56		33.77		45.72	45.72	8 / 4						
reaction time	0.132	interval				10.84		11.21		11.95		# of strides	11.72	10.84	11.21	11.95	22.56	23.16	0.60
		velocity		8.53		9.23		8.92		8.37	8.75		8.53	9.23	8.92	8.37	8.87	8.64	

Borlée, Kevin (BEL) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2022) - diamond league race analysis*
date 02-Sep-22 time	6.35	11.52	16.78	22.17	27.70	33.46	39.44	45.72	45.72	5 / 1							
reaction time 0.171 interval		5.17	5.26	5.39	5.53	5.76	5.98	6.28		# of strides	11.52	10.65	11.29	12.26	22.17	23.55	1.38
velocity	7.87	9.67	9.51	9.28	9.04	8.68	8.36	7.96	8.75		8.68	9.39	8.86	8.16	9.02	8.49	

Bengtström, Carl (SWE) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23 time		11.26		21.80		33.42		45.72	45.72	8 / ~~8~~							
reaction time 0.191 interval				10.54		11.62		12.30	DQ	# of strides	11.26	10.54	11.62	12.30	21.80	23.92	2.12
velocity		8.88		9.49		8.61		8.13	8.75		8.88	9.49	8.61	8.13	9.17	8.36	

Andant, Teo (FRA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 09-Jun-24 time		11.17		21.84		33.26		45.72	45.72	9 / 9							
reaction time 0.184 interval				10.67		11.42		12.46		# of strides	11.17	10.67	11.42	12.46	21.84	23.88	2.04
velocity		8.95		9.37		8.76		8.03	8.75	184.0	8.95	9.37	8.76	8.03	9.16	8.38	

O'Donnell, Christopher (IRL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 09-Jun-24 time		11.27		21.97		33.26		45.72	45.72	3 / ~~4~~							
reaction time 0.160 interval				10.70		11.29		12.46	DQ	# of strides	11.27	10.70	11.29	12.46	21.97	23.75	1.78
velocity		8.87		9.35		8.86		8.03	8.75	177.0	8.87	9.35	8.86	8.03	9.10	8.42	

Strader, Solomon (USA) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 23-Jun-24 time		11.03		21.44		32.72		45.72	45.72	3 / 8							
reaction time interval				10.41		11.28		13.00		# of strides	11.03	10.41	11.28	13.00	21.44	24.28	2.84
velocity		9.07		9.61		8.87		7.69	8.75		9.07	9.61	8.87	7.69	9.33	8.24	

Hofmeister, Franz-Peter (FRG) (1951)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1978 European Championships (Prague, TCH)																	*Lamare (1978) - championnats d'Europa 1978*
date 01-Sep-78 time		11.10		21.58		32.78		45.73	45.73	/ 1							
reaction time interval				10.48		11.20		12.95		# of strides	11.10	10.48	11.20	12.95	21.58	24.15	2.57
velocity		9.01		9.54		8.93		7.72	8.75		9.01	9.54	8.93	7.72	9.27	8.28	

Allen, Nathon (JAM) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shanghai (Shanghai, CHN)																	*Omega Timing (2019) - diamond league race analysis*
date 18-May-19 time		10.9		21.5		33.2		45.73	45.73	4 / 4							
reaction time 0.163 interval				10.6		11.7		12.5		# of strides	10.90	10.60	11.70	12.53	21.50	24.23	2.73
velocity		9.17		9.43		8.55		7.98	8.75	166.0	9.17	9.43	8.55	7.98	9.30	8.25	

Nene, Zakhiti (RSA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Bislett Games (Oslo, NOR)																	*Omega Timing (2022) - diamond league race analysis*
date 16-Jun-22 time	6.11	11.06	16.24	21.58	27.06	32.77	38.82	45.73	45.73	3 / 4							
reaction time 0.140 interval		4.95	5.18	5.34	5.48	5.71	6.05	6.91		# of strides	11.06	10.52	11.19	12.96	21.58	24.15	2.57
velocity	8.18	10.10	9.65	9.36	9.12	8.76	8.26	7.24	8.75	180.0	9.04	9.51	8.94	7.72	9.27	8.28	

O'Donnell, Christopher (IRL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 16-Aug-22 time		11.09		21.74		33.02		45.73	45.73	4 / 5							
reaction time 0.180 interval				10.65		11.28		12.71		# of strides	11.09	10.65	11.28	12.71	21.74	23.99	2.25
velocity		9.02		9.39		8.87		7.87	8.75	179.0	9.02	9.39	8.87	7.87	9.20	8.34	

Elkhatib, Omar (POR) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 14-Jul-23 time		11.76		22.31		33.92		45.73	45.73	2 / 6							
reaction time 0.168 interval				10.55		11.61		11.81	PB	# of strides	11.76	10.55	11.61	11.81	22.31	23.42	1.11
velocity		8.50		9.48		8.61		8.47	8.75	176.0	8.50	9.48	8.61	8.47	8.96	8.54	

Clarke, Roshawn (JAM) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Kingston (Kingston, JAM)																	*Grand Slam Track (2025) - results and splits by race*
date 06-Apr-25 time		11.54		21.56		32.68		45.73	45.73	5 / 4							
reaction time 0.210 interval				10.02		11.12		13.05		# of strides	11.54	10.02	11.12	13.05	21.56	24.17	2.61
velocity		8.67		9.98		8.99		7.66	8.75	175.5	8.67	9.98	8.99	7.66	9.28	8.27	

Singh, Milkha (IND) (1935)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1960 Olympic Games (Rome, ITA)																	*Khomenkov (1982) - a textbook for a track and field coach*
date 06-Sep-60 time		11.2		21.6		32.8		44.9	45.6	5 / 4							
reaction time interval				10.4		11.2		12.1	*(45.73)*	# of strides	11.20	10.40	11.20	12.10	21.60	23.30	1.70
velocity		8.93		9.62		8.93		8.26	8.77		8.93	9.62	8.93	8.26	9.26	8.58	

Badenski, Andrzej (POL) (1943)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1964 Olympic Games (Tokyo, JPN)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 19-Sep-64 time				21.7		33.8		45.6	45.6	2 / 3							
reaction time interval						12.10		11.80	*(45.64)*	# of strides			12.10	11.80	21.70	23.90	2.20
velocity				9.22		8.26		8.47	8.77				8.26	8.47	9.22	8.37	

Garrison, Edesel (USA) (1950)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FiNAL - 1971 USA National Championships (Eugene, OR) (yards)																	*Hymans (2015) - progression of IAAF world records - 2015 edition*
date 26-Jun-71 time				22.2				45.6	45.6	/ 5							
reaction time interval								23.4	*(45.9/440y)*	# of strides					22.20	23.40	1.20
velocity				9.01				8.55	8.77						9.01	8.55	

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

Turner, Tommie (USA) (1947)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1971 USA National Championships (Eugene, OR) (yards)																	*Hymans (2015) - progression of IAAF world records - 2015 edition*
date 26-Jun-71	time			22.0				45.6	45.6	/ 6							
reaction time	interval							23.6	*(45.9/440y)*	# of strides					22.00	23.60	1.60
	velocity			9.09				8.47	8.77						9.09	8.47	

Szeglet, Zsolt (HUN) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 European Championships (Munich, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 08-Aug-02	time	11.35		21.96		33.00		45.74	45.74	/ 5							
reaction time 0.167	interval			10.61		11.04		12.74		# of strides	11.35	10.61	11.04	12.74	21.96	23.78	1.82
	velocity	8.81		9.43		9.06		7.85	8.75		8.81	9.43	9.06	7.85	9.11	8.41	

Smith, Calvin (USA) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 NCAA Championships (Sacramento, CA)																	*Track Newsletter (2006) - NCAA men's championships*
date 09-Jun-07	time					33.6		45.7	45.74	/ 7							
reaction time	interval							12.1		# of strides				12.10			
	velocity					8.93		8.26	8.75					8.26			

Canal, David (ESP) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2002 European Championships (Munich, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 06-Aug-02	time	11.88		22.49		33.57		45.75	45.75	/ 2							
reaction time 0.169	interval			10.61		11.08		12.18		# of strides	11.88	10.61	11.08	12.18	22.49	23.26	0.77
	velocity	8.42		9.43		9.03		8.21	8.74		8.42	9.43	9.03	8.21	8.89	8.60	

Steele, Adam (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2003 USATF National Championships (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 20-Jun-03	time			21.81		33.37	39.27	45.75	45.75	8 / 3							
reaction time	interval					11.56	5.90	6.48		# of strides			11.56	12.38	21.81	23.94	2.13
	velocity			9.17		8.65	8.47	7.72	8.74				8.65	8.08	9.17	8.35	

Montgomery, Kahmari (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 NCAA Championships (Eugene, OR)																	*Track Newsletter (2018) - NCAA men's championships*
date 08-Jun-18	time			20.9		32.3		45.8	45.75	/ 7							
reaction time	interval					11.40		13.50		# of strides			11.40	13.50	20.90	24.90	4.00
	velocity			9.57		8.77		7.41	8.74				8.77	7.41	9.57	8.03	

Kawabata, Kaito (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese National Championships (Osaka, JPN)																	*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 25-Jun-21	time	6.34	11.55	16.80	22.26	27.92	33.66	39.50	45.75	45.75	6 / 1						
reaction time 0.204	interval		5.21	5.25	5.46	5.66	5.74	5.84	6.25	PB	# of strides	11.55	10.71	11.40	12.09	22.26	23.49	1.23
	velocity	7.89	9.60	9.52	9.16	8.83	8.71	8.56	8.00	8.74		8.66	9.34	8.77	8.27	8.98	8.51	

Dobber, Jochem (NED) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Athletissima (Lausanne, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 26-Aug-21	time	6.3	11.4	16.6	21.9	27.5	33.3	39.4	45.75	45.75	2 / 6						
reaction time 0.195	interval		5.10	5.20	5.30	5.60	5.80	6.10	6.35		# of strides	11.40	10.50	11.40	12.45	21.90	23.85	1.95
	velocity	7.94	9.80	9.62	9.43	8.93	8.62	8.20	7.87	8.74		8.77	9.52	8.77	8.03	9.13	8.39	

Bonevacia, Liemarvin (NED) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Meeting de Paris (Paris, FRA)																	*Omega Timing (2022) - diamond league race analysis*
date 16-Jun-22	time	6.29	11.24	16.28	21.61	27.16	33.00	39.11	45.75	45.75	8 / 5						
reaction time 0.188	interval		4.95	5.04	5.33	5.55	5.84	6.11	6.64		# of strides	11.24	10.37	11.39	12.75	21.61	24.14	2.53
	velocity	7.95	10.10	9.92	9.38	9.01	8.56	8.18	7.53	8.74	185.5	8.90	9.64	8.78	7.84	9.25	8.29	

Walsh, Julian Jrummi (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 20-Jul-22	time		11.03		21.46		32.72		45.75	45.75	1 / 6						
reaction time 0.134	interval				10.43		11.26		13.03		# of strides	11.03	10.43	11.26	13.03	21.46	24.29	2.83
	velocity		9.07		9.59		8.88		7.67	8.74	175.5	9.07	9.59	8.88	7.67	9.32	8.23	

Kijanović, Boško (SRB) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 15-Aug-22	time		11.29		21.97		33.32		45.75	45.75	8 / 3						
reaction time	interval				10.68		11.35		12.43		# of strides	11.29	10.68	11.35	12.43	21.97	23.78	1.81
	velocity		8.86		9.36		8.81		8.05	8.74		8.86	9.36	8.81	8.05	9.10	8.41	

Biron, Gilles (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 16-Aug-22	time		11.44		22.06		33.38		45.75	45.75	1 / 3						
reaction time 0.165	interval				10.62		11.32		12.37		# of strides	11.44	10.62	11.32	12.37	22.06	23.69	1.63
	velocity		8.74		9.42		8.83		8.08	8.74	179.0	8.74	9.42	8.83	8.08	9.07	8.44	

Sato, Kentaro (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Seiko Golden Grand Prix (Yokohama, JPN)																	*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*
date 21-May-23	time	6.01	11.00	16.15	21.49	27.02	32.89	39.17	45.75	45.75	5 / 5						
reaction time 0.163	interval		4.99	5.15	5.34	5.53	5.87	6.28	6.58		# of strides	11.00	10.49	11.40	12.86	21.49	24.26	2.77
	velocity	8.32	10.02	9.71	9.36	9.04	8.52	7.96	7.60	8.74	175.5	9.09	9.53	8.77	7.78	9.31	8.24	

Dedewo, Paul (USA) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 21-Jun-24	time		11.42		21.94		33.47		45.75	45.75	7 / 4						
reaction time	interval				10.52		11.53		12.28		# of strides	11.42	10.52	11.53	12.28	21.94	23.81	1.87
	velocity		8.76		9.51		8.67		8.14	8.74	164.0	8.76	9.51	8.67	8.14	9.12	8.40	

Campbell, Milton (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1998 NCAA Championships (Amherst, NY)																	*Track Newsletter (1998) - NCAA Championships*

date	06-Jun-98	time			21.6			45.8	45.76	/ 3								
reaction time		interval						24.20		# of strides					21.60	24.20	2.60	
		velocity			9.26			8.26	8.74						9.26	8.26		

Torrance, Jamaal (USA) (1983)

Semi-Final 1 - 2008 USA Olympic Trials (Eugene, OR) — *USATF Women's Sprint Development with HPC (2008)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jun-08	time		11.21		21.87	27.41	33.13	39.25	45.76	45.76	2 / 5							
reaction time		interval				10.66	5.54	5.72	6.12	6.51		# of strides	11.21	10.66	11.26	12.63	21.87	23.89	2.02
		velocity		8.92		9.38	9.03	8.74	8.17	7.68	8.74		8.92	9.38	8.88	7.92	9.14	8.37	

Kanemaru, Yuzo (JPN) (1987)

Heat 1 - 2017 Japanese National Championships (Osaka, JPN) — *(2017) - tfdata-store.com/2017/07/08/post-965/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-17	time		11.21		21.50		33.20		45.76	45.76	4 / 2							
reaction time	0.144	interval				10.29		11.70		12.56		# of strides	11.21	10.29	11.70	12.56	21.50	24.26	2.76
		velocity		8.92		9.72		8.55		7.96	8.74	174.7	8.92	9.72	8.55	7.96	9.30	8.24	

Kitagawa, Takamasa (JPN) (1996)

FINAL - 2017 Japanese National Championships (Osaka, JPN) — *Yamanaka (2017) - male and female 400m analysis in the 2017 season*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-17	time	6.14	11.23	16.39	21.76	27.31	33.09	39.17	45.76	45.76	4 / 1							
reaction time	0.147	interval		5.09	5.16	5.37	5.55	5.78	6.08	6.59		# of strides	11.23	10.53	11.33	12.67	21.76	24.00	2.24
		velocity	8.14	9.82	9.69	9.31	9.01	8.65	8.22	7.59	8.74	180.0	8.90	9.50	8.83	7.89	9.19	8.33	

Janežič, Luka (SLO) (1995)

FINAL - 2019 Herculis Meeting International d'Athlétisme (Monaco, MON) — *Omega Timing (2019) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Jul-19	time		11.4		21.9		33.4		45.76	45.76	1 / 4							
reaction time	0.180	interval				10.5		11.5		12.4		# of strides	11.40	10.50	11.50	12.36	21.90	23.86	1.96
		velocity		8.77		9.52		8.70		8.09	8.74		8.77	9.52	8.70	8.09	9.13	8.38	

Jinushi, Naohiro (JPN) (2001)

FINAL - 2023 Seiko Golden Grand Prix (Yokohama, JPN) — *Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-May-23	time	6.32	11.51	16.82	22.25	27.76	33.43	39.36	45.76	45.76	2 / 6							
reaction time	0.159	interval		5.19	5.31	5.43	5.51	5.67	5.93	6.40	PB	# of strides	11.51	10.74	11.18	12.33	22.25	23.51	1.26
		velocity	7.91	9.63	9.42	9.21	9.07	8.82	8.43	7.81	8.74		8.69	9.31	8.94	8.11	8.99	8.51	

Imaizumi, Kenki (JPN) (2001)

FINAL - 2023 Seiko Golden Grand Prix (Yokohama, JPN) — *Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-May-23	time	6.11	11.23	16.48	21.94	27.56	33.43	39.43	45.76	45.76	8 / 6							
reaction time	0.148	interval		5.12	5.25	5.46	5.62	5.87	6.00	6.33		# of strides	11.23	10.71	11.49	12.33	21.94	23.82	1.88
		velocity	8.18	9.77	9.52	9.16	8.90	8.52	8.33	7.90	8.74		8.90	9.34	8.70	8.11	9.12	8.40	

Tomlyanovich, TJ (USA) (2003)

Heat 5 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-24	time		11.13		21.70		33.15		45.76	45.76	3 / 3							
reaction time		interval				10.57		11.45		12.61		# of strides	11.13	10.57	11.45	12.61	21.70	24.06	2.36
		velocity		8.98		9.46		8.73		7.93	8.74	170.0	8.98	9.46	8.73	7.93	9.22	8.31	

Strader, Solomon (USA) (2001)

Heat 4 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-24	time				22.01		32.78		45.76	45.76	9 / 5							
reaction time		interval						10.77		12.98		# of strides			10.77	12.98	22.01	23.75	1.74
		velocity				9.09		9.29		7.70	8.74	180.0			9.29	7.70	9.09	8.42	

Horigome, Yoshihiro (JPN) (1981)

FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN) — *Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Sep-06	time	6.1	11.3	16.6	22.1	27.6	33.3	39.3	45.77	45.77	7 / 1							
reaction time		interval		5.20	5.30	5.50	5.50	5.70	6.00	6.47	PB	# of strides	11.30	10.80	11.20	12.47	22.10	23.67	1.57
		velocity	8.20	9.62	9.43	9.09	9.09	8.77	8.33	7.73	8.74		8.85	9.26	8.93	8.02	9.05	8.45	

Williams, Siraj (LBR) (1984)

FINAL - 2007 NCAA Championships (Sacramento, CA) — *Track Newsletter (2006) - NCAA men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-07	time						33.4		45.8	45.77	/ 8							
reaction time		interval								12.4	NR	# of strides				12.40			
		velocity						8.98		8.06	8.74					8.06			

Marciniszyn, Marcin (POL) (1982)

Heat 2 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-09	time		11.44		21.98		33.46		45.77	45.77	3 / 4							
reaction time	0.167	interval				10.54		11.48		12.31		# of strides	11.44	10.54	11.48	12.31	21.98	23.79	1.81
		velocity		8.74		9.49		8.71		8.12	8.74		8.74	9.49	8.71	8.12	9.10	8.41	

Solomon, Jarrin (TTO) (1986)

FINAL - 2016 Seiko Golden Grand Prix (Kawasaki, JPN) — *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-May-16	time	6.29	11.34	16.52	21.91	27.48	33.21	39.30	45.77	45.77	7 / 2							
reaction time	0.192	interval		5.05	5.18	5.39	5.57	5.73	6.09	6.47		# of strides	11.34	10.57	11.30	12.56	21.91	23.86	1.95
		velocity	7.95	9.90	9.65	9.28	8.98	8.73	8.21	7.73	8.74	181.2	8.82	9.46	8.85	7.96	9.13	8.38	

Bonevacia, Liemarvin (NED) (1989)

FINAL - 2022 Bislett Games (Oslo, NOR) — *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Jun-22	time	6.30	11.31	16.42	21.73	27.28	33.15	39.23	45.77	45.77	5 / 5							
reaction time	0.146	interval		5.01	5.11	5.31	5.55	5.87	6.08	6.54		# of strides	11.31	10.42	11.42	12.62	21.73	24.04	2.31
		velocity	7.94	9.98	9.78	9.42	9.01	8.52	8.22	7.65	8.74	184.0	8.84	9.60	8.76	7.92	9.20	8.32	

Hudson-Smith, Matthew (GBR) (1994

Semi-Final 3 - 2022 Commonwealth Games (Birmingham, GBR) — *Longines Timing (2022) - commonwealth games race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-22	time	6.1	11.0	16.2	21.5	27.0	32.9	39.0	45.77	45.77	6 / 1							
reaction time	0.146	interval		4.90	5.20	5.30	5.50	5.90	6.10	6.77		# of strides	11.00	10.50	11.40	12.87	21.50	24.27	2.77
		velocity	8.20	10.20	9.62	9.43	9.09	8.47	8.20	7.39	8.74	168.7	9.09	9.52	8.77	7.77	9.30	8.24	

Doom, Alexander (BEL) (1997)
Semi-Final 1 - 2022 European Athletics Championships (Munich, GER) — *European Athletics (2022) - european athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		10.97		21.26		32.84		45.77	45.77	6 / 6							
reaction time	0.180	interval				10.29		11.58		12.93		# of strides	10.97	10.29	11.58	12.93	21.26	24.51	3.25
		velocity		9.12		9.72		8.64		7.73	8.74	180.0	9.12	9.72	8.64	7.73	9.41	8.16	

Molnár, Attila (HUN) (2002)
FINAL - 2023 Bauhaus Galan (Stockholm, SWE) — *Omega Timing (2023) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Jul-23	time	6.65	11.80	17.03	22.39	27.90	33.64	39.50	45.77	45.77	1 / 5							
reaction time	0.269	interval		5.15	5.23	5.36	5.51	5.74	5.86	6.27		# of strides	11.80	10.59	11.25	12.13	22.39	23.38	0.99
		velocity	7.52	9.71	9.56	9.33	9.07	8.71	8.53	7.97	8.74		8.47	9.44	8.89	8.24	8.93	8.55	

Doom, Alexander (BEL) (1997)
FINAL - 2023 Memorial van Damme (Brussels, BEL) — *Omega Timing (2023) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-23	time	6.44	11.47	16.60	21.95	27.57	33.39	39.45	45.77	45.77	5 / 7							
reaction time	0.178	interval		5.03	5.13	5.35	5.62	5.82	6.06	6.32		# of strides	11.47	10.48	11.44	12.38	21.95	23.82	1.87
		velocity	7.76	9.94	9.75	9.35	8.90	8.59	8.25	7.91	8.74	178.0	8.72	9.54	8.74	8.08	9.11	8.40	

Molnár, Tamás (HUN) (1968)
FINAL - 1991 European Cup (Frankfurt, GER) — *Federle (2003) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jun-91	time		11.48		21.97		33.25		45.78	45.78	/ 3							
reaction time		interval				10.49		11.28		12.53		# of strides	11.48	10.49	11.28	12.53	21.97	23.81	1.84
		velocity		8.71		9.53		8.87		7.98	8.74		8.71	9.53	8.87	7.98	9.10	8.40	

Maybank, Anthuan (USA) (1969)
FINAL - 1999 USATF National Championship (Eugene, OR) — *Track Newsletter (1999) - USATF National Championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Jun-99	time				22.2				45.8	45.78	/ ~~7~~ 6							
reaction time		interval								23.60		# of strides					22.20	23.60	1.40
		velocity				9.01				8.47	8.74						9.01	8.47	

Taylor, Christian (USA) (1990)
FINAL - 2018 Müller Grand Prix (Birmingham, GBR) — *Omega Timing (2018) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-18	time		11.1		21.5		32.9		45.78	45.78	7 / 4							
reaction time	0.157	interval				10.4		11.4		12.9		# of strides	11.10	10.40	11.40	12.88	21.50	24.28	2.78
		velocity		9.01		9.62		8.77		7.76	8.74	167.7	9.01	9.62	8.77	7.76	9.30	8.24	

Al-Yassin, Mazen (KSA) (1996)
FINAL - 2021 Doha Diamond League (Doha, QAT) — *Omega Timing (2021) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-21	time	6.3	11.4	16.6	22.0	27.5	33.2	39.5	45.78	45.78	8 / 6							
reaction time	0.164	interval		5.10	5.20	5.40	5.50	5.70	6.30	6.28		# of strides	11.40	10.60	11.20	12.58	22.00	23.78	1.78
		velocity	7.94	9.80	9.62	9.26	9.09	8.77	7.94	7.96	8.74	177.2	8.77	9.43	8.93	7.95	9.09	8.41	

Coelho, João (POR) (1999)
Heat 2 - 2022 European Athletics Championships (Munich, GER) — *European Athletics (2022) - european athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-22	time		11.36		21.77		33.14		45.78	45.78	3 / 4							
reaction time	0.291	interval				10.41		11.37		12.64		# of strides	11.36	10.41	11.37	12.64	21.77	24.01	2.24
		velocity		8.80		9.61		8.80		7.91	8.74		8.80	9.61	8.80	7.91	9.19	8.33	

O'Donnell, Christopher (IRL) (1998)
FINAL - 2022 Memorial van Damme (Brussels, BEL) — *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Sep-22	time	6.39	11.50	16.79	22.24	27.74	33.41	39.42	45.78	45.78	2 / 2							
reaction time	0.164	interval		5.11	5.29	5.45	5.50	5.67	6.01	6.36		# of strides	11.50	10.74	11.17	12.37	22.24	23.54	1.30
		velocity	7.82	9.78	9.45	9.17	9.09	8.82	8.32	7.86	8.74		8.70	9.31	8.95	8.08	8.99	8.50	

Schultz, Ingo (GER) (1975)
Heat 2 - 2002 European Championships (Munich, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-02	time		11.47		22.06		33.46		45.79	45.79	/ 1							
reaction time	0.159	interval				10.59		11.40		12.33		# of strides	11.47	10.59	11.40	12.33	22.06	23.73	1.67
		velocity		8.72		9.44		8.77		8.11	8.74		8.72	9.44	8.77	8.11	9.07	8.43	

Torrance, Jamaal (USA) (1983)
FINAL - 2007 USATF National Championships (Indianapolis, IN) — *Track Newsletter (2007) - USATF men's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-07	time						32.7		45.8	45.79	/ 6							
reaction time		interval								13.1		# of strides				13.10			
		velocity						9.17		7.63	8.74					7.63			

Liu Xiaosheng (CHN) (1988)
FINAL - 2007 World Championship Trials (Suzhou, CHN) — *He (2014) - the game characteristics and training monitoring of national excellent 400m male athletes*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-07	time	6.43	11.53	16.77	22.13	27.71	33.51	39.37	45.75	45.79	/ 1							
reaction time		interval		5.10	5.24	5.36	5.58	5.80	5.86	6.38	PB	# of strides	11.53	10.60	11.38	12.24	22.13	23.62	1.49
		velocity	7.78	9.80	9.54	9.33	8.96	8.62	8.53	7.84	8.74		8.67	9.43	8.79	8.17	9.04	8.47	

Norwood, Vernon (USA) (1992)
FINAL - 2019 Seiko Golden Grand Prix (Osaka, JPN) — *Hirokawa (2019) - research on athlete performance and technique- 2019 data book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-May-19	time	6.13	11.07	16.18	21.51	27.10	33.00	39.12	45.79	45.79	7 / 1							
reaction time	0.176	interval		4.94	5.11	5.33	5.59	5.90	6.12	6.67		# of strides	11.07	10.44	11.49	12.79	21.51	24.28	2.77
		velocity	8.16	10.12	9.78	9.38	8.94	8.47	8.17	7.50	8.74	173.0	9.03	9.58	8.70	7.82	9.30	8.24	

Norwood, Vernon (USA) (1992)
FINAL - 2019 Müller Grand Prix (Birmingham, GBR) — *Omega Timing (2019) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-19	time		11.2		21.7		33.1		45.79	45.79	3 / 7							
reaction time	0.171	interval				10.5		11.4		12.7		# of strides	11.20	10.50	11.40	12.69	21.70	24.09	2.39
		velocity		8.93		9.52		8.77		7.88	8.74	177.2	8.93	9.52	8.77	7.88	9.22	8.30	

Bonevacia, Liemarvin (NED) (1989)
FINAL - 2022 Golden Gala Pietro Mennea (Rome, ITA) — *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	09-Jun-22	time	6.32	11.45	16.69	22.08	27.53	33.28	39.25	45.79	45.79	3 / 6						
reaction time	0.166	interval		5.13	5.24	5.39	5.45	5.75	5.97	6.54		# of strides	11.45	10.63	11.20	12.51	22.08	23.71	1.63
		velocity	7.91	9.75	9.54	9.28	9.17	8.70	8.38	7.65	8.74		8.73	9.41	8.93	7.99	9.06	8.44	

Vedel, Benjamin Lobo (DEN) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2022 Bislett Games (Oslo, NOR) — *Omega Timing (2022) - diamond league race analysis*

date	16-Jun-22	time	6.28	11.33	16.52	21.83	27.38	33.21	39.29	45.79	45.79	2 / 6						
reaction time	0.163	interval		5.05	5.19	5.31	5.55	5.83	6.08	6.50		# of strides	11.33	10.50	11.38	12.58	21.83	23.96	2.13
		velocity	7.96	9.90	9.63	9.42	9.01	8.58	8.22	7.69	8.74	172.0	8.83	9.52	8.79	7.95	9.16	8.35	

Gregory, Eric (USA) (2000)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 2 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

date	21-Jun-24	time		11.19		21.66		32.96		45.79	45.79	3 / 7						
reaction time		interval				10.47		11.30		12.83		# of strides	11.19	10.47	11.30	12.83	21.66	24.13	2.47
		velocity		8.94		9.55		8.85		7.79	8.74	171.0	8.94	9.55	8.85	7.79	9.23	8.29	

Paul, Michael (TTO) (1957)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1983 IAAF World Championships (Helsinki, FIN) — *Butler (2013) - IAAF world championships statistics handbook- moscow 2013*

date	10-Aug-83	time				21.5				45.80	45.80	8 / 7						
reaction time		interval								24.30		# of strides					21.50	24.30	2.80
		velocity				9.30				8.23	8.73						9.30	8.23	

Borlée, Kevin (BEL) (1988)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2010 NCAA Championships (Eugene, OR) — *Track Newsletter (2010) - NCAA men's championships*

date	11-Jun-10	time				22.0		33.4		45.8	45.80	/ 7						
reaction time		interval						11.4		12.4		# of strides			11.40	12.40	22.00	23.80	1.80
		velocity				9.09		8.77		8.06	8.73				8.77	8.06	9.09	8.40	

Walsh, Julian Jrummi (JPN) (1996)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2019 Japanese National Championships (Fukuoka, JPN) — *Yamanaka (2019) - research on athlete performance and technique- 2019 data book*

date	28-Jun-19	time	6.20	11.24	16.38	21.66	27.20	33.02	39.18	45.80	45.80	4 / 1						
reaction time	0.160	interval		5.04	5.14	5.28	5.54	5.82	6.16	6.62		# of strides	11.24	10.42	11.36	12.78	21.66	24.14	2.48
		velocity	8.06	9.92	9.73	9.47	9.03	8.59	8.12	7.55	8.73	174.7	8.90	9.60	8.80	7.82	9.23	8.29	

Walsh, Julian Jrummi (JPN) (1996)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Final - 2021 Denka Athletics Challenge Cup (Niigata, JPN) — *Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*

date	06-Jun-21	time	6.39	11.57	16.77	21.97	27.29	32.98	39.13	45.80	45.80	4 / 1						
reaction time		interval		5.18	5.20	5.20	5.32	5.69	6.15	6.67		# of strides	11.57	10.40	11.01	12.82	21.97	23.83	1.86
		velocity	7.82	9.65	9.62	9.62	9.40	8.79	8.13	7.50	8.73		8.64	9.62	9.08	7.80	9.10	8.39	

Re, Davide (ITA) (1993)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2021 Golden Gala Pietro Mennea (Florence, ITA) — *Omega Timing (2021) - diamond league race analysis*

date	10-Jun-21	time	6.4	11.6	16.8	22.2	27.8	33.6	39.6	45.80	45.80	6 / 2						
reaction time	0.139	interval		5.20	5.20	5.40	5.60	5.80	6.00	6.20		# of strides	11.60	10.60	11.40	12.20	22.20	23.60	1.40
		velocity	7.81	9.62	9.62	9.26	8.93	8.62	8.33	8.06	8.73		8.62	9.43	8.77	8.20	9.01	8.47	

Adoli, Aaron (UGA) (1994)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR) — *Longines Timing (2022) - commonwealth games race analysis*

date	05-Aug-22	time	6.3	11.4	16.7	22.2	27.9	33.7	39.5	45.80	45.80	7 / 1						
reaction time	0.240	interval		5.10	5.30	5.50	5.70	5.80	5.80	6.30	PB	# of strides	11.40	10.80	11.50	12.10	22.20	23.60	1.40
		velocity	7.94	9.80	9.43	9.09	8.77	8.62	8.62	7.94	8.73	167.0	8.77	9.26	8.70	8.26	9.01	8.47	

Doom, Alexander (BEL) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

date	20-Jul-22	time		11.50		21.78		33.25		45.80	45.80	7 / 6						
reaction time	0.170	interval				10.28		11.47		12.55		# of strides	11.50	10.28	11.47	12.55	21.78	24.02	2.24
		velocity		8.70		9.73		8.72		7.97	8.73	182.0	8.70	9.73	8.72	7.97	9.18	8.33	

Borlée, Dylan (BEL) (1992)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2023 FBK Games (Hengelo, NED) — *Omega Timing (2023) - continental tour race analysis*

date	04-Jun-23	time	6.29	11.38	16.61	21.96	27.51	33.25	39.28	45.80	45.80	2 / 4						
reaction time	0.172	interval		5.09	5.23	5.35	5.55	5.74	6.03	6.52		# of strides	11.38	10.58	11.29	12.55	21.96	23.84	1.88
		velocity	7.95	9.82	9.56	9.35	9.01	8.71	8.29	7.67	8.73		8.79	9.45	8.86	7.97	9.11	8.39	

Šorm, Patrik (CZE) (1993)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

B Race - 2023 Memorial van Damme (Brussels, BEL) — *Omega Timing (2023) - diamond league race analysis*

date	08-Sep-23	time	6.33	11.38	16.62	22.13	27.74	33.45	39.39	45.80	45.80	8 / 5						
reaction time	0.168	interval		5.05	5.24	5.51	5.61	5.71	5.94	6.41		# of strides	11.38	10.75	11.32	12.35	22.13	23.67	1.54
		velocity	7.90	9.90	9.54	9.07	8.91	8.76	8.42	7.80	8.73		8.79	9.30	8.83	8.10	9.04	8.45	

Zalewski, Karol (POL) (1993)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 1 - 2024 European Athletics Championships (Roma, ITA) — *European Athletics (2024) - 2024 european athletics championships - results book*

date	08-Jun-24	time		11.19		21.71		33.13		45.80	45.80	3 / 5						
reaction time	0.165	interval				10.52		11.42		12.67		# of strides	11.19	10.52	11.42	12.67	21.71	24.09	2.38
		velocity		8.94		9.51		8.76		7.89	8.73		8.94	9.51	8.76	7.89	9.21	8.30	

Elkhatib, Omar (POR) (2001)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 2 - 2024 European Athletics Championships (Roma, ITA) — *European Athletics (2024) - 2024 european athletics championships - results book*

date	08-Jun-24	time		11.57		22.12		33.60		45.80	45.80	4 / 2						
reaction time	0.155	interval				10.55		11.48		12.20		# of strides	11.57	10.55	11.48	12.20	22.12	23.68	1.56
		velocity		8.64		9.48		8.71		8.20	8.73		8.64	9.48	8.71	8.20	9.04	8.45	

Stewart, Trevor (USA) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

date	23-Jun-24	time		11.38		21.96		33.37		45.80	45.80	1 / 9						
reaction time		interval				10.58		11.41		12.43		# of strides	11.38	10.58	11.41	12.43	21.96	23.84	1.88
		velocity		8.79		9.45		8.76		8.05	8.73		8.79	9.45	8.76	8.05	9.11	8.39	

Davey, Lewis (GBR) (2000)
National FINAL - 2024 London Athletics Meet (London, GBR)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-24	time	6.33	11.29	16.36	21.65	27.26	33.08	39.20	45.80	45.80	5 / 4							
reaction time	0.160	interval		4.96	5.07	5.29	5.61	5.82	6.12	6.60		# of strides	11.29	10.36	11.43	12.72	21.65	24.15	2.50
		velocity	7.90	10.08	9.86	9.45	8.91	8.59	8.17	7.58	8.73		8.86	9.65	8.75	7.86	9.24	8.28	

Mabille, Florent (BEL) (1996)
Invitational - 2024 Memorial van damme (Brussels, BEL)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Sep-24	time	6.26	11.22	16.32	21.69	27.25	33.06	39.14	45.80	45.80	7 / 3							
reaction time	0.142	interval		4.96	5.10	5.37	5.56	5.81	6.08	6.66		# of strides	11.22	10.47	11.37	12.74	21.69	24.11	2.42
		velocity	7.99	10.08	9.80	9.31	8.99	8.61	8.22	7.51	8.73		8.91	9.55	8.80	7.85	9.22	8.30	

Mitchell, Manteo (USA) (1987)
FINAL - 2013 USATF National Championships (Des Moines, IA)
Track Newsletter (2013) - USATF men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-13	time						32.7		45.8	45.81	/ 7							
reaction time	0.212	interval								13.10		# of strides				13.10			
		velocity						9.17		7.63	8.73					7.63			

Santos, Luguelin (DOM) (1993)
FINAL - 2018 Müller Grand Prix (Birmingham, GBR)
Omega Timing (2018) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-18	time		11.8		22.6		33.8		45.81	45.81	3 / 5							
reaction time	0.207	interval				10.8		11.2		12.0		# of strides	11.80	10.80	11.20	12.01	22.60	23.21	0.61
		velocity		8.47		9.26		8.93		8.33	8.73	184.2	8.47	9.26	8.93	8.33	8.85	8.62	

Cherry, Michael (USA) (1995)
Heat 3 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		11.16		21.84		33.16		45.81	45.81	3 / 1							
reaction time	0.137	interval				10.68		11.32		12.65		# of strides	11.16	10.68	11.32	12.65	21.84	23.97	2.13
		velocity		8.96		9.36		8.83		7.91	8.73	162.0	8.96	9.36	8.83	7.91	9.16	8.34	

Benson, James (USA) (2000)
Heat 5 - 2024 USA Olympic Trials (Eugene, OR)
USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-24	time		11.12		21.60		33.08		45.81	45.81	4 / 4							
reaction time		interval				10.48		11.48		12.73		# of strides	11.12	10.48	11.48	12.73	21.60	24.21	2.61
		velocity		8.99		9.54		8.71		7.86	8.73	178.0	8.99	9.54	8.71	7.86	9.26	8.26	

Spitz, Lionel (SUI) (2001)
Heat 5 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-24	time	6.18	11.13	16.20	21.48	26.97	32.78	38.94	45.81	45.81	3 / 6							
reaction time	0.145	interval		4.95	5.07	5.28	5.49	5.81	6.16	6.87		# of strides	11.13	10.35	11.30	13.03	21.48	24.33	2.85
		velocity	8.09	10.10	9.86	9.47	9.11	8.61	8.12	7.28	8.73	186.5	8.98	9.66	8.85	7.67	9.31	8.22	

James-King, Malik (JAM) (1999)
Long Hurdles - 2025 Grand Slam Track Miami (Miramar, FL)
Grand Slam Track (2025) - results and splits by race

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-May-25	time		11.56		22.23		33.63		45.81	45.81	4 / 5							
reaction time	0.180	interval				10.67		11.40		12.18		# of strides	11.56	10.67	11.40	12.18	22.23	23.58	1.35
		velocity		8.65		9.37		8.77		8.21	8.73		8.65	9.37	8.77	8.21	9.00	8.48	

Chukwu, Clement (NGR) (1973)
FINAL - 1998 NCAA Championships (Amherst, NY)
Track Newsletter (1998) - NCAA Championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Jun-98	time				21.8				45.8	45.82	/ 4							
reaction time		interval								24.00		# of strides					21.80	24.00	2.20
		velocity				9.17				8.33	8.73						9.17	8.33	

Larry, Lionel (USA) (1986)
FiNAL - 2008 USA Olympic Trials (Eugene, OR)
USATF Women's Sprint Development with HPC (2008)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Jul-08	time		11.13	15.66	21.42	26.94	32.73	39.03	45.82	45.82	1 / 8							
reaction time		interval			4.53	5.76	5.52	5.79	6.30	6.79		# of strides	11.13	10.29	11.31	13.09	21.42	24.40	2.98
		velocity		8.98	11.04	8.68	9.06	8.64	7.94	7.36	8.73		8.98	9.72	8.84	7.64	9.34	8.20	

Rooney, Martyn (GBR) (1987)
FINAL - 2008 IAAF World Athletic Final (Stuttgart, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Sep-08	time		11.57		22.42		33.78		45.82	45.82	8 / 5							
reaction time	0.179	interval				10.85		11.36		12.04		# of strides	11.57	10.85	11.36	12.04	22.42	23.40	0.98
		velocity		8.64		9.22		8.80		8.31	8.73		8.64	9.22	8.80	8.31	8.92	8.55	

Nakano, Hiroyuki (JPN) (1988)
FINAL - 2012 Kokutai National Sport Festival (Gifu, JPN)
Maho (2013) - race analysis of the men's 400m run in competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-12	time	6.31	11.42	16.72	22.15	27.64	33.29	39.30	45.82	45.82	/ 1							
reaction time		interval		5.11	5.30	5.43	5.49	5.65	6.01	6.52		# of strides	11.42	10.73	11.14	12.53	22.15	23.67	1.52
		velocity	7.92	9.78	9.43	9.21	9.11	8.85	8.32	7.67	8.73		8.76	9.32	8.98	7.98	9.03	8.45	

Imoto, Yoshinobu (JPN) (1999)
B FINAL - 2018 Shizuoka International Meeting (Fukuroi, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-18	time	6.03	11.09	16.23	21.53	27.09	32.97	39.17	45.82	45.82	3 / 1							
reaction time	0.155	interval		5.06	5.14	5.30	5.56	5.88	6.20	6.65		# of strides	11.09	10.44	11.44	12.85	21.53	24.29	2.76
		velocity	8.29	9.88	9.73	9.43	8.99	8.50	8.06	7.52	8.73	196.0	9.02	9.58	8.74	7.78	9.29	8.23	

Samukonga, Muzala (ZAM) (2002)
Heat 3 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		11.27		21.83		33.33		45.82	45.82	7 / 2							
reaction time	0.180	interval				10.56		11.50		12.49		# of strides	11.27	10.56	11.50	12.49	21.83	23.99	2.16
		velocity		8.87		9.47		8.70		8.01	8.73	180.0	8.87	9.47	8.70	8.01	9.16	8.34	

Bonevacia, Liemarvin (NED) (1989)
Heat 6 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	17-Jul-22	time		11.65		22.33		33.76		45.82	45.82	6 / 2						
reaction time	0.158	interval				10.68		11.43		12.06		# of strides	11.65	10.68	11.43	12.06	22.33	23.49	1.16
		velocity		8.58		9.36		8.75		8.29	8.73	180.5	8.58	9.36	8.75	8.29	8.96	8.51	

Jones, Jonathan (BAR) (1999)

Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR) — *Longines Timing (2022) - commonwealth games race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-22	time	6.2	11.3	16.7	22.1	27.7	33.6	39.5	45.82	45.82	7 / 1							
reaction time	0.157	interval		5.10	5.40	5.40	5.60	5.90	5.90	6.32		# of strides	11.30	10.80	11.50	12.22	22.10	23.72	1.62
		velocity	8.06	9.80	9.26	9.26	8.93	8.47	8.47	7.91	8.73	175.0	8.85	9.26	8.70	8.18	9.05	8.43	

Biron, Gilles (FRA) (1995)

Heat 3 - 2022 European Athletics Championships (Munich, GER) — *European Athletics (2022) - european athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-22	time		11.10		21.53		33.01		45.82	45.82	8 / 2							
reaction time	0.157	interval				10.43		11.48		12.81		# of strides	11.10	10.43	11.48	12.81	21.53	24.29	2.76
		velocity		9.01		9.59		8.71		7.81	8.73		9.01	9.59	8.71	7.81	9.29	8.23	

Doom, Alexander (BEL) (1997)

FINAL - 2022 Memorial van Damme (Brussels, BEL) — *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Sep-22	time	6.45	11.58	16.81	22.26	27.89	33.70	39.68	45.82	45.82	6 / 3							
reaction time	0.164	interval		5.13	5.23	5.45	5.63	5.81	5.98	6.14		# of strides	11.58	10.68	11.44	12.12	22.26	23.56	1.30
		velocity	7.75	9.75	9.56	9.17	8.88	8.61	8.36	8.14	8.73		8.64	9.36	8.74	8.25	8.98	8.49	

Davey, Lewis (GBR) (2000)

B Race - 2023 Memorial van Damme (Brussels, BEL) — *Omega Timing (2023) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-23	time	6.28	11.19	16.35	21.83	27.51	33.33	39.34	45.82	45.82	7 / 6							
reaction time	0.173	interval		4.91	5.16	5.48	5.68	5.82	6.01	6.48	PB	# of strides	11.19	10.64	11.50	12.49	21.83	23.99	2.16
		velocity	7.96	10.18	9.69	9.12	8.80	8.59	8.32	7.72	8.73		8.94	9.40	8.70	8.01	9.16	8.34	

Spitz, Lionel (SUI) (2001)

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-24	time	6.15	11.07	16.11	21.40	27.00	32.88	39.05	45.82	45.82	2 / 7							
reaction time	0.119	interval		4.92	5.04	5.29	5.60	5.88	6.17	6.77		# of strides	11.07	10.33	11.48	12.94	21.40	24.42	3.02
		velocity	8.13	10.16	9.92	9.45	8.93	8.50	8.10	7.39	8.73		9.03	9.68	8.71	7.73	9.35	8.19	

Plawgo, Marek (POL) (1987)

Semi-Final 1 - 2002 European Championships (Munich, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-02	time		11.43		22.14		33.49		45.83	45.83	/ 3							
reaction time	0.172	interval				10.71		11.35		12.34		# of strides	11.43	10.71	11.35	12.34	22.14	23.69	1.55
		velocity		8.75		9.34		8.81		8.10	8.73		8.75	9.34	8.81	8.10	9.03	8.44	

Wissman, Johan (SWE) (1982)

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-09	time		11.19		21.50		32.82		45.83	45.83	2 / 3							
reaction time	0.176	interval				10.31		11.32		13.01		# of strides	11.19	10.31	11.32	13.01	21.50	24.33	2.83
		velocity		8.94		9.70		8.83		7.69	8.73		8.94	9.70	8.83	7.69	9.30	8.22	

Juantorena, Alberto (CUB) (1950)

FINAL (*original*) - 1977 IAAF World Cup (Düsseldorf, FRG) — *Butler (2010) -1st/IAAF VTB bank continental cup, IAAF statistics handbook - split 2010*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Sep-77	time		12.8						45.83	45.83	8 / 3							
reaction time		interval								33.1		# of strides	12.80						
		velocity		7.81						9.06	8.73		7.81						

Haroun, Abdalelah (QAT) (1997)

Semi-Final 3 - 2018 Asian Games (Jakarta, INA) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Aug-18	time	6.13	11.11	16.29	21.75	27.43	33.21	39.23	45.83	45.83	4 / 1							
reaction time	0.195	interval		4.98	5.18	5.46	5.68	5.78	6.02	6.60		# of strides	11.11	10.64	11.46	12.62	21.75	24.08	2.33
		velocity	8.16	10.04	9.65	9.16	8.80	8.65	8.31	7.58	8.73		9.00	9.40	8.73	7.92	9.20	8.31	

Ito, Rikiya (JPN) (1998)

FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN) — *Yamanaka (2020) - 400m race analysis of men and women during 2020 season*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Aug-20	time	6.04	10.95	16.00	21.27	26.83	32.77	39.04	45.83	45.83	4 / 1							
reaction time	0.132	interval		4.91	5.05	5.27	5.56	5.94	6.27	6.79		# of strides	10.95	10.32	11.50	13.06	21.27	24.56	3.29
		velocity	8.28	10.18	9.90	9.49	8.99	8.42	7.97	7.36	8.73		9.13	9.69	8.70	7.66	9.40	8.14	

Cañal, Iñaki (ESP) (1997)

Heat 1 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		11.11		21.35		32.75		45.83	45.83	7 / 3							
reaction time	0.151	interval				10.24		11.40		13.08	PB	# of strides	11.11	10.24	11.40	13.08	21.35	24.48	3.13
		velocity		9.00		9.77		8.77		7.65	8.73		9.00	9.77	8.77	7.65	9.37	8.17	

Spitz, Lionel (SUI) (2001)

FINAL - 2023 Weltklasse (Zürich, SUI) — *Omega Timing (2023) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	31-Aug-23	time	6.31	11.43	16.82	22.35	27.92	33.61	39.50	45.83	45.83	4 / 4							
reaction time	0.147	interval		5.12	5.39	5.53	5.57	5.69	5.89	6.33		# of strides	11.43	10.92	11.26	12.22	22.35	23.48	1.13
		velocity	7.92	9.77	9.28	9.04	8.98	8.79	8.49	7.90	8.73		8.75	9.16	8.88	8.18	8.95	8.52	

Stewart, Trevor (USA) (1997)

Heat 5 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-24	time		11.63		22.33		33.62		45.83	45.83	9 / 5							
reaction time		interval				10.70		11.29		12.21		# of strides	11.63	10.70	11.29	12.21	22.33	23.50	1.17
		velocity		8.60		9.35		8.86		8.19	8.73		8.60	9.35	8.86	8.19	8.96	8.51	

Brier, Joseph (GBR) (1999)

National FINAL - 2024 London Athletics Meet (London, GBR) — *Omega Timing (2024) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-24	time	6.16	11.13	16.18	21.39	26.90	32.70	38.88	45.83	45.83	2 / 5							
reaction time	0.151	interval		4.97	5.05	5.21	5.51	5.80	6.18	6.95		# of strides	11.13	10.26	11.31	13.13	21.39	24.44	3.05
		velocity	8.12	10.06	9.90	9.60	9.07	8.62	8.09	7.19	8.73		8.98	9.75	8.84	7.62	9.35	8.18	

Petrucciani, Ricky (SUI) (2000)
B Race - 2024 Athletissima (Lausanne, SUI)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-24	time	6.21	11.46	16.79	22.30	27.83	33.55	39.49	45.83	45.83	5 / 1							
reaction time	0.167	interval		5.25	5.33	5.51	5.53	5.72	5.94	6.34		# of strides	11.46	10.84	11.25	12.28	22.30	23.53	1.23
		velocity	8.05	9.52	9.38	9.07	9.04	8.74	8.42	7.89	8.73		8.73	9.23	8.89	8.14	8.97	8.50	

McKenley, Herb (JAM) (1922)
FINAL - 1948 Pacific Association Championships (Berkeley, CA) (*yards*)
Track & Field News (1963)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Jun-48	time				21.1				45.7	45.7	/ 1							
reaction time		interval								24.6	**WR** yards	# of strides					21.10	24.60	3.50
		velocity				9.48				8.13	8.75	*(46.0/440y)*					9.48	8.13	

Lea, Jim (USA) (1932)
FINAL - 1956 USA Olympic Trials (Los Angeles, CA)
Hymans (2008) - history of the US olympic trials - track and field

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jun-56	time				21.6				45.7	45.7	7 / 2							
reaction time		interval								24.1		# of strides					21.60	24.10	2.50
		velocity				9.26				8.30	8.75						9.26	8.30	

Brightwell, Robbie (GBR) (1939)
FINAL - 1964 Olympic Games (Tokyo, JPN)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Sep-64	time				21.8		34.1		45.7	45.7	6 / 4							
reaction time		interval						12.30		11.60	*(45.75)*	# of strides			12.30	11.60	21.80	23.90	2.10
		velocity				9.17		8.13		8.62	8.75				8.13	8.62	9.17	8.37	

Egbunike, Innocent (NGR) (1961)
Heat 2 - 1987 IAAF World Championship (Rome, ITA)
Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Aug-87	time		11.32		21.94		33.50		45.84	45.84	6 / 2							
reaction time		interval				10.62		11.56		12.34		# of strides	11.32	10.62	11.56	12.34	21.94	23.90	1.96
		velocity		8.83		9.42		8.65		8.10	8.73	161.0	8.83	9.42	8.65	8.10	9.12	8.37	

Valmon, Andrew (USA) (1965)
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA)
USATF Women's Sprint Development (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jun-96	time		11.63		22.11		33.34	39.90	45.84	45.84	8 / 6							
reaction time		interval				10.48		11.23	6.56	5.94		# of strides	11.63	10.48	11.23	12.50	22.11	23.73	1.62
		velocity		8.60		9.54		8.90	7.62	8.42	8.73		8.60	9.54	8.90	8.00	9.05	8.43	

Szeglet, Zsolt (HUN) (1977)
Semi-Final 1 - 2002 European Championships (Munich, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-02	time		11.52		22.46		33.41		45.84	45.84	/ 4							
reaction time	0.155	interval				10.94		10.95		12.43		# of strides	11.52	10.94	10.95	12.43	22.46	23.38	0.92
		velocity		8.68		9.14		9.13		8.05	8.73		8.68	9.14	9.13	8.05	8.90	8.55	

Iglehart-Summers, Quentin (USA) (19
Semi-Final 1 - 2008 USA Olympic Trials (Eugene, OR)
USATF Women's Sprint Development with HPC (2008)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jun-08	time		11.27	16.62	21.36	27.72	33.60	39.50	45.84	45.84	5 / 6							
reaction time		interval			5.35	4.74	6.36	5.88	5.90	6.34		# of strides	11.27	10.09	12.24	12.24	21.36	24.48	3.12
		velocity		8.87	9.35	10.55	7.86	8.50	8.47	7.89	8.73		8.87	9.91	8.17	8.17	9.36	8.17	

Hirose, Hideyuki (JPN) (1989)
FINAL - 2011 Japanese National Championships (Kumagaya, JPN)
Maho (2013) - race analysis of the men's 400m run in competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Jun-11	time	6.31	11.37	16.58	21.91	27.44	33.11	39.21	45.84	45.84	/ 2							
reaction time		interval		5.06	5.21	5.33	5.53	5.67	6.10	6.63	**=PB**	# of strides	11.37	10.54	11.20	12.73	21.91	23.93	2.02
		velocity	7.92	9.88	9.60	9.38	9.04	8.82	8.20	7.54	8.73		8.80	9.49	8.93	7.86	9.13	8.36	

Tamura, Tomoya (JPN) (1992)
Heat 3 - 2017 Japanese National Championships (Osaka, JPN)
(2017) - tfdata-store.com/2017/07/08/post-965/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-17	time		11.39		21.69		32.84		45.84	45.84	8 / 1							
reaction time	0.161	interval				10.30		11.15		13.00	**PB**	# of strides	11.39	10.30	11.15	13.00	21.69	24.15	2.46
		velocity		8.78		9.71		8.97		7.69	8.73	187.0	8.78	9.71	8.97	7.69	9.22	8.28	

Rajiv, Arokia (IND) (1991)
FINAL - 2018 Asian Games (Jakarta, INA)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-18	time	6.24	11.39	16.63	22.08	27.55	33.15	39.18	45.84	45.84	8 / 4							
reaction time	0.187	interval		5.15	5.24	5.45	5.47	5.60	6.03	6.66		# of strides	11.39	10.69	11.07	12.69	22.08	23.76	1.68
		velocity	8.01	9.71	9.54	9.17	9.14	8.93	8.29	7.51	8.73	177.0	8.78	9.35	9.03	7.88	9.06	8.42	

Doom, Alexander (BEL) (1997)
FINAL - 2021 Memorial van Damme (Brussels, BEL)
Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Sep-21	time	6.4	11.3	16.4	21.8	27.4	33.3	39.5	45.84	45.84	7 / 6							
reaction time	0.154	interval		4.90	5.10	5.40	5.60	5.90	6.20	6.34		# of strides	11.30	10.50	11.50	12.54	21.80	24.04	2.24
		velocity	7.81	10.20	9.80	9.26	8.93	8.47	8.06	7.89	8.73		8.85	9.52	8.70	7.97	9.17	8.32	

Sato, Fuga (JPN) (1996)
FINAL - 2021 All Japan Corporate Championships (Osaka, JPN)
@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Sep-21	time		11.09		21.80		33.42		45.73	45.84	7 / 1							
reaction time	0.192	interval				10.71		11.62		12.31		# of strides	11.09	10.71	11.62	12.31	21.80	23.93	2.13
		velocity		9.02		9.34		8.61		8.12	8.73		9.02	9.34	8.61	8.12	9.17	8.36	

Bonevacia, Liemarvin (NED) (1989)
FINAL - 2022 Weltklasse (Zürich, SUI)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-22	time	6.27	11.37	16.61	21.92	27.40	33.13	39.23	45.84	45.84	1 / 7							
reaction time	0.143	interval		5.10	5.24	5.31	5.48	5.73	6.10	6.61		# of strides	11.37	10.55	11.21	12.71	21.92	23.92	2.00
		velocity	7.97	9.80	9.54	9.42	9.12	8.73	8.20	7.56	8.73		8.80	9.48	8.92	7.87	9.12	8.36	

Dringo, Mihai Sorin (ROU) (2001)
Semi-Final 2 - 2023 European Athletics U23 Championships (Espoo, FIN)
European Athletics (2023) - european athletics U23 championships results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	13-Jul-23	time	11.56		22.35		34.02		45.84	45.84	8 / 2							
reaction time	0.197	interval			10.79		11.67		11.82		# of strides	11.56	10.79	11.67	11.82	22.35	23.49	1.14
		velocity	8.65		9.27		8.57		8.46	8.73	177.7	8.65	9.27	8.57	8.46	8.95	8.51	

Nielsen, Gustav Lundholm (DEN) (19

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 European Athletics Championships (Roma, ITA)											*European Athletics (2024) - 2024 european athletics championships - results book*						
date 08-Jun-24	time	11.37		21.97		33.38		45.84	45.84	7 / 5							
reaction time 0.146	interval			10.60		11.41		12.46		# of strides	11.37	10.60	11.41	12.46	21.97	23.87	1.90
	velocity	8.80		9.43		8.76		8.03	8.73		8.80	9.43	8.76	8.03	9.10	8.38	

Green, Bill (USA) (1961)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 USA Olympic Trials (Eugene, OR)											*Track Newsletter (1980) - US olympic trials*						
date 27-Jun-80	time	11.7		22.9		34.2		45.9	45.85	/ 1							
reaction time	interval			11.20		11.30		11.65		# of strides	11.70	11.20	11.30	11.65	22.90	22.95	0.05
	velocity	8.55		8.93		8.85		8.58	8.72		8.55	8.93	8.85	8.58	8.73	8.71	

Schönlebe, Thomas (GDR) (1965)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 1987 IAAF World Championship (Rome, ITA)											*Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*						
date 30-Aug-87	time	11.48		22.00		33.35		45.85	45.85	6 / 2							
reaction time	interval			10.52		11.35		12.50		# of strides	11.48	10.52	11.35	12.50	22.00	23.85	1.85
	velocity	8.71		9.51		8.81		8.00	8.72	172.5	8.71	9.51	8.81	8.00	9.09	8.39	

Inico, Kedar (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 NCAA Championships (Sacramento, CA)											*Track Newsletter (2005) - NCAA men's championships*						
date 11-Jun-05	time	11.6		21.7		33.3		45.9	45.85	/ 8							
reaction time	interval			10.10		11.60		12.60		# of strides	11.60	10.10	11.60	12.60	21.70	24.20	2.50
	velocity	8.62		9.90		8.62		7.94	8.72		8.62	9.90	8.62	7.94	9.22	8.26	

Horii, Kosuke (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2015 Japanese National Championships (Niigata, JPN)											*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*						
date 27-Jun-15	time	6.29	11.48	16.75	22.29	28.11	33.81	39.67	45.85	45.85	7 / 4						
reaction time 0.172	interval		5.19	5.27	5.54	5.82	5.70	5.86	6.18	PB	# of strides	11.48	10.81	11.52	12.04	22.29	23.56	1.27
	velocity	7.95	9.63	9.49	9.03	8.59	8.77	8.53	8.09	8.72	183.2	8.71	9.25	8.68	8.31	8.97	8.49	

Janežič, Luka (SLO) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Bauhaus Galan (Stockholm, SWE)											*Omega Timing (2020) - diamond league race analysis*						
date 23-Aug-20	time	6.4	11.5	16.8	22.2	27.9	33.7	39.6	45.85	45.85	6 / 2						
reaction time 0.177	interval		5.10	5.30	5.40	5.70	5.80	5.90	6.25		# of strides	11.50	10.70	11.50	12.15	22.20	23.65	1.45
	velocity	7.81	9.80	9.43	9.26	8.77	8.62	8.47	8.00	8.72		8.70	9.35	8.70	8.23	9.01	8.46	

Mweresa, Boniface (KEN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)											*Longines Timing (2022) - commonwealth games race analysis*						
date 05-Aug-22	time	6.0	11.0	16.3	21.8	27.5	33.4	39.4	45.85	45.85	4 / 2						
reaction time 0.181	interval		5.00	5.30	5.50	5.70	5.90	6.00	6.45		# of strides	11.00	10.80	11.60	12.45	21.80	24.05	2.25
	velocity	8.33	10.00	9.43	9.09	8.77	8.47	8.33	7.75	8.72	181.0	9.09	9.26	8.62	8.03	9.17	8.32	

Carvalho, Lucas (BRA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 Olympic Games (Paris, FRA)											*Paris 2024 Olympic Games - Results Book (2024)*						
date 04-Aug-24	time	6.17	11.11	16.21	21.55	27.09	32.90	38.98	45.85	45.85	5 / 7						
reaction time 0.133	interval		4.94	5.10	5.34	5.54	5.81	6.08	6.87		# of strides	11.11	10.44	11.35	12.95	21.55	24.30	2.75
	velocity	8.10	10.12	9.80	9.36	9.03	8.61	8.22	7.28	8.72	180.7	9.00	9.58	8.81	7.72	9.28	8.23	

Canal, David (ESP) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2002 European Championships (Munich, GER)											*Graubner (2009) - http://www.fgs.uni-halle.de*						
date 07-Aug-02	time	11.44		21.85		33.22		45.86	45.86	/ 1							
reaction time 0.152	interval			10.41		11.37		12.64		# of strides	11.44	10.41	11.37	12.64	21.85	24.01	2.16
	velocity	8.74		9.61		8.80		7.91	8.72		8.74	9.61	8.80	7.91	9.15	8.33	

Byrd, Leonard (USA) (1975)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)											*Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix*						
date 19-Sep-05	time	11.34		22.10		33.25	39.28	45.86	45.86	5 / 3							
reaction time	interval			10.76		11.15	6.03	6.58		# of strides	11.34	10.76	11.15	12.61	22.10	23.76	1.66
	velocity	8.82		9.29		8.97	8.29	7.60	8.72		8.82	9.29	8.97	7.93	9.05	8.42	

Galvan, Matteo (ITA) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2009 IAAF World Championships (Berlin, GER)											*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*						
date 18-Aug-09	time	11.53		22.31		33.50		45.86	45.86	6 / 3							
reaction time 0.150	interval			10.78		11.19		12.36	PB	# of strides	11.53	10.78	11.19	12.36	22.31	23.55	1.24
	velocity	8.67		9.28		8.94		8.09	8.72		8.67	9.28	8.94	8.09	8.96	8.49	

Borlée, Dylan (BEL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Athletissima (Lausanne, SUI)											*Omega Timing (2023) - diamond league race analysis*						
date 30-Jun-23	time	6.19	11.25	16.30	21.52	27.02	32.87	39.04	45.86	45.86	8 / 2						
reaction time 0.131	interval		5.06	5.05	5.22	5.50	5.85	6.17	6.82		# of strides	11.25	10.27	11.35	12.99	21.52	24.34	2.82
	velocity	8.08	9.88	9.90	9.58	9.09	8.55	8.10	7.33	8.72		8.89	9.74	8.81	7.70	9.29	8.22	

Boers, Isayah (NED) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 FBK Games (Hengelo, NED)											*Omega Timing (2024) - continental tour gold race analysis*						
date 07-Jul-24	time	6.16	11.04	16.00	21.22	26.77	32.63	38.91	45.86	45.86	6 / 1						
reaction time 0.174	interval		4.88	4.96	5.22	5.55	5.86	6.28	6.95		# of strides	11.04	10.18	11.41	13.23	21.22	24.64	3.42
	velocity	8.12	10.25	10.08	9.58	9.01	8.53	7.96	7.19	8.72		9.06	9.82	8.76	7.56	9.43	8.12	

Williamson, Darold (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 USATF National Championships (Palo Alto, CA)											*USATF Women's Sprint Development (2003)*						
date 21-Jun-03	time			22.09		33.35	39.27	45.87	45.87	7 / ~~8~~ 6							
reaction time	interval					11.26	5.92	6.60		# of strides			11.26	12.52	22.09	23.78	1.69
	velocity			9.05		8.88	8.45	7.58	8.72				8.88	7.99	9.05	8.41	

Benjamin, Tim (GBR) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 European Cup (Munich, GER)																	*Graubner (2007) - http://www.fgs.uni-halle.de*
date 23-Jun-07	time	11.62		22.42		33.63		45.87	45.87	/ 2							
reaction time 0.178	interval			10.80		11.21		12.24		# of strides	11.62	10.80	11.21	12.24	22.42	23.45	1.03
	velocity	8.61		9.26		8.92		8.17	8.72		8.61	9.26	8.92	8.17	8.92	8.53	

Feliz, Lidio Andres (DOM) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22	time	11.58		22.24		33.78		45.87	45.87	5 / 3							
reaction time 0.257	interval			10.66		11.54		12.09		# of strides	11.58	10.66	11.54	12.09	22.24	23.63	1.39
	velocity	8.64		9.38		8.67		8.27	8.72	174.7	8.64	9.38	8.67	8.27	8.99	8.46	

Scotti, Edoardo (ITA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 15-Aug-22	time	11.41		22.08		33.45		45.87	45.87	8 / 3							
reaction time 0.251	interval			10.67		11.37		12.42		# of strides	11.41	10.67	11.37	12.42	22.08	23.79	1.71
	velocity	8.76		9.37		8.80		8.05	8.72		8.76	9.37	8.80	8.05	9.06	8.41	

Bonevacia, Liemarvin (NED) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 FBK Games (Hengelo, NED)																	*Omega Timing (2023) - continental tour race analysis*
date 04-Jun-23	time	6.28	11.28	16.38	21.74	27.26	33.01	39.08	45.87	45.87	5 / 5						
reaction time 0.147	interval		5.00	5.10	5.36	5.52	5.75	6.07	6.79		# of strides	11.28	10.46	11.27	12.86	21.74	24.13	2.39
	velocity	7.96	10.00	9.80	9.33	9.06	8.70	8.24	7.36	8.72	182.5	8.87	9.56	8.87	7.78	9.20	8.29	

Zalewski, Karol (POL) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Kamila Skolimowska Memorial (Silesia, POL)																	*Omega Timing (2023) - diamond league race analysis*
date 16-Jul-23	time	6.15	11.15	16.32	21.60	27.19	33.11	39.24	45.87	45.87	1 / 8						
reaction time 0.138	interval		5.00	5.17	5.28	5.59	5.92	6.13	6.63		# of strides	11.15	10.45	11.51	12.76	21.60	24.27	2.67
	velocity	8.13	10.00	9.67	9.47	8.94	8.45	8.16	7.54	8.72		8.97	9.57	8.69	7.84	9.26	8.24	

Mitcham, Rio (GBR) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 London Athletics Meet (London, GBR)																	*Omega Timing (2024) - diamond league race analysis*
date 20-Jul-24	time	6.23	11.31	16.37	21.61	27.17	33.04	39.17	45.87	45.87	3 / 6						
reaction time 0.156	interval		5.08	5.06	5.24	5.56	5.87	6.13	6.70		# of strides	11.31	10.30	11.43	12.83	21.61	24.26	2.65
	velocity	8.03	9.84	9.88	9.54	8.99	8.52	8.16	7.46	8.72		8.84	9.71	8.75	7.79	9.25	8.24	

Biron, Gilles (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 1 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24	time	6.24	11.25	16.28	21.56	27.20	33.05	39.22	45.87	45.87	8 / 2						
reaction time 0.187	interval		5.01	5.03	5.28	5.64	5.85	6.17	6.65		# of strides	11.25	10.31	11.49	12.82	21.56	24.31	2.75
	velocity	8.01	9.98	9.94	9.47	8.87	8.55	8.10	7.52	8.72	178.7	8.89	9.70	8.70	7.80	9.28	8.23	

Kocheryagin, Vyacheslav (URS)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1991 European Cup (Frankfurt, GER)																	*Federle (2003) - http://www.fgs.uni-halle.de*
date 29-Jun-91	time		11.59		22.39		33.59		45.88	45.88	/ 4						
reaction time	interval				10.80		11.20		12.29		# of strides	11.59	10.80	11.20	12.29	22.39	23.49	1.10
	velocity		8.63		9.26		8.93		8.14	8.72		8.63	9.26	8.93	8.14	8.93	8.51	

Harrison, Alvin (USA) (1974)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 USATF National Championship (Eugene, OR)																	*Track Newsletter (1999) - USATF National Championships*
date 26-Jun-99	time				21.7				45.9	45.88	/ ~~8~~ 7						
reaction time	interval								24.20		# of strides					21.70	24.20	2.50
	velocity				9.22				8.26	8.72						9.22	8.26	

Horii, Kosuke (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2017 Japanese National Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/07/08/post-965/*
date 23-Jun-17	time		11.49		22.06		33.54		45.88	45.88	3 / 3						
reaction time 0.174	interval				10.57		11.48		12.34		# of strides	11.49	10.57	11.48	12.34	22.06	23.82	1.76
	velocity		8.70		9.46		8.71		8.10	8.72	185.2	8.70	9.46	8.71	8.10	9.07	8.40	

Mihara, Taiki (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2017 Japanese National Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/07/08/post-965/*
date 23-Jun-17	time		11.59		21.83		33.04		45.88	45.88	5 / 2						
reaction time 0.212	interval				10.24		11.21		12.84	PB	# of strides	11.59	10.24	11.21	12.84	21.83	24.05	2.22
	velocity		8.63		9.77		8.92		7.79	8.72	183.0	8.63	9.77	8.92	7.79	9.16	8.32	

Humaida, Bassem (QAT) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Doha (Doha, QAT)																	*Omega Timing (2019) - diamond league race analysis*
date 03-May-19	time		11.5		22.3		33.9		45.88	45.88	6 / 1						
reaction time 0.168	interval				10.8		11.6		12.0	PB	# of strides	11.50	10.80	11.60	11.98	22.30	23.58	1.28
	velocity		8.70		9.26		8.62		8.35	8.72		8.70	9.26	8.62	8.35	8.97	8.48	

Taylor, Christopher (JAM) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2021) - diamond league race analysis*
date 03-Sep-21	time	6.3	11.3	16.5	22.0	27.5	33.2	39.3	45.88	45.88	2 / 7						
reaction time 0.170	interval		5.00	5.20	5.50	5.50	5.70	6.10	6.58		# of strides	11.30	10.70	11.20	12.68	22.00	23.88	1.88
	velocity	7.94	10.00	9.62	9.09	9.09	8.77	8.20	7.60	8.72		8.85	9.35	8.93	7.89	9.09	8.38	

Sato, Fuga (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22	time		11.25		21.72		33.19		45.88	45.88	5 / 4						
reaction time 0.170	interval				10.47		11.47		12.69		# of strides	11.25	10.47	11.47	12.69	21.72	24.16	2.44
	velocity		8.89		9.55		8.72		7.88	8.72	177.0	8.89	9.55	8.72	7.88	9.21	8.28	

Kijanović, Boško (SRB) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*

date	16-Aug-22	time		10.86		21.42		32.86		45.88	45.88	7 / 7						
reaction time	0.162	interval				10.56		11.44		13.02		# of strides	10.86	10.56	11.44	13.02	21.42	24.46	3.04
		velocity		9.21		9.47		8.74		7.68	8.72	170.0	9.21	9.47	8.74	7.68	9.34	8.18	

Horigome, Yoshihiro (JPN) (1981)
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)
Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Sep-05	time		11.47		22.46		33.52	39.36	45.89	45.89	2 / 4							
reaction time		interval				10.99		11.06	5.84	6.53	PB	# of strides	11.47	10.99	11.06	12.37	22.46	23.43	0.97
		velocity		8.72		9.10		9.04	8.56	7.66	8.72		8.72	9.10	9.04	8.08	8.90	8.54	

Benjamin, Tim (GBR) (1982)
FINAL - 2006 European Championships (Göteborg, SWE)
Behm (2006) - Championnats d'Europe Göteborg 2006… Le 400m avec ou sans obstacles

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Aug-06	time				22.6		33.2		45.89	45.89	/ 6							
reaction time		interval						10.60		12.69		# of strides			10.60	12.69	22.60	23.29	0.69
		velocity				8.85		18.87		7.88	8.72				9.43	7.88	8.85	8.59	

Sawyers, Chantz (JAM) (1999)
FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)
Koyama (2018) - research on athlete performance and technique- 2018 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jul-18	time	6.27	11.25	16.35	21.72	27.23	32.97	39.12	45.89	45.89	4 / 3							
reaction time	0.157	interval		4.98	5.10	5.37	5.51	5.74	6.15	6.77		# of strides	11.25	10.47	11.25	12.92	21.72	24.17	2.45
		velocity	7.97	10.04	9.80	9.31	9.07	8.71	8.13	7.39	8.72		8.89	9.55	8.89	7.74	9.21	8.27	

Walsh, Julian Jrummi (JPN) (1996)
FINAL - 2018 Asian Games (Jakarta, INA)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-18	time	6.08	11.07	16.17	21.53	27.13	33.04	39.27	45.89	45.89	4 / 5							
reaction time	0.120	interval		4.99	5.10	5.36	5.60	5.91	6.23	6.62		# of strides	11.07	10.46	11.51	12.85	21.53	24.36	2.83
		velocity	8.22	10.02	9.80	9.33	8.93	8.46	8.03	7.55	8.72	170.7	9.03	9.56	8.69	7.78	9.29	8.21	

Borlée, Kevin (BEL) (1988)
National FINAL - 2019 Memorial van Damme (Brussels, BEL)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Sep-19	time	6.4	11.4	16.6	21.9	27.4	33.3	39.3	45.89	45.89	5 / 3							
reaction time		interval		5.0	5.2	5.3	5.5	5.9	6.0	12.6		# of strides	11.40	10.50	11.40	12.59	21.90	23.99	2.09
		velocity	7.81	10.00	9.62	9.43	9.09	8.47	8.33	7.94	8.72		8.77	9.52	8.77	7.94	9.13	8.34	

Scotti, Edoardo (ITA) (2000)
FINAL - 2022 Golden Gala Pietro Mennea (Rome, ITA)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-22	time	6.27	11.35	16.49	21.83	27.45	33.27	39.30	45.89	45.89	9 / 7							
reaction time	0.185	interval		5.08	5.14	5.34	5.62	5.82	6.03	6.59		# of strides	11.35	10.48	11.44	12.62	21.83	24.06	2.23
		velocity	7.97	9.84	9.73	9.36	8.90	8.59	8.29	7.59	8.72	171.5	8.81	9.54	8.74	7.92	9.16	8.31	

Scotch, Leungo (BOT) (1996)
FINAL - 2023 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Jul-23	time	6.23	11.31	16.53	21.94	27.57	33.39	39.39	45.89	45.89	3 / 6							
reaction time	0.188	interval		5.08	5.22	5.41	5.63	5.82	6.00	6.50		# of strides	11.31	10.63	11.45	12.50	21.94	23.95	2.01
		velocity	8.03	9.84	9.58	9.24	8.88	8.59	8.33	7.69	8.72		8.84	9.41	8.73	8.00	9.12	8.35	

Raftery, Jack (IRL) (2001)
Semi-Final 1 - 2023 European Athletics U23 Championships (Espoo, FIN)
European Athletics (2023) - european athletics U23 championships results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jul-23	time		11.68		22.37		33.93		45.89	45.89	7 / 3							
reaction time	0.197	interval				10.69		11.56		11.96	PB	# of strides	11.68	10.69	11.56	11.96	22.37	23.52	1.15
		velocity		8.56		9.35		8.65		8.36	8.72		8.56	9.35	8.65	8.36	8.94	8.50	

Patterson, Jacory (USA) (2000)
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)
USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-24	time		10.79		21.27		32.67		45.89	45.89	1 / 8							
reaction time		interval				10.48		11.40		13.22		# of strides	10.79	10.48	11.40	13.22	21.27	24.62	3.35
		velocity		9.27		9.54		8.77		7.56	8.72		9.27	9.54	8.77	7.56	9.40	8.12	

Andant, Teo (FRA) (1999)
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Jul-24	time	6.14	11.08	16.17	21.44	27.09	33.04	39.25	45.89	45.89	1 / 8							
reaction time	0.157	interval		4.94	5.09	5.27	5.65	5.95	6.21	6.64		# of strides	11.08	10.36	11.60	12.85	21.44	24.45	3.01
		velocity	8.14	10.12	9.82	9.49	8.85	8.40	8.05	7.53	8.72	181.0	9.03	9.65	8.62	7.78	9.33	8.18	

Djhone, Leslie (FRA) (1981)
FINAL - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Aug-09	time		11.34		22.04		33.46		45.90	45.90	1 / 8							
reaction time	0.151	interval				10.70		11.42		12.44		# of strides	11.34	10.70	11.42	12.44	22.04	23.86	1.82
		velocity		8.82		9.35		8.76		8.04	8.71		8.82	9.35	8.76	8.04	9.07	8.38	

Spratling, Brycen (USA) (1992)
FINAL - 2014 USATF National Championships (Sacramento, CA)
Track Newsletter (2014) - USATF men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jun-14	time		11.4		22.2		33.5		45.9	45.90	/ 7							
reaction time		interval				10.8		11.3		12.4		# of strides	11.40	10.80	11.30	12.40	22.20	23.70	1.50
		velocity		8.77		9.26		8.85		8.06	8.71		8.77	9.26	8.85	8.06	9.01	8.44	

Berry, Mike (USA) (1991)
FINAL - 2016 USA Olympic Trials (Eugene, OR)
Track Newsletter (2016) - US olympic trials men

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Jul-16	time		11.3		22.1		33.4		45.9	45.90	1 / 8							
reaction time	0.249	interval				10.80		11.30		12.50		# of strides	11.30	10.80	11.30	12.50	22.10	23.80	1.70
		velocity		8.85		9.26		8.85		8.00	8.71		8.85	9.26	8.85	8.00	9.05	8.40	

Makwala, Isaac (BOT) (1986)
FINAL - 2022 Golden Gala Pietro Mennea (Rome, ITA)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-22	time	6.21	11.18	16.28	21.55	27.06	32.81	38.98	45.90	45.90	7 / 8							
reaction time	0.185	interval		4.97	5.10	5.27	5.51	5.75	6.17	6.92		# of strides	11.18	10.37	11.26	13.09	21.55	24.35	2.80
		velocity	8.05	10.06	9.80	9.49	9.07	8.70	8.10	7.23	8.71	184.0	8.94	9.64	8.88	7.64	9.28	8.21	

Walsh, Julian Jrummi (JPN) (1996)
Heat 1 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		11.07		21.63		32.96		45.90	45.90	2 / 4							
reaction time	0.126	interval				10.56		11.33		12.94		# of strides	11.07	10.56	11.33	12.94	21.63	24.27	2.64
		velocity		9.03		9.47		8.83		7.73	8.71	176.7	9.03	9.47	8.83	7.73	9.25	8.24	

Borlée, Jonathan (BEL) (1988)
FINAL - 2022 Memorial van Damme (Brussels, BEL)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Sep-22	time	6.31	11.43	16.67	22.02	27.52	33.28	39.42	45.90	45.90	3 / 4							
reaction time	0.194	interval		5.12	5.24	5.35	5.50	5.76	6.14	6.48		# of strides	11.43	10.59	11.26	12.62	22.02	23.88	1.86
		velocity	7.92	9.77	9.54	9.35	9.09	8.68	8.14	7.72	8.71		8.75	9.44	8.88	7.92	9.08	8.38	

Pohorilko, Oleksandr (UKR) (2000)
Heat 1 - 2024 European Athletics Championships (Roma, ITA)
European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jun-24	time		11.37		21.94		33.28		45.90	45.90	2 / 6							
reaction time	0.169	interval				10.57		11.34		12.62		# of strides	11.37	10.57	11.34	12.62	21.94	23.96	2.02
		velocity		8.80		9.46		8.82		7.92	8.71		8.80	9.46	8.82	7.92	9.12	8.35	

Grimerud, Andreas (NOR) (2003)
Heat 3 - 2024 European Athletics Championships (Roma, ITA)
European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jun-24	time		11.62		22.26		33.66		45.90	45.90	9 / 6							
reaction time	0.222	interval				10.64		11.40		12.24	=PB	# of strides	11.62	10.64	11.40	12.24	22.26	23.64	1.38
		velocity		8.61		9.40		8.77		8.17	8.71		8.61	9.40	8.77	8.17	8.98	8.46	

de Souza, Gerson (BRA) (1959)
FINAL - 1983 IAAF World Championships (Helsinki, FIN)
Butler (2013) - IAAF world championships statistics handbook- moscow 2013

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Aug-83	time				21.8				45.91	45.91	2 / 8							
reaction time		interval								24.11		# of strides					21.80	24.11	2.31
		velocity				9.17				8.30	8.71						9.17	8.30	

Buzard, Aaron (USA) (1984)
FINAL - 2006 NCAA Championships (Sacramento, CA)
Track Newsletter (2006) - NCAA men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Jun-06	time		11.4		22.1		33.5		45.9	45.91	/ 8							
reaction time		interval				10.70		11.40		12.40		# of strides	11.40	10.70	11.40	12.40	22.10	23.80	1.70
		velocity		8.77		9.35		8.77		8.06	8.71		8.77	9.35	8.77	8.06	9.05	8.40	

Dyldin, Maksim (RUS) (1987)
Heat 5 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-09	time		11.75		22.33		33.42		45.91	45.91	6 / 4							
reaction time	0.172	interval				10.58		11.09		12.49		# of strides	11.75	10.58	11.09	12.49	22.33	23.58	1.25
		velocity		8.51		9.45		9.02		8.01	8.71		8.51	9.45	9.02	8.01	8.96	8.48	

Kanemaru, Yuzo (JPN) (1987)
Heat 2 - 2015 Japanese National Championships (Niigata, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-15	time	6.32	11.42	16.58	21.92	27.53	33.13	39.18	45.91	45.91	9 / 1							
reaction time	0.187	interval		5.10	5.16	5.34	5.61	5.60	6.05	6.73		# of strides	11.42	10.50	11.21	12.78	21.92	23.99	2.07
		velocity	7.91	9.80	9.69	9.36	8.91	8.93	8.26	7.43	8.71	182.0	8.76	9.52	8.92	7.82	9.12	8.34	

Cedenio, Machel (TTO) (1995)
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)
Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-17	time		10.83		21.01		32.37	38.56	45.69	45.91	8 / 7							
reaction time	0.221	interval				10.18		11.36	6.19	7.13		# of strides	10.83	10.18	11.36	13.32	21.01	24.68	3.67
		velocity		9.23		9.82		8.80	8.08	7.01	8.71	168.4	9.23	9.82	8.80	7.51	9.52	8.10	

Mweresa, Bonface (KEN) (1993)
Heat 1 - 2023 World Athletics Championships (Budapest, HUN)
Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		11.66		22.48		33.85		45.91	45.91	3 / 7							
reaction time	0.190	interval				10.82		11.37		12.06		# of strides	11.66	10.82	11.37	12.06	22.48	23.43	0.95
		velocity		8.58		9.24		8.80		8.29	8.71		8.58	9.24	8.80	8.29	8.90	8.54	

Biron, Gilles (FRA) (1995)
Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)
European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-24	time		11.35		21.87		33.13		45.91	45.91	8 / ~~5~~ 4							
reaction time	0.160	interval				10.52		11.26		12.78		# of strides	11.35	10.52	11.26	12.78	21.87	24.04	2.17
		velocity		8.81		9.51		8.88		7.82	8.71	181.0	8.81	9.51	8.88	7.82	9.14	8.32	

Juantorena, Alberto (CUB) (1950)
Quarter-Final 2 - 1976 Olympic Games (Montreal, CAN)
Lamare (1976) - les jeux de la XXI olympia, Montreal 1976

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Jul-76	time				22.6		34.1		45.92	45.92	7 / 2							
reaction time		interval						11.5		11.82		# of strides			11.50	11.82	22.60	23.32	0.72
		velocity				8.85		8.70		8.46	8.71				8.70	8.46	8.85	8.58	

Attene, Alessandro (ITA) (1977)
FINAL - 2001 European Cup (Bremen, GER)
Graubner (2007) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-01	time		11.47		22.11		33.59		45.92	45.92	/ 5							
reaction time		interval				10.64		11.48		12.33		# of strides	11.47	10.64	11.48	12.33	22.11	23.81	1.70
		velocity		8.72		9.40		8.71		8.11	8.71		8.72	9.40	8.71	8.11	9.05	8.40	

McKee, Paul (IRL) (1977)
Semi-Final 1 - 2002 European Championships (Munich, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-02	time		11.38		22.02		33.25		45.92	45.92	/ 5							
reaction time	0.154	interval				10.64		11.23		12.67		# of strides	11.38	10.64	11.23	12.67	22.02	23.90	1.88
		velocity		8.79		9.40		8.90		7.89	8.71		8.79	9.40	8.90	7.89	9.08	8.37	

Kikaya, Gary (COD) (1980)
FINAL - 2008 IAAF World Athletic Final (Stuttgart, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	13-Sep-08	time	11.15		21.65		33.09		45.92	45.92	2 / 6						
reaction time	0.167	interval			10.50		11.44		12.83		# of strides	11.15	10.50	11.44	12.83	21.65	24.27	2.62
		velocity	8.97		9.52		8.74		7.79	8.71		8.97	9.52	8.74	7.79	9.24	8.24	

Mathieu, Michael (BAH) (1984)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2009 ISTAF (Berlin, GER)

Graubner (2009) - http://www.fgs.uni-halle.de

date	14-Jun-09	time	11.06		21.72		33.05		45.92	45.92	7 / 3						
reaction time	0.316	interval			10.66		11.33		12.87		# of strides	11.06	10.66	11.33	12.87	21.72	24.20	2.48
		velocity	9.04		9.38		8.83		7.77	8.71		9.04	9.38	8.83	7.77	9.21	8.26	

Nyongani, Young Talkmore (ZIM) (19

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 1 - 2009 IAAF World Championships (Berlin, GER)

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

date	18-Aug-09	time	11.29		21.89		32.37		45.92	45.92	8 / 5						
reaction time	0.178	interval			10.60		10.48		13.55		# of strides	11.29	10.60	10.48	13.55	21.89	24.03	2.14
		velocity	8.86		9.43		9.54		7.38	8.71		8.86	9.43	9.54	7.38	9.14	8.32	

Henry, Tabarie (ISV) (1987)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2010 NCAA Championships (Eugene, OR)

Track Newsletter (2010) - NCAA men's championships

date	11-Jun-10	time			21.4		33.6		45.9	45.92	/ 8						
reaction time		interval					12.2		12.3		# of strides			12.20	12.30	21.40	24.50	3.10
		velocity			9.35		8.20		8.13	8.71				8.20	8.13	9.35	8.16	

Santos, Luguelin (DOM) (1993)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2022 Bislett Games (Oslo, NOR)

Omega Timing (2022) - diamond league race analysis

date	16-Jun-22	time	6.39	11.43	16.53	21.73	27.23	33.14	39.32	45.92	45.92	1 / 7						
reaction time	0.174	interval		5.04	5.10	5.20	5.50	5.91	6.18	6.60		# of strides	11.43	10.30	11.41	12.78	21.73	24.19	2.46
		velocity	7.82	9.92	9.80	9.62	9.09	8.46	8.09	7.58	8.71	190.0	8.75	9.71	8.76	7.82	9.20	8.27	

Maslák, Pavel (CZE) (1991)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 4 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

date	15-Aug-22	time		11.11		21.47		32.88		45.92	45.92	4 / 4						
reaction time	0.230	interval				10.36		11.41		13.04		# of strides	11.11	10.36	11.41	13.04	21.47	24.45	2.98
		velocity		9.00		9.65		8.76		7.67	8.71		9.00	9.65	8.76	7.67	9.32	8.18	

Krsek, Matěj (CZE) (2000)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

date	16-Aug-22	time		11.39		22.01		33.55		45.92	45.92	8 / 5						
reaction time	0.171	interval				10.62		11.54		12.37		# of strides	11.39	10.62	11.54	12.37	22.01	23.91	1.90
		velocity		8.78		9.42		8.67		8.08	8.71	173.0	8.78	9.42	8.67	8.08	9.09	8.36	

Schneider, Patrick (GER) (1992)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

date	16-Aug-22	time		11.52		21.89		33.26		45.92	45.92	7 / 4						
reaction time	0.180	interval				10.37		11.37		12.66		# of strides	11.52	10.37	11.37	12.66	21.89	24.03	2.14
		velocity		8.68		9.64		8.80		7.90	8.71	169.2	8.68	9.64	8.80	7.90	9.14	8.32	

Spitz, Lionel (SUI) (2001)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2023 Athletissima (Lausanne, SUI)

Omega Timing (2023) - diamond league race analysis

date	30-Jun-23	time	6.39	11.57	16.86	22.28	27.81	33.59	39.49	45.92	45.92	3 / 3						
reaction time	0.146	interval		5.18	5.29	5.42	5.53	5.78	5.90	6.43		# of strides	11.57	10.71	11.31	12.33	22.28	23.64	1.36
		velocity	7.82	9.65	9.45	9.23	9.04	8.65	8.47	7.78	8.71		8.64	9.34	8.84	8.11	8.98	8.46	

Scotti, Edoardo (ITA) (2000)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)

European Athletics (2024) - 2024 european athletics championships - results book

date	09-Jun-24	time		11.27		21.89		33.23		45.92	45.92	4 / ~~6~~ 5						
reaction time	0.192	interval				10.62		11.34		12.69		# of strides	11.27	10.62	11.34	12.69	21.89	24.03	2.14
		velocity		8.87		9.42		8.82		7.88	8.71	175.5	8.87	9.42	8.82	7.88	9.14	8.32	

Okezie, Chidi (NGR) (1993)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Repechage 2 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	05-Aug-24	time	6.36	11.47	16.71	22.14	27.72	33.49	39.50	45.92	45.92	4 / 5						
reaction time	0.172	interval		5.11	5.24	5.43	5.58	5.77	6.01	6.42		# of strides	11.47	10.67	11.35	12.43	22.14	23.78	1.64
		velocity	7.86	9.78	9.54	9.21	8.96	8.67	8.32	7.79	8.71	167.5	8.72	9.37	8.81	8.05	9.03	8.41	

Kitagawa, Takamasa (JPN) (1996)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2016 Japanese National Championships (Nagoya, JPN)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

date	25-Jun-16	time	6.30	11.46	16.80	22.37	28.09	33.84	39.78	45.93	45.93	6 / 3						
reaction time	0.181	interval		5.16	5.34	5.57	5.72	5.75	5.94	6.15		# of strides	11.46	10.91	11.47	12.09	22.37	23.56	1.19
		velocity	7.94	9.69	9.36	8.98	8.74	8.70	8.42	8.13	8.71		8.73	9.17	8.72	8.27	8.94	8.49	

Mweresa, Boniface (KEN) (1993)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 2 - 2017 IAAF World Championships (London, GBR)

Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m

date	06-Aug-17	time		10.76		21.26		32.72	38.92	45.70	45.93	3 / 8						
reaction time	0.234	interval				10.50		11.46	6.20	6.78		# of strides	10.76	10.50	11.46	12.98	21.26	24.44	3.18
		velocity		9.29		9.52		8.73	8.06	7.37	8.71	182.3	9.29	9.52	8.73	7.70	9.41	8.18	

Taplin, Bralon (GRN) (1992)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2019 Shanghai (Shanghai, CHN)

Omega Timing (2019) - diamond league race analysis

date	18-May-19	time		11.7		22.0		32.8		45.93	45.93	6 / 5						
reaction time	0.164	interval				10.3		10.8		13.1		# of strides	11.70	10.30	10.80	13.13	22.00	23.93	1.93
		velocity		8.55		9.71		9.26		7.62	8.71	182.0	8.55	9.71	9.26	7.62	9.09	8.36	

Hudson-Smith, Matthew (GBR) (1994

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2021 Golden Gala Pietro Mennea (Florence, ITA)

Omega Timing (2021) - diamond league race analysis

date	10-Jun-21	time	6.5	11.6	16.9	22.3	27.8	33.4	39.4	45.93	45.93	4 / 3						
reaction time	0.131	interval		5.10	5.30	5.40	5.50	5.60	6.00	6.53		# of strides	11.60	10.70	11.10	12.53	22.30	23.63	1.33
		velocity	7.69	9.80	9.43	9.26	9.09	8.93	8.33	7.66	8.71		8.62	9.35	9.01	7.98	8.97	8.46	

Stewart, Trevor (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 FBK Games (Hengelo, NED)																	
date 06-Jun-22 time	6.2	11.3	16.5	21.9	27.6	33.4	39.4	45.93	45.93	4 / 3							
reaction time 0.148 interval		5.10	5.20	5.40	5.70	5.80	6.00	6.53		# of strides	11.30	10.60	11.50	12.53	21.90	24.03	2.13
velocity	8.06	9.80	9.62	9.26	8.77	8.62	8.33	7.66	8.71		8.85	9.43	8.70	7.98	9.13	8.32	

Omega Timing (2022) - continental tour race analysis

Makwala, Isaac (BOT) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2022 World Athletics Championships (Eugene, OR)																	
date 17-Jul-22 time		11.24		21.58		33.00		45.93	45.93	2 / 3							
reaction time 0.193 interval				10.34		11.42		12.93		# of strides	11.24	10.34	11.42	12.93	21.58	24.35	2.77
velocity		8.90		9.67		8.76		7.73	8.71	183.2	8.90	9.67	8.76	7.73	9.27	8.21	

Timing by Seiko (2022) - world athletics championships race analysis

Haydock-Wilson, Alex (GBR) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Weltklasse (Zürich, SUI)																	
date 08-Sep-22 time	6.14	11.15	16.43	21.79	27.23	32.92	39.07	45.93	45.93	6 / 5							
reaction time 0.145 interval		5.01	5.28	5.36	5.44	5.69	6.15	6.86		# of strides	11.15	10.64	11.13	13.01	21.79	24.14	2.35
velocity	8.14	9.98	9.47	9.33	9.19	8.79	8.13	7.29	8.71	179.0	8.97	9.40	8.98	7.69	9.18	8.29	

Omega Timing (2022) - diamond league race analysis

Sacoor, Jonathan (BEL) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Memorial van damme (Brussels, BEL)																	
date 13-Sep-24 time	6.16	11.08	16.18	21.37	26.88	32.72	38.98	45.93	45.93	1 / 6							
reaction time 0.202 interval		4.92	5.10	5.19	5.51	5.84	6.26	6.95		# of strides	11.08	10.29	11.35	13.21	21.37	24.56	3.19
velocity	8.12	10.16	9.80	9.63	9.07	8.56	7.99	7.19	8.71	172.0	9.03	9.72	8.81	7.57	9.36	8.14	

Omega Timing (2024) - diamond league race analysis

Rhoden, George (JAM) (1926)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1950 International Athletics Meeting (Eskilstuna, SWE)																	
date 22-Aug-50 time				20.9				45.8	45.8	/ 1							
reaction time interval								24.9	**WR**	# of strides					20.90	24.90	4.00
velocity				9.57				8.03	8.73						9.57	8.03	

Drake (1967) - der schnellste sprint der geschichte

Kaufmann, Carl (FRG) (1936)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1959 West Germany v Poland (Köln, FRG) (500m track)																	
date 19-Sep-59 time				22.3				45.8	45.8	/ 1							
reaction time interval								23.5	**AR**	# of strides					22.30	23.50	1.20
velocity				8.97				8.51	8.73						8.97	8.51	

Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)

van Branteghem, Cédric (BEL) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2002 European Championships (Munich, GER)																	
date 07-Aug-02 time		11.22		21.70		33.22		45.94	45.94	/ 2							
reaction time 0.199 interval				10.48		11.52		12.72	**PB**	# of strides	11.22	10.48	11.52	12.72	21.70	24.24	2.54
velocity		8.91		9.54		8.68		7.86	8.71		8.91	9.54	8.68	7.86	9.22	8.25	

Graubner (2009) - http://www.fgs.uni-halle.de

van Branteghem, Cédric (BEL) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2009 IAAF World Championships (Berlin, GER)																	
date 18-Aug-09 time		11.26		21.46		32.92		45.94	45.94	2 / 6							
reaction time 0.155 interval				10.20		11.46		13.02		# of strides	11.26	10.20	11.46	13.02	21.46	24.48	3.02
velocity		8.88		9.80		8.73		7.68	8.71		8.88	9.80	8.73	7.68	9.32	8.17	

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

Hirose, Hideyuki (JPN) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2015 Japanese National Championships (Niigata, JPN)																	
date 27-Jun-15 time	6.29	11.28	16.42	21.76	27.42	33.23	39.32	45.94	45.94	7 / 1							
reaction time 0.151 interval		4.99	5.14	5.34	5.66	5.81	6.09	6.62		# of strides	1.28	20.48	11.47	12.71	21.76	24.18	2.42
velocity	7.95	10.02	9.73	9.36	8.83	8.61	8.21	7.55	8.71	179.0	78.13	4.88	8.72	7.87	9.19	8.27	

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

Ito, Rikiya (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Japanese National Championships (Niigata, JPN)																	
date 02-Oct-20 time	6.16	11.19	16.33	21.82	27.44	33.31	39.37	45.94	45.94	4 / 1							
reaction time 0.136 interval		5.03	5.14	5.49	5.62	5.87	6.06	6.57		# of strides	11.19	10.63	11.49	12.63	21.82	24.12	2.30
velocity	8.12	9.94	9.73	9.11	8.90	8.52	8.25	7.61	8.71	187.2	8.94	9.41	8.70	7.92	9.17	8.29	

Yamanaka (2020) - 400m race analysis of men and women during 2020 season

Suzuki, Aoto (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Final - 2021 Denka Athletics Challenge Cup (Niigata, JPN)																	
date 06-Jun-21 time	6.08	10.96	15.98	21.31	26.83	32.70	38.93	45.94	45.94	8 / 2							
reaction time interval		4.88	5.02	5.33	5.52	5.87	6.23	7.01	**PB**	# of strides	10.96	10.35	11.39	13.24	21.31	24.63	3.32
velocity	8.22	10.25	9.96	9.38	9.06	8.52	8.03	7.13	8.71	178.0	9.12	9.66	8.78	7.55	9.39	8.12	

Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

Prevot, Loïc (FRA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Meeting de Paris (Paris, FRA)																	
date 16-Jun-22 time	6.05	10.99	16.18	21.55	27.21	33.12	39.24	45.94	45.94	3 / 6							
reaction time 0.152 interval		4.94	5.19	5.37	5.66	5.91	6.12	6.70		# of strides	10.99	10.56	11.57	12.82	21.55	24.39	2.84
velocity	8.26	10.12	9.63	9.31	8.83	8.46	8.17	7.46	8.71	171.0	9.10	9.47	8.64	7.80	9.28	8.20	

Omega Timing (2022) - diamond league race analysis

Benati, Lorenzo (ITA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 European Athletics U23 Championships (Espoo, FIN)																	
date 13-Jul-23 time		11.86		22.69		34.39		45.94	45.94	6 / 3							
reaction time 0.212 interval				10.83		11.70		11.55		# of strides	11.86	10.83	11.70	11.55	22.69	23.25	0.56
velocity		8.43		9.23		8.55		8.66	8.71		8.43	9.23	8.55	8.66	8.81	8.60	

European Athletics (2023) - european athletics U23 championships results book

van Branteghem, Cédric (BEL) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 European Championships (Munich, GER)																	
date 08-Aug-02 time		11.30		21.75		33.18		45.95	45.95	/ 6							
reaction time 0.201 interval				10.45		11.43		12.77		# of strides	11.30	10.45	11.43	12.77	21.75	24.20	2.45
velocity		8.85		9.57		8.75		7.83	8.71		8.85	9.57	8.75	7.83	9.20	8.26	

Graubner (2009) - http://www.fgs.uni-halle.de

Clarke, Davian (JAM) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)																	

Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix

date	19-Sep-05	time	11.22		21.63		32.75	38.95	45.95	45.95	6 / 5							
reaction time		interval			10.41		11.12	6.20	7.00		# of strides	11.22	10.41	11.12	13.20	21.63	24.32	2.69
		velocity	8.91		9.61		8.99	8.06	7.14	8.71		8.91	9.61	8.99	7.58	9.25	8.22	

Swillims, Bastian (GER) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 European Cup (Munich, GER)																	*Graubner (2007) - http://www.fgs.uni-halle.de*
date 23-Jun-07	time	11.38		21.83		33.38		45.95	45.95	/ 3							
reaction time 0.151	interval			10.45		11.55		12.57		# of strides	11.38	10.45	11.55	12.57	21.83	24.12	2.29
	velocity	8.79		9.57		8.66		7.96	8.71		8.79	9.57	8.66	7.96	9.16	8.29	

Obuchi, Mizuki (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2017 Japanese National Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/07/08/post-965/*
date 23-Jun-17	time	11.50		22.19		33.79		45.95	45.95	6 / 4							
reaction time 0.190	interval			10.69		11.60		12.16	PB	# of strides	11.50	10.69	11.60	12.16	22.19	23.76	1.57
	velocity	8.70		9.35		8.62		8.22	8.71	188.5	8.70	9.35	8.62	8.22	9.01	8.42	

Sato, Kentaro (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Japanese National Championships (Osaka, JPN)																	*Yamanaka (2017) - male and female 400m analysis in the 2017 season*
date 24-Jun-17	time 6.17	11.17	16.14	21.41	26.89	32.72	39.02	45.95	45.95	5 / 2							
reaction time 0.176	interval	5.00	4.97	5.27	5.48	5.83	6.30	6.93		# of strides	11.17	10.24	11.31	13.23	21.41	24.54	3.13
	velocity 8.10	10.00	10.06	9.49	9.12	8.58	7.94	7.22	8.71	183.0	8.95	9.77	8.84	7.56	9.34	8.15	

Re, Davide (ITA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)																	*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*
date 06-Aug-17	time	11.13		21.80		33.13	39.19	45.76	45.95	4 / 8							
reaction time 0.186	interval			10.67		11.33	6.06	6.57		# of strides	11.13	10.67	11.33	12.63	21.80	23.96	2.16
	velocity	8.98		9.37		8.83	8.25	7.61	8.71	179.1	8.98	9.37	8.83	7.92	9.17	8.35	

Sato, Kentaro (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Final - 2021 Denka Athletics Challenge Cup (Niigata, JPN)																	*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 06-Jun-21	time 6.17	11.07	16.13	21.35	26.89	32.90	39.25	45.95	45.95	3 / 2							
reaction time	interval	4.90	5.06	5.22	5.54	6.01	6.35	6.70		# of strides	11.07	10.28	11.55	13.05	21.35	24.60	3.25
	velocity 8.10	10.20	9.88	9.58	9.03	8.32	7.87	7.46	8.71		9.03	9.73	8.66	7.66	9.37	8.13	

Faulds, Edward (GBR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2021 European Athletics U20 Championships (Tallin, EST)																	*European Athletics (2021) - european athletics U20 championships results book*
date 15-Jul-21	time	11.79		22.82		34.21		45.95	45.95	8 / 1							
reaction time 0.205	interval			11.03		11.39		11.74	PB	# of strides	11.79	11.03	11.39	11.74	22.82	23.13	0.31
	velocity	8.48		9.07		8.78		8.52	8.71		8.48	9.07	8.78	8.52	8.76	8.65	

Re, Davide (ITA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Athletissima (Lausanne, SUI)																	*Omega Timing (2023) - diamond league race analysis*
date 30-Jun-23	time 6.38	11.57	16.86	22.25	27.79	33.55	39.52	45.95	45.95	2 / 4							
reaction time 0.161	interval	5.19	5.29	5.39	5.54	5.76	5.97	6.43		# of strides	11.57	10.68	11.30	12.40	22.25	23.70	1.45
	velocity 7.84	9.63	9.45	9.28	9.03	8.68	8.38	7.78	8.71		8.64	9.36	8.85	8.06	8.99	8.44	

Juantorena, Alberto (CUB) (1950)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 1 - 1972 Olympic Games (Munich, FRG)																	*Vazel (2011) - speed reserve in the 400m*
date 04-Sep-72	time	12.2		23.0		34.0		46.00	45.96	2 / 1							
reaction time	interval			10.80		11.00		12.00		# of strides	12.20	10.80	11.00	12.00	23.00	23.00	0.00
	velocity	8.20		9.26		9.09		8.33	8.70		8.20	9.26	9.09	8.33	8.70	8.70	

Kimura, Kazushi (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2015 Japanese National Championships (Niigata, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 27-Jun-15	time 6.57	11.75	17.12	22.53	28.10	33.61	39.47	45.96	45.96	8 / 2							
reaction time 0.181	interval	5.18	5.37	5.41	5.57	5.51	5.86	6.49	PB	# of strides	11.75	10.78	11.08	12.35	22.53	23.43	0.90
	velocity 7.61	9.65	9.31	9.24	8.98	9.07	8.53	7.70	8.70	184.0	8.51	9.28	9.03	8.10	8.88	8.54	

Cowan, Dwayne (GBR) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)																	*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*
date 06-Aug-17	time	10.80		21.18		32.64	38.89	45.82	45.96	8 / 8							
reaction time 0.144	interval			10.38		11.46	6.25	6.93		# of strides	10.80	10.38	11.46	13.18	21.18	24.64	3.46
	velocity	9.26		9.63		8.73	8.00	7.22	8.70	168.3	9.26	9.63	8.73	7.59	9.44	8.12	

Scotch, Leungo (BOT) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 22-Aug-23	time	11.23		21.56		33.09		45.96	45.96	3 / 8							
reaction time 0.162	interval			10.33		11.53		12.87		# of strides	11.23	10.33	11.53	12.87	21.56	24.40	2.84
	velocity	8.90		9.68		8.67		7.77	8.70		8.90	9.68	8.67	7.77	9.28	8.20	

Newhouse, Fred (USA) (1948)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 4 - 1976 Olympic Games (Montreal, CAN)																	*Lamare (1976) - les jeux de la XXI olympia, Montreal 1976*
date 26-Jul-76	time			21.8		33.0		45.97	45.97	1 / 1							
reaction time	interval					11.2		12.97		# of strides			11.20	12.97	21.80	24.17	2.37
	velocity			9.17		8.93		7.71	8.70				8.93	7.71	9.17	8.27	

Smith, Willie (USA) (1956)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 USA Olympic Trials (Eugene, OR)																	*Track Newsletter (1980) - US olympic trials*
date 27-Jun-80	time	12.0		22.7		34.0		46.0	45.97	/ 2							
reaction time	interval			10.70		11.30		11.97		# of strides	12.00	10.70	11.30	11.97	22.70	23.27	0.57
	velocity	8.33		9.35		8.85		8.35	8.70		8.33	9.35	8.85	8.35	8.81	8.59	

Plawgo, Marek (POL) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2002 European Championships (Munich, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 06-Aug-02	time	11.61		22.40		33.76		46.97	45.97	/ 1							
reaction time 0.154	interval			10.79		11.36		13.21		# of strides	11.61	10.79	11.36	13.21	22.40	24.57	2.17
	velocity	8.61		9.27		8.80		7.57	8.70		8.61	9.27	8.80	7.57	8.93	8.14	

Wieruszewski, Rafeł (POL) (1981)
FINAL - 2006 European Championships (Göteborg, SWE)
Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Aug-06	time				22.4		33.0		45.97	45.97	/ 7							
reaction time		interval						10.60		12.97		# of strides			10.60	12.97	22.40	23.57	1.17
		velocity				8.93		18.87		7.71	8.70				9.43	7.71	8.93	8.49	

Wissman, Johan (SWE) (1982)
FINAL - 2009 ISTAF (Berlin, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Jun-09	time		11.35		21.74		33.09		45.97	45.97	5 / 4							
reaction time	0.273	interval				10.39		11.35		12.88		# of strides	11.35	10.39	11.35	12.88	21.74	24.23	2.49
		velocity		8.81		9.62		8.81		7.76	8.70		8.81	9.62	8.81	7.76	9.20	8.25	

Zhan, DJ (USA) (1993)
FINAL - 2015 NCAA Championships (Eugene, OR)
Track Newsletter (2015) - NCAA men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Jun-15	time				22.2				46.0	45.97	/ 3							
reaction time		interval								23.80		# of strides					22.20	23.80	1.60
		velocity				9.01				8.40	8.70						9.01	8.40	

Walsh, Julian Jrummi (JPN) (1996)
FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-18	time	6.04	11.05	16.17	21.54	27.20	33.17	39.39	45.97	45.97	5 / 1							
reaction time	0.143	interval		5.01	5.12	5.37	5.66	5.97	6.22	6.58		# of strides	11.05	10.49	11.63	12.80	21.54	24.43	2.89
		velocity	8.28	9.98	9.77	9.31	8.83	8.38	8.04	7.60	8.70	179.5	9.05	9.53	8.60	7.81	9.29	8.19	

Jinushi, Naohiro (JPN) (2001)
FINAL - 2023 Japanese National Championsips (Osaka, JPN)
Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Jun-23	time	6.46	11.85	17.32	22.83	28.37	34.00	39.78	45.97	45.97	9 / 5							
reaction time	0.149	interval		5.39	5.47	5.51	5.54	5.63	5.78	6.19		# of strides	11.85	10.98	11.17	11.97	22.83	23.14	0.31
		velocity	7.74	9.28	9.14	9.07	9.03	8.88	8.65	8.08	8.70		8.44	9.11	8.95	8.35	8.76	8.64	

Watkin, Deandre (JAM) (2002)
Heat 1 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-24	time	6.14	11.02	16.07	21.46	27.13	32.95	39.14	45.97	45.97	5 / 7							
reaction time	0.190	interval		4.88	5.05	5.39	5.67	5.82	6.19	6.83		# of strides	11.02	10.44	11.49	13.02	21.46	24.51	3.05
		velocity	8.14	10.25	9.90	9.28	8.82	8.59	8.08	7.32	8.70	180.0	9.07	9.58	8.70	7.68	9.32	8.16	

Dimótsios, Stilianós (GRE) (1974)
Semi-Final 1 - 2002 European Championships (Munich, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-02	time		11.77		22.60		33.91		45.98	45.98	/ 6							
reaction time	0.153	interval				10.83		11.31		12.07	PB	# of strides	11.77	10.83	11.31	12.07	22.60	23.38	0.78
		velocity		8.50		9.23		8.84		8.29	8.70		8.50	9.23	8.84	8.29	8.85	8.55	

Hirose, Hideyuki (JPN) (1989)
B FINAL - 2009 Shizuoka International Athletics Meeting (Fukuori, JPN)
Matsuo (2010) - 63rd high school championships: JAF scientific committee - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-09	time	6.31	11.71	17.02	22.50	28.10	33.86	39.77	45.98	45.98	/ 1							
reaction time		interval		5.40	5.31	5.48	5.60	5.76	5.91	6.21		# of strides	11.71	10.79	11.36	12.12	22.50	23.48	0.98
		velocity	7.92	9.26	9.42	9.12	8.93	8.68	8.46	8.05	8.70		8.54	9.27	8.80	8.25	8.89	8.52	

Brown-Stewart, Cass (USA) (1992)
FINAL - 2013 NCAA Championships (Eugene, OR)
Track Newsletter (2013) - NCAA men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Jun-13	time				22.4		34.0		46.0	45.98	/ 7							
reaction time		interval						11.60		12.00		# of strides			11.60	12.00	22.40	23.60	1.20
		velocity				8.93		8.62		8.33	8.70				8.62	8.33	8.93	8.47	

Ishitsuka, Yusuke (JPN) (1987)
FINAL - 2014 Shizuoka International Athletics Meeting (Fukuori, JPN)
Maho (2014) - race analysis of men's 400m run in the 2014 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-14	time	6.12	11.24	16.35	21.72	27.32	33.20	39.37	45.98	45.98	/ 2							
reaction time		interval		5.12	5.11	5.37	5.60	5.88	6.17	6.61		# of strides	11.24	10.48	11.48	12.78	21.72	24.26	2.54
		velocity	8.17	9.77	9.78	9.31	8.93	8.50	8.10	7.56	8.70		8.90	9.54	8.71	7.82	9.21	8.24	

Kitakani, Naoki (JPN) (1998)
B FINAL - 2018 Shizuoka International Meeting (Fukuroi, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-18	time	6.23	11.43	16.70	22.15	27.84	33.71	39.71	45.98	45.98	8 / 2							
reaction time	0.180	interval		5.20	5.27	5.45	5.69	5.87	6.00	6.27	PB	# of strides	11.43	10.72	11.56	12.27	22.15	23.83	1.68
		velocity	8.03	9.62	9.49	9.17	8.79	8.52	8.33	7.97	8.70		8.75	9.33	8.65	8.15	9.03	8.39	

Makwala, Isaac (BOT) (1986)
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-May-22	time	6.23	11.29	16.50	21.91	27.46	33.19	39.23	45.98	45.98	7 / 5							
reaction time	0.187	interval		5.06	5.21	5.41	5.55	5.73	6.04	6.75		# of strides	11.29	10.62	11.28	12.79	21.91	24.07	2.16
		velocity	8.03	9.88	9.60	9.24	9.01	8.73	8.28	7.41	8.70	181.7	8.86	9.42	8.87	7.82	9.13	8.31	

Cox, Anthony (JAM) (2000)
Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)
Longines Timing (2022) - commonwealth games race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-22	time	6.4	11.4	16.7	22.2	27.8	33.6	39.6	45.98	45.98	5 / 3							
reaction time	0.202	interval		5.00	5.30	5.50	5.60	5.80	6.00	6.38		# of strides	11.40	10.80	11.40	12.38	22.20	23.78	1.58
		velocity	7.81	10.00	9.43	9.09	8.93	8.62	8.33	7.84	8.70	176.5	8.77	9.26	8.77	8.08	9.01	8.41	

Hall, Quincy (USA) (1998)
FINAL - 2024 Seashore Doha Meeting (Doha, QAT)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-May-24	time	6.36	11.49	16.83	22.40	28.07	33.89	39.72	45.98	45.98	4 / 7							
reaction time	0.186	interval		5.13	5.34	5.57	5.67	5.82	5.83	6.26		# of strides	11.49	10.91	11.49	12.09	22.40	23.58	1.18
		velocity	7.86	9.75	9.36	8.98	8.82	8.59	8.58	7.99	8.70		8.70	9.17	8.70	8.27	8.93	8.48	

Parks, Maxie (USA) (1951)
Quarter-Final 3 - 1976 Olympic Games (Montreal, CAN)
Lamare (1976) - les jeux de la XXI olympia, Montreal 1976

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	26-Jul-76	time			22.1		33.3		45.99	45.99	2 / 3							
reaction time		interval					11.2		12.69		# of strides			11.20	12.69	22.10	23.89	1.79
		velocity			9.05		8.93		7.88	8.70				8.93	7.88	9.05	8.37	

Dabrowski, Daniel (POL) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)																	*Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m*
date 24-Sep-06	time	6.2	11.3	16.6	22.2	28.0	33.9	39.8	45.99	45.99	4 / 2							
reaction time	interval		5.10	5.30	5.60	5.80	5.90	5.90	6.19		# of strides	11.30	10.90	11.70	12.09	22.20	23.79	1.59
	velocity	8.06	9.80	9.43	8.93	8.62	8.47	8.47	8.08	8.70		8.85	9.17	8.55	8.27	9.01	8.41	

Sato, Fuga (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2017 Japanese National Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/07/08/post-965/*
date 23-Jun-17	time		11.37		21.84		33.23		45.99	45.99	7 / 5							
reaction time 0.193	interval				10.47		11.39		12.76	PB	# of strides	11.37	10.47	11.39	12.76	21.84	24.15	2.31
	velocity		8.80		9.55		8.78		7.84	8.70	178.2	8.80	9.55	8.78	7.84	9.16	8.28	

Bamidele, Emmanuel (NGR) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Doha (Doha, QAT)																	*Omega Timing (2019) - diamond league race analysis*
date 03-May-19	time		11.2		21.6		33.2		45.99	45.99	4 / 2							
reaction time 0.185	interval				10.4		11.6		12.8		# of strides	11.20	10.40	11.60	12.79	21.60	24.39	2.79
	velocity		8.93		9.62		8.62		7.82	8.70		8.93	9.62	8.62	7.82	9.26	8.20	

Beck, Alex (AUS) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22	time		11.24		21.77		33.30		45.99	45.99	6 / 5							
reaction time 0.170	interval				10.53		11.53		12.69		# of strides	11.24	10.53	11.53	12.69	21.77	24.22	2.45
	velocity		8.90		9.50		8.67		7.88	8.70	175.0	8.90	9.50	8.67	7.88	9.19	8.26	

Allen, Nathon (JAM) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 Commonwealth Games (Birmingham, GBR)																	*Longines Timing (2022) - commonwealth games race analysis*
date 05-Aug-22	time	6.1	11.0	16.3	21.7	27.2	33.2	39.3	45.99	45.99	5 / 2							
reaction time 0.155	interval		4.90	5.30	5.40	5.50	6.00	6.10	6.69		# of strides	11.00	10.70	11.50	12.79	21.70	24.29	2.59
	velocity	8.20	10.20	9.43	9.26	9.09	8.33	8.20	7.47	8.70	169.0	9.09	9.35	8.70	7.82	9.22	8.23	

Elkhatib, Omar (POR) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 13-Jul-23	time		11.92		22.87		34.42		45.99	45.99	5 / 4							
reaction time 0.227	interval				10.95		11.55		11.57	PB	# of strides	11.92	10.95	11.55	11.57	22.87	23.12	0.25
	velocity		8.39		9.13		8.66		8.64	8.70		8.39	9.13	8.66	8.64	8.75	8.65	

Krsek, Matěj (CZE) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23	time		11.69		22.45		33.81		45.99	45.99	3 / 6							
reaction time 0.147	interval				10.76		11.36		12.18		# of strides	11.69	10.76	11.36	12.18	22.45	23.54	1.09
	velocity		8.55		9.29		8.80		8.21	8.70		8.55	9.29	8.80	8.21	8.91	8.50	

Hall, Quincy (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)																	*Omega Timing (2025) - diamond league race analysis*
date 03-May-25	time	5.82	11.50	16.64	21.97	27.51	33.33	39.36	45.99	45.99	6 / 8							
reaction time 0.197	interval		5.68	5.14	5.33	5.54	5.82	6.03	6.63		# of strides	11.50	10.47	11.36	12.66	21.97	24.02	2.05
	velocity	8.59	8.80	9.73	9.38	9.03	8.59	8.29	7.54	8.70	160.0	8.70	9.55	8.80	7.90	9.10	8.33	

Litvin, Mikhail (KAZ) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22	time		11.33		21.49		33.27		46.00	46.00	8 / 4							
reaction time 0.206	interval				10.16		11.78		12.73		# of strides	11.33	10.16	11.78	12.73	21.49	24.51	3.02
	velocity		8.83		9.84		8.49		7.86	8.70	169.0	8.83	9.84	8.49	7.86	9.31	8.16	

Raftery, Jack (IRL) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 14-Jul-23	time		11.55		22.08		33.63		46.00	46.00	8 / 7							
reaction time 0.191	interval				10.53		11.55		12.37		# of strides	11.55	10.53	11.55	12.37	22.08	23.92	1.84
	velocity		8.66		9.50		8.66		8.08	8.70	175.5	8.66	9.50	8.66	8.08	9.06	8.36	

Moore, Obea (USA) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA)																	*USATF Women's Sprint Development (1996)*
date 17-Jun-96	time		11.59		21.99		33.26	39.44	46.01	46.01	7 / 7							
reaction time	interval				10.40		11.27	6.18	6.57		# of strides	11.59	10.40	11.27	12.75	21.99	24.02	2.03
	velocity		8.63		9.62		8.87	8.09	7.61	8.69		8.63	9.62	8.87	7.84	9.10	8.33	

Maybank, Anthuan (USA) (1969)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2003 USATF National Championships (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 20-Jun-03	time				21.44		33.18	39.29	46.01	46.01	6 / 4							
reaction time	interval						11.74	6.11	6.72		# of strides			11.74	12.83	21.44	24.57	3.13
	velocity				9.33		8.52	8.18	7.44	8.69				8.52	7.79	9.33	8.14	

Walsh, Julian Jrummi (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2018 Asian Games (Jakarta, INA)																	*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*
date 25-Aug-18	time	6.13	11.15	16.34	21.81	27.45	33.34	39.49	46.01	46.01	6 / 2							
reaction time 0.147	interval		5.02	5.19	5.47	5.64	5.89	6.15	6.52		# of strides	11.15	10.66	11.53	12.67	21.81	24.20	2.39
	velocity	8.16	9.96	9.63	9.14	8.87	8.49	8.13	7.67	8.69		8.97	9.38	8.67	7.89	9.17	8.26	

O'Donnell, Christopher (IRL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22	time		11.60		22.48		33.81		46.01	46.01	8 / 4							
reaction time 0.133	interval				10.88		11.33		12.20		# of strides	11.60	10.88	11.33	12.20	22.48	23.53	1.05
	velocity		8.62		9.19		8.83		8.20	8.69	178.0	8.62	9.19	8.83	8.20	8.90	8.50	

O'Donnell, Christopher (IRL) (1998)

Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-22	time		11.54		22.20		33.52		46.01	46.01	2 / 7							
reaction time	0.162	interval				10.66		11.32		12.49		# of strides	11.54	10.66	11.32	12.49	22.20	23.81	1.61
		velocity		8.67		9.38		8.83		8.01	8.69	180.0	8.67	9.38	8.83	8.01	9.01	8.40	

Imaizumi, Kenki (JPN) (2001)

Heat 1 - 2023 Japanese National Championsips (Osaka, JPN)

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Jun-23	time	6.23	11.34	16.58	22.02	27.63	33.49	39.57	46.01	46.01	5 / 2							
reaction time	0.168	interval		5.11	5.24	5.44	5.61	5.86	6.08	6.44		# of strides	11.34	10.68	11.47	12.52	22.02	23.99	1.97
		velocity	8.03	9.78	9.54	9.19	8.91	8.53	8.22	7.76	8.69	177.0	8.82	9.36	8.72	7.99	9.08	8.34	

Nielsen, Gustav Lundholm (DEN) (19

Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)

European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-24	time		11.22		21.80		33.26		46.01	46.01	2 / 7							
reaction time	0.170	interval				10.58		11.46		12.75		# of strides	11.22	10.58	11.46	12.75	21.80	24.21	2.41
		velocity		8.91		9.45		8.73		7.84	8.69	186.0	8.91	9.45	8.73	7.84	9.17	8.26	

Lawrence, Torrin (USA) (1989)

FINAL - 2013 USATF National Championships (Des Moines, IA)

Track Newsletter (2013) - USATF men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-13	time						32.9		46.0	46.02	/ 8							
reaction time	0.211	interval								13.10		# of strides				13.10			
		velocity						9.12		7.63	8.69					7.63			

Harris, James (USA) (1991)

FINAL - 2015 USATF National Championships (Eugene, OR)

Track Newsletter (2015) - USATF men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-15	time				22.2		33.8		46.0	46.02	/ 7							
reaction time		interval						11.6		12.2		# of strides			11.60	12.20	22.20	23.80	1.60
		velocity				9.01		8.62		8.20	8.69				8.62	8.20	9.01	8.40	

Kimura, Kazushi (JPN) (1993)

FINAL - 2017 Japanese National Championships (Osaka, JPN)

Yamanaka (2017) - male and female 400m analysis in the 2017 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-17	time	6.13	11.18	16.33	21.63	27.11	32.97	39.28	46.02	46.02	7 / 3							
reaction time	0.184	interval		5.05	5.15	5.30	5.48	5.86	6.31	6.74		# of strides	11.18	10.45	11.34	13.05	21.63	24.39	2.76
		velocity	8.16	9.90	9.71	9.43	9.12	8.53	7.92	7.42	8.69	186.0	8.94	9.57	8.82	7.66	9.25	8.20	

Montgomery, Kahmari (USA) (1997)

FINAL - 2019 Herculis Meeting International d'Athlétisme (Monaco, MON)

Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Jul-19	time		11.4		22.1		33.6		46.02	46.02	4 / ~~5~~							
reaction time	0.167	interval				10.7		11.5		12.4	DQ	# of strides	11.40	10.70	11.50	12.42	22.10	23.92	1.82
		velocity		8.77		9.35		8.70		8.05	8.69		8.77	9.35	8.70	8.05	9.05	8.36	

Re, Davide (ITA) (1993)

Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		11.57		21.99		33.47		46.02	46.02	4 / 5							
reaction time	0.228	interval				10.42		11.48		12.55		# of strides	11.57	10.42	11.48	12.55	21.99	24.03	2.04
		velocity		8.64		9.60		8.71		7.97	8.69	173.0	8.64	9.60	8.71	7.97	9.10	8.32	

Robinson, Auhmad (USA) (2001)

Heat 4 - 2024 USA Olympic Trials (Eugene, OR)

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-24	time		11.59		22.30		33.97		46.02	46.02	8 / 6							
reaction time		interval				10.71		11.67		12.05		# of strides			11.67	12.05	22.30	23.72	1.42
		velocity		8.63		9.34		8.57		8.30	8.69	182.2			8.57	8.30	8.97	8.43	

Harries, Toby (GBR) (1998)

National FINAL - 2024 London Athletics Meet (London, GBR)

Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-24	time	6.12	11.06	16.11	21.39	27.02	32.86	39.04	46.02	46.02	6 / 7							
reaction time	0.138	interval		4.94	5.05	5.28	5.63	5.84	6.18	6.98		# of strides	11.06	10.33	11.47	13.16	21.39	24.63	3.24
		velocity	8.17	10.12	9.90	9.47	8.88	8.56	8.09	7.16	8.69		9.04	9.68	8.72	7.60	9.35	8.12	

Couts, Brandon (USA) ((1979)

FINAL - 1998 NCAA Championships (Amherst, NY)

Track Newsletter (1998) - NCAA Championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Jun-98	time				21.8				46.0	46.03	/ 5							
reaction time		interval								24.20		# of strides					21.80	24.20	2.40
		velocity				9.17				8.26	8.69						9.17	8.26	

McKee, Paul (IRL) (1977)

Heat 2 - 2002 European Championships (Munich, GER)

Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-02	time		11.38		22.00		33.47		46.03	46.03	/ 2							
reaction time	0.243	interval				10.62		11.47		12.56		# of strides	11.38	10.62	11.47	12.56	22.00	24.03	2.03
		velocity		8.79		9.42		8.72		7.96	8.69		8.79	9.42	8.72	7.96	9.09	8.32	

Bláha, Karel (CZE) (1975)

Heat 4 - 2002 European Championships (Munich, GER)

Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-02	time		11.75		22.46		33.74		46.03	46.03	/ 1							
reaction time	0.154	interval				10.71		11.28		12.29		# of strides	11.75	10.71	11.28	12.29	22.46	23.57	1.11
		velocity		8.51		9.34		8.87		8.14	8.69		8.51	9.34	8.87	8.14	8.90	8.49	

Watanabe, Kazuya (JPN) (1988)

Heat 3 - 2015 Japanese National Championships (Niigata, JPN)

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-15	time	6.25	11.42	16.60	21.96	27.57	33.33	39.45	46.03	46.03	2 / 3							
reaction time	0.166	interval		5.17	5.18	5.36	5.61	5.76	6.12	6.58		# of strides	11.42	10.54	11.37	12.70	21.96	24.07	2.11
		velocity	8.00	9.67	9.65	9.33	8.91	8.68	8.17	7.60	8.69		8.76	9.49	8.80	7.87	9.11	8.31	

Wakabayashi, Kota (JPN) (1997)

Heat 2 - 2017 Japanese National Championships (Osaka, JPN)

(2017) - tfdata-store.com/2017/07/08/post-965/

date	23-Jun-17	time	11.22	21.52	32.88	46.03	46.03	3 / 3									
reaction time	0.175	interval		10.30	11.36	13.15	PB	# of strides	11.22	10.30	11.36	13.15	21.52	24.51	2.99		
		velocity	8.91	9.71	8.80	7.60	8.69	172.7	8.91	9.71	8.80	7.60	9.29	8.16			

Jones, Jonathan (BAR) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date	20-Aug-23	time	11.40	21.70		32.91		46.03	46.03	7 / 7							
reaction time	0.156	interval		10.30		11.21		13.12		# of strides	11.40	10.30	11.21	13.12	21.70	24.33	2.63
		velocity	8.77	9.71		8.92		7.62	8.69	175.2	8.77	9.71	8.92	7.62	9.22	8.22	

Sanders, Manuel (GER) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date	09-Jun-24	time	11.32	21.76		33.23		46.03	46.03	7 / ~~7~~ 6							
reaction time	0.190	interval		10.44		11.47		12.80		# of strides	11.32	10.44	11.47	12.80	21.76	24.27	2.51
		velocity	8.83	9.58		8.72		7.81	8.69	165.7	8.83	9.58	8.72	7.81	9.19	8.24	

McKenley, Herb (JAM) (1922)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1946 Big 10 Championships (Champaign, IL)																	*Hymans (2015) - progression of IAAF world records - 2015 edition*
date	01-Jun-46	time		20.8				45.9	45.9	/ 1							
reaction time		interval						25.1		# of strides					20.80	25.10	4.30
		velocity		9.62				7.97	8.71	*(46.2/440y)*					9.62	7.97	

McKenley, Herb (JAM) (1922)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1947 NCAA Championships (Salt Lake City, UT) (Altitude)																	*Hymans (2015) - progression of IAAF world records - 2015 edition*
date	21-Jun-47	time		20.7				45.9	45.9	/ 1							
reaction time		interval						25.2		# of strides					20.70	25.20	4.50
		velocity		9.66				7.94	8.71	*(46.2/440y)*					9.66	7.94	

McKenley, Herb (JAM) (1922)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 1948 AAU Championships (Milwaukee, WI)																	*Drake (1967) - der schnellste sprint der geschichte*
date	02-Jul-48	time		20.9				45.9	45.9	/ 1							
reaction time		interval						25.0	WR	# of strides					20.90	25.00	4.10
		velocity		9.57				8.00	8.71	*(46.00)*					9.57	8.00	

Rhoden, George (JAM) (1926)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1952 Olympic Games (Helsinki, FIN)																	*Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)*
date	25-Jul-52	time		22.2				45.9	45.9	6 / 1							
reaction time		interval						23.7	OR	# of strides					22.20	23.70	1.50
		velocity		9.01				8.44	8.71	*(46.09)*					9.01	8.44	

McKenley, Herb (JAM) (1922)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1952 Olympic Games (Helsinki, FIN)																	*Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)*
date	25-Jul-52	time		22.7				45.9	45.9	4 / 2							
reaction time		interval						23.2	=OR	# of strides					22.70	23.20	0.50
		velocity		8.81				8.62	8.71	*(46.20)*					8.81	8.62	

Kinder, Manfred (FRG) (1938)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1960 Olympic Games (Rome, ITA)																	*Martini (2010) - Ricordi romani (1) - analisi dell distribuzione dello sforzo di Otis Davis*
date	06-Sep-60	time		22.1		33.5		45.9	45.9	6 / 5							
reaction time		interval				11.4		12.4	*(46.04)*	# of strides			11.40	12.40	22.10	23.80	1.70
		velocity		9.05		8.77		8.06	8.71				8.77	8.06	9.05	8.40	

Young, Earl (USA) (1941)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1960 Olympic Games (Rome, ITA)																	*Martini (2010) - Ricordi romani (1) - analisi dell distribuzione dello sforzo di Otis Davis*
date	06-Sep-60	time		22.0		33.1		45.9	45.9	2 / 6							
reaction time		interval				11.1		12.8	*(46.07)*	# of strides			11.10	12.80	22.00	23.90	1.90
		velocity		9.09		9.01		7.81	8.71				9.01	7.81	9.09	8.37	

Nuti, Andrea (ITA) (1967)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1991 European Cup (Frankfurt, GER)																	*Federle (2003) - http://www.fgs.uni-halle.de*
date	29-Jun-91	time	11.59	21.99		33.23		46.04	46.04	/ 5							
reaction time		interval		10.40		11.24		12.81		# of strides	11.59	10.40	11.24	12.81	21.99	24.05	2.06
		velocity	8.63	9.62		8.90		7.81	8.69		8.63	9.62	8.90	7.81	9.10	8.32	

Borzakovskiy, Yuriy (RUS) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2002 European Championships (Munich, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date	07-Aug-02	time	11.96	22.78		34.08		46.04	46.04	/ 7							
reaction time	0.226	interval		10.82		11.30		11.96		# of strides	11.96	10.82	11.30	11.96	22.78	23.26	0.48
		velocity	8.36	9.24		8.85		8.36	8.69		8.36	9.24	8.85	8.36	8.78	8.60	

Byrd, Leonard (USA) (1975)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2003 USATF National Championships (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date	20-Jun-03	time		21.54		33.10	39.21	46.04	46.04	9 / ~~6~~ 4							
reaction time		interval				11.56	6.11	6.83		# of strides			11.56	12.94	21.54	24.50	2.96
		velocity		9.29		8.65	8.18	7.32	8.69				8.65	7.73	9.29	8.16	

Dyldin, Maksim (RUS) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 European Cup (Munich, GER)																	*Graubner (2007) - http://www.fgs.uni-halle.de*
date	23-Jun-07	time	11.52	22.04		33.42		46.04	46.04	/ 4							
reaction time	0.151	interval		10.52		11.38		12.62		# of strides	11.52	10.52	11.38	12.62	22.04	24.00	1.96
		velocity	8.68	9.51		8.79		7.92	8.69		8.68	9.51	8.79	7.92	9.07	8.33	

Kanemaru, Yuzo (JPN) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 Asian Games (Incheon, KOR)																	*Maho (2014) - race analysis of men's 400m run in the 2014 season*
date	28-Sep-14	time	6.19	11.35	16.52	21.92	27.58	33.57	39.60	46.04	46.04	/ 4						
reaction time	0.167	interval		5.16	5.17	5.40	5.66	5.99	6.03	6.44		# of strides	11.35	10.57	11.65	12.47	21.92	24.12	2.20
		velocity	8.08	9.69	9.67	9.26	8.83	8.35	8.29	7.76	8.69		8.81	9.46	8.58	8.02	9.12	8.29	

Wariner, Jeremy (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Seiko Golden Grand Prix (Kawasaki, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 08-May-16 time	6.20	11.21	16.42	21.79	27.36	33.08	39.29	46.04	46.04	4 / 3							
reaction time 0.157 interval		5.01	5.21	5.37	5.57	5.72	6.21	6.75		# of strides	11.21	10.58	11.29	12.96	21.79	24.25	2.46
velocity	8.06	9.98	9.60	9.31	8.98	8.74	8.05	7.41	8.69	175.0	8.92	9.45	8.86	7.72	9.18	8.25	

Wakabayashi, Kota (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese World Championships Trials (Fujiyoshida, JPN)										*Yamanaka (2019) - race analysis of men and women 400m competition*							
date 01-Sep-19 time	6.25	11.23	16.35	21.68	27.31	33.23	39.38	46.04	46.04	4 / 2							
reaction time interval		4.98	5.12	5.33	5.63	5.92	6.15	6.66		# of strides	11.23	10.45	11.55	12.81	21.68	24.36	2.68
velocity	8.00	10.04	9.77	9.38	8.88	8.45	8.13	7.51	8.69	173.0	8.90	9.57	8.66	7.81	9.23	8.21	

Sato, Fuga (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Final - 2021 Denka Athletics Challenge Cup (Niigata, JPN)										*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*							
date 06-Jun-21 time	6.22	11.27	16.43	21.82	27.37	33.26	39.43	46.04	46.04	8 / 3							
reaction time interval		5.05	5.16	5.39	5.55	5.89	6.17	6.61		# of strides	11.27	10.55	11.44	12.78	21.82	24.22	2.40
velocity	8.04	9.90	9.69	9.28	9.01	8.49	8.10	7.56	8.69	178.7	8.87	9.48	8.74	7.82	9.17	8.26	

Montgomery, Kahmari (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Prefontaine Classic (Eugene, OR)										*Omega Timing (2022) - diamond league race analysis*							
date 28-May-22 time	6.01	10.99	16.15	21.66	27.27	33.05	39.22	46.04	46.04	1 / 9							
reaction time 0.135 interval		4.98	5.16	5.51	5.61	5.78	6.17	6.82		# of strides	10.99	10.67	11.39	12.99	21.66	24.38	2.72
velocity	8.32	10.04	9.69	9.07	8.91	8.65	8.10	7.33	8.69	178.2	9.10	9.37	8.78	7.70	9.23	8.20	

Makwala, Isaac (BOT) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)										*Timing by Seiko (2022) - world athletics championships race analysis*							
date 20-Jul-22 time		11.40		21.89		32.87		46.04	46.04	7 / 8							
reaction time 0.158 interval				10.49		10.98		13.17		# of strides	11.40	10.49	10.98	13.17	21.89	24.15	2.26
velocity		8.77		9.53		9.11		7.59	8.69	174.0	8.77	9.53	9.11	7.59	9.14	8.28	

Haydock-Wilson, Alex (GBR) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 European Athletics Championships (Roma, ITA)										*European Athletics (2024) - 2024 european athletics championships - results book*							
date 08-Jun-24 time		11.36		21.92		33.27		46.04	46.04	6 / 3							
reaction time 0.177 interval				10.56		11.35		12.77		# of strides	11.36	10.56	11.35	12.77	21.92	24.12	2.20
velocity		8.80		9.47		8.81		7.83	8.69		8.80	9.47	8.81	7.83	9.12	8.29	

Kanemaru, Yuzo (JPN) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)										*Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m*							
date 24-Sep-06 time	6.2	11.1	16.2	21.6	27.4	33.4	39.7	46.05	46.05	5 / 3							
reaction time interval		4.90	5.10	5.40	5.80	6.00	6.30	6.35		# of strides	11.10	10.50	11.80	12.65	21.60	24.45	2.85
velocity	8.06	10.20	9.80	9.26	8.62	8.33	7.94	7.87	8.69		9.01	9.52	8.47	7.91	9.26	8.18	

Igbokwe, Obi (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 NCAA Championships (Austin, TX)										*Track Newsletter (2019) - NCAA men's championships*							
date 07-Jun-19 time				21.9		33.0		46.1	46.05	/ ~~8~~							
reaction time 0.171 interval						11.10		13.10	DQ	# of strides			11.10	13.10	21.90	24.20	2.30
velocity				9.13		9.01		7.63	8.69				9.01	7.63	9.13	8.26	

Re, Davide (ITA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 The Match - Europe v USA (Minsk, BLR)										*Omega Timing (2019) - diamond league race analysis*							
date 09-Sep-19 time		11.34		21.96		33.45		46.05	46.05	4 / 3							
reaction time 0.154 interval				10.62		11.49		12.60		# of strides	11.34	10.62	11.49	12.60	21.96	24.09	2.13
velocity		8.82		9.42		8.70		7.94	8.69	176.0	8.82	9.42	8.70	7.94	9.11	8.30	

Nielsen, Gustav Lundholm (DEN) (19

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2022 European Athletics Championships (Munich, GER)										*European Athletics (2022) - european athletics championships race analysis*							
date 15-Aug-22 time		11.36		21.98		33.28		46.05	46.05	6 / 5							
reaction time 0.165 interval				10.62		11.30		12.77		# of strides	11.36	10.62	11.30	12.77	21.98	24.07	2.09
velocity		8.80		9.42		8.85		7.83	8.69		8.80	9.42	8.85	7.83	9.10	8.31	

Liang Baotang (CHN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Chinese National Championships (Quzhou, CHN)										*Shandong Athletics Sport Science (2024)*							
date 16-Sep-24 time		12.00		22.71		34.05	39.86	46.05	46.05	6 / 1							
reaction time 0.185 interval				10.71		11.34	5.81	6.19		# of strides	12.00	10.71	11.34	12.00	22.71	23.34	0.63
velocity		8.33		9.34		8.82	8.61	8.08	8.69	193.0	8.33	9.34	8.82	8.33	8.81	8.57	

McCoy, Walter (USA) (1958)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 USA Olympic Trials (Eugene, OR)										*Track Newsletter (1980) - US olympic trials*							
date 27-Jun-80 time		12.1		23.0		34.0		46.1	46.06	/ 3							
reaction time interval				10.90		11.00		12.06		# of strides	12.10	10.90	11.00	12.06	23.00	23.06	0.06
velocity		8.26		9.17		9.09		8.29	8.68		8.26	9.17	9.09	8.29	8.70	8.67	

Caines, Daniel (GBR) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2002 European Championships (Munich, GER)										*Graubner (2009) - http://www.fgs.uni-halle.de*							
date 06-Aug-02 time		11.26		21.88		33.42		46.06	46.06	/ 2							
reaction time 0.150 interval				10.62		11.54		12.64		# of strides	11.26	10.62	11.54	12.64	21.88	24.18	2.30
velocity		8.88		9.42		8.67		7.91	8.68		8.88	9.42	8.67	7.91	9.14	8.27	

Neville, David (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 USATF National Championships (Indianapolis, IN)										*Track Newsletter (2007) - USATF men's championships*							
date 23-Jun-07 time						33.1		46.1	46.06	/ 7							
reaction time interval								13.0		# of strides				13.00			
velocity						9.06		7.69	8.68					7.69			

Walsh, Julian Jrummi (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							

date	03-May-16	time	6.16	11.18	16.32	21.62	27.27	33.24	39.44	46.06	46.06	/ 1						
reaction time		interval		5.02	5.14	5.30	5.65	5.97	6.20	6.62		# of strides	11.18	10.44	11.62	12.82	21.62	24.44	2.82
		velocity	8.12	9.96	9.73	9.43	8.85	8.38	8.06	7.55	8.68		8.94	9.58	8.61	7.80	9.25	8.18	

Kawauchi, Mitsuki (JPN) (1997)

Heat 1 - 2017 Japanese National Championships (Osaka, JPN)

(2017) - tfdata-store.com/2017/07/08/post-965/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-17	time		11.29		21.69		33.15		46.06	46.06	8 / 6							
reaction time	0.181	interval				10.40		11.46		12.91	PB	# of strides	11.29	10.40	11.46	12.91	21.69	24.37	2.68
		velocity		8.86		9.62		8.73		7.75	8.68	184.5	8.86	9.62	8.73	7.75	9.22	8.21	

Sato, Kentaro (JPN) (1994)

FINAL - 2021 Japanese National Championships (Osaka, JPN)

Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-21	time	6.18	11.18	16.33	21.77	27.46	33.45	39.57	46.08	46.06	4 / 2							
reaction time	0.217	interval		5.00	5.15	5.44	5.69	5.99	6.12	6.51		# of strides	11.18	10.59	11.68	12.63	21.77	24.31	2.54
		velocity	8.09	10.00	9.71	9.19	8.79	8.35	8.17	7.68	8.68		8.94	9.44	8.56	7.92	9.19	8.23	

Samukonga, Muzala (ZAM) (2002)

Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)

Longines Timing (2022) - commonwealth games race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-22	time	6.3	11.4	16.9	22.6	28.3	34.1	39.8	46.06	46.06	6 / 2							
reaction time	0.244	interval		5.10	5.50	5.70	5.70	5.80	5.70	6.26		# of strides	11.40	11.20	11.50	11.96	22.60	23.46	0.86
		velocity	7.94	9.80	9.09	8.77	8.77	8.62	8.77	7.99	8.68	176.0	8.77	8.93	8.70	8.36	8.85	8.53	

Brier, Joseph (GBR) (1999)

Heat 2 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-22	time		11.53		22.11		33.34		46.06	46.06	4 / 5							
reaction time	0.213	interval				10.58		11.23		12.72		# of strides	11.53	10.58	11.23	12.72	22.11	23.95	1.84
		velocity		8.67		9.45		8.90		7.86	8.68		8.67	9.45	8.90	7.86	9.05	8.35	

Sato, Kentaro (JPN) (1994)

Heat 2 - 2023 Japanese National Championsips (Osaka, JPN)

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Jun-23	time	6.15	11.21	16.33	21.62	27.16	33.13	39.43	46.06	46.06	7 / 1							
reaction time	0.185	interval		5.06	5.12	5.29	5.54	5.97	6.30	6.63		# of strides	11.21	10.41	11.51	12.93	21.62	24.44	2.82
		velocity	8.13	9.88	9.77	9.45	9.03	8.38	7.94	7.54	8.68	179.0	8.92	9.61	8.69	7.73	9.25	8.18	

Devantay, Charles (SUI) (1998)

B Race - 2024 Athletissima (Lausanne, SUI)

Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-24	time	6.20	11.33	16.63	22.13	27.74	33.56	39.56	46.06	46.06	4 / 2							
reaction time	0.134	interval		5.13	5.30	5.50	5.61	5.82	6.00	6.50		# of strides	11.33	10.80	11.43	12.50	22.13	23.93	1.80
		velocity	8.06	9.75	9.43	9.09	8.91	8.59	8.33	7.69	8.68		8.83	9.26	8.75	8.00	9.04	8.36	

Omalla, Eugene (NED) (2000)

FINAL - 2024 Athletissima (Lausanne, SUI)

Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-24	time	6.17	11.22	16.43	21.83	27.58	33.47	39.52	46.06	46.06	1 / 8							
reaction time	0.179	interval		5.05	5.21	5.40	5.75	5.89	6.05	6.54		# of strides	11.22	10.61	11.64	12.59	21.83	24.23	2.40
		velocity	8.10	9.90	9.60	9.26	8.70	8.49	8.26	7.65	8.68		8.91	9.43	8.59	7.94	9.16	8.25	

Whittle, Brian (GBR) (1964)

Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)

Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Sep-88	time		11.34		21.88		33.42		46.07	46.07	7 / 8							
reaction time	0.176	interval				10.54		11.54		12.65		# of strides	11.34	10.54	11.54	12.65	21.88	24.19	2.31
		velocity		8.82		9.49		8.67		7.91	8.68		8.82	9.49	8.67	7.91	9.14	8.27	

Benjamin, Tim (GBR) (1982)

Semi-Final 2 - 2002 European Championships (Munich, GER)

Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-02	time		11.36		21.96		33.40		46.07	46.07	/ 3							
reaction time	0.139	interval				10.60		11.44		12.67		# of strides	11.36	10.60	11.44	12.67	21.96	24.11	2.15
		velocity		8.80		9.43		8.74		7.89	8.68		8.80	9.43	8.74	7.89	9.11	8.30	

Harrison, Alvin (USA) (1974)

Semi-Final 1 - 2003 USATF National Championships (Palo Alto, CA)

USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-03	time				21.61		32.97	39.11	46.07	46.07	2 / ~~7~~							
reaction time		interval						11.36	6.14	6.96	DV	# of strides			11.36	13.10	21.61	24.46	2.85
		velocity				9.25		8.80	8.14	7.18	8.68				8.80	7.63	9.25	8.18	

Tamura, Tomoya (JPN) (1992)

Heat 2 - 2015 Japanese National Championships (Niigata, JPN)

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-15	time	6.17	11.18	16.25	21.48	27.15	32.89	39.12	46.07	46.07	3 / 2							
reaction time	0.216	interval		5.01	5.07	5.23	5.67	5.74	6.23	6.95	PB	# of strides	11.18	10.30	11.41	13.18	21.48	24.59	3.11
		velocity	8.10	9.98	9.86	9.56	8.82	8.71	8.03	7.19	8.68		8.94	9.71	8.76	7.59	9.31	8.13	

Abubaker, Abbas (BRN) (1996)

Heat 3 - 2018 Asian Games (Jakarta, INA)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Aug-18	time	6.29	11.51	16.69	22.06	27.67	33.43	39.43	46.07	46.07	2 / 1							
reaction time	0.173	interval		5.22	5.18	5.37	5.61	5.76	6.00	6.64		# of strides	11.51	10.55	11.37	12.64	22.06	24.01	1.95
		velocity	7.95	9.58	9.65	9.31	8.91	8.68	8.33	7.53	8.68		8.69	9.48	8.80	7.91	9.07	8.33	

Abbas, Abdulrahman Khamis (BRN)

Semi-Final 3 - 2018 Asian Games (Jakarta, INA)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Aug-18	time	6.26	11.26	16.38	21.79	27.51	33.49	39.62	46.07	46.07	3 / 2							
reaction time	0.170	interval		5.00	5.12	5.41	5.72	5.98	6.13	6.45	PB	# of strides	11.26	10.53	11.70	12.58	21.79	24.28	2.49
		velocity	7.99	10.00	9.77	9.24	8.74	8.36	8.16	7.75	8.68		8.88	9.50	8.55	7.95	9.18	8.24	

Yousif, Rabah (GBR) (1986)

FINAL - 2018 Müller Anniversary Games (London, GBR)

Omega Timing (2018) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-18	time		11.3		21.9		33.3		46.07	46.07	1 / 9							
reaction time	0.153	interval				10.6		11.4		12.8		# of strides	11.30	10.60	11.40	12.77	21.90	24.17	2.27
		velocity		8.85		9.43		8.77		7.83	8.68		8.85	9.43	8.77	7.83	9.13	8.27	

Šorm, Patrik (CZE) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2022 World Athletics Championships (Eugene, OR)										*Timing by Seiko (2022) - world athletics championships race analysis*							
date 17-Jul-22 time		11.42		22.15		33.45		46.07	46.07	4 / 5							
reaction time 0.174 interval				10.73		11.30		12.62		# of strides	11.42	10.73	11.30	12.62	22.15	23.92	1.77
velocity		8.76		9.32		8.85		7.92	8.68		8.76	9.32	8.85	7.92	9.03	8.36	

Borlée, Dylan (BEL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Memorial van Damme (Brussels, BEL)										*Omega Timing (2022) - diamond league race analysis*							
date 02-Sep-22 time	6.32	11.42	16.64	22.08	27.68	33.52	39.59	46.07	46.07	7 / 5							
reaction time 0.140 interval		5.10	5.22	5.44	5.60	5.84	6.07	6.48		# of strides	11.42	10.66	11.44	12.55	22.08	23.99	1.91
velocity	7.91	9.80	9.58	9.19	8.93	8.56	8.24	7.72	8.68		8.76	9.38	8.74	7.97	9.06	8.34	

Walsh, Julian Jrummi (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 National Sports Festival (Matsuyama, JPN)										*Yamanaka (2017) - male and female 400m analysis in the 2017 season*							
date 08-Oct-17 time	6.18	11.19	16.35	21.74	27.42	33.35	39.52	46.08	46.08	4 / 1							
reaction time 0.168 interval		5.01	5.16	5.39	5.68	5.93	6.17	6.56		# of strides	11.19	10.55	11.61	12.73	21.74	24.34	2.60
velocity	8.09	9.98	9.69	9.28	8.80	8.43	8.10	7.62	8.68	169.0	8.94	9.48	8.61	7.86	9.20	8.22	

Rajiv, Arokia (IND) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2018 Asian Games (Jakarta, INA)										*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
date 25-Aug-18 time	6.34	11.53	16.83	22.39	28.01	33.79	39.68	46.08	46.08	6 / 2							
reaction time 0.179 interval		5.19	5.30	5.56	5.62	5.78	5.89	6.40		# of strides	11.53	10.86	11.40	12.29	22.39	23.69	1.30
velocity	7.89	9.63	9.43	8.99	8.90	8.65	8.49	7.81	8.68		8.67	9.21	8.77	8.14	8.93	8.44	

Duszynski, Kajetan (POL) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)										*Omega Timing (2022) - diamond league race analysis*							
date 06-Aug-22 time	6.20	11.21	16.35	21.62	27.19	33.07	39.33	46.08	46.08	8 / 9							
reaction time 0.151 interval		5.01	5.14	5.27	5.57	5.88	6.26	6.75		# of strides	11.21	10.41	11.45	13.01	21.62	24.46	2.84
velocity	8.06	9.98	9.73	9.49	8.98	8.50	7.99	7.41	8.68		8.92	9.61	8.73	7.69	9.25	8.18	

Haydock-Wilson, Alex (GBR) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)										*Omega Timing (2023) - diamond league race analysis*							
date 28-May-23 time	6.21	11.24	16.63	22.29	27.79	33.48	39.48	46.08	46.08	2 / 6							
reaction time 0.154 interval		5.03	5.39	5.66	5.50	5.69	6.00	6.60		# of strides	11.24	11.05	11.19	12.60	22.29	23.79	1.50
velocity	8.05	9.94	9.28	8.83	9.09	8.79	8.33	7.58	8.68		8.90	9.05	8.94	7.94	8.97	8.41	

Robinson, Justin (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 USA Olympic Trials (Eugene, OR)										*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date 24-Jun-24 time		11.03		21.39		32.92		46.08	46.08	1 / 9							
reaction time interval				10.36		11.53		13.16		# of strides	11.03	10.36	11.53	13.16	21.39	24.69	3.30
velocity		9.07		9.65		8.67		7.60	8.68		9.07	9.65	8.67	7.60	9.35	8.10	

Nakajima, Yuki Joseph (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
C Final - 2021 Denka Athletics Challenge Cup (Niigata, JPN)										*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*							
date 06-Jun-21 time	6.43	11.58	16.83	22.28	27.82	33.63	39.68	46.09	46.09	1 / 1							
reaction time interval		5.15	5.25	5.45	5.54	5.81	6.05	6.41	PB	# of strides	11.58	10.70	11.35	12.46	22.28	23.81	1.53
velocity	7.78	9.71	9.52	9.17	9.03	8.61	8.26	7.80	8.68	171.2	8.64	9.35	8.81	8.03	8.98	8.40	

Prude, Rios (USA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 USA Olympic Trials (Eugene, OR)										*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date 21-Jun-24 time		11.34		22.12		33.59		46.09	46.09	6 / 6							
reaction time interval				10.78		11.47		12.50		# of strides	11.34	10.78	11.47	12.50	22.12	23.97	1.85
velocity		8.82		9.28		8.72		8.00	8.68	170.0	8.82	9.28	8.72	8.00	9.04	8.34	

Ding Wenhao (CHN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Chinese National Championships (Quzhou, CHN)										*Shandong Athletics Sport Science (2024)*							
date 16-Sep-24 time		11.45		22.21		33.87	39.86	46.09	46.09	4 / 2							
reaction time 0.209 interval				10.76		11.66	5.99	6.23	PB	# of strides	11.45	10.76	11.66	12.22	22.21	23.88	1.67
velocity		8.73		9.29		8.58	8.35	8.03	8.68	174.0	8.73	9.29	8.58	8.18	9.00	8.38	

Gauntlett, Akheem (JAM) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 NCAA Championships (Eugene, OR)										*Track Newsletter (2013) - NCAA men's championships*							
date 07-Jun-13 time				22.3		33.8		46.1	46.10	/ 8							
reaction time interval						11.50		12.30		# of strides			11.50	12.30	22.30	23.80	1.50
velocity				8.97		8.70		8.13	8.68				8.70	8.13	8.97	8.40	

Giesting, Chris (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 NCAA Championships (Eugene, OR)										*Track Newsletter (2014) - NCAA men's championships*							
date 13-Jun-14 time				21.9				46.1	46.10	/ 7							
reaction time interval								24.20		# of strides					21.90	24.20	2.30
velocity				9.13				8.26	8.68						9.13	8.26	

Kanemaru, Yuzo (JPN) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Championships (Niigata, JPN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date 28-Jun-15 time	6.17	11.20	16.42	21.84	27.58	33.41	39.55	46.10	46.10	7 / 1							
reaction time 0.172 interval		5.03	5.22	5.42	5.74	5.83	6.14	6.55		# of strides	11.20	10.64	11.57	12.69	21.84	24.26	2.42
velocity	8.10	9.94	9.58	9.23	8.71	8.58	8.14	7.63	8.68	180.0	8.93	9.40	8.64	7.88	9.16	8.24	

Fasasi, Kunle (NGR) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 NCAA Championships (Eugene, OR)										*Track Newsletter (2016) - NCAA men's championships*							
date 10-Jun-16 time				21.9		33.4		46.1	46.10	/ ~~7~~ 6							
reaction time interval						11.50		12.70		# of strides			11.50	12.70	21.90	24.20	2.30
velocity				9.13		8.70		7.87	8.68				8.70	7.87	9.13	8.26	

Walsh, Julian Jrummi (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2018 Japanese National Championships (Yamaguchi, JPN)										*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							

date	22-Jun-18	time	6.13	11.14	16.38	21.89	27.62	33.55	39.67	46.10	46.10	6 / 1						
reaction time	0.150	interval		5.01	5.24	5.51	5.73	5.93	6.12	6.43		# of strides	11.14	10.75	11.66	12.55	21.89	24.21	2.32
		velocity	8.16	9.98	9.54	9.07	8.73	8.43	8.17	7.78	8.68	169.7	8.98	9.30	8.58	7.97	9.14	8.26	

Kawauchi, Mitsuki (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Shizuoka International Athletics Meeting (Fukuroi, JPN)										*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*							
date 03-May-21	time	6.34	11.43	16.58	21.89	27.49	33.45	39.56	46.10	46.10	5 / 1							
reaction time 0.204	interval		5.09	5.15	5.31	5.60	5.96	6.11	6.54		# of strides	11.43	10.46	11.56	12.65	21.89	24.21	2.32
	velocity	7.89	9.82	9.71	9.42	8.93	8.39	8.18	7.65	8.68	185.0	8.75	9.56	8.65	7.91	9.14	8.26	

Yahia Ibrahim, Ammar Ismail (QAT) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Doha Diamond League (Doha, QAT)										*Omega Timing (2021) - diamond league race analysis*							
date 28-May-21	time	6.2	11.1	16.3	21.8	27.4	33.4	39.8	46.10	46.10	1 / 7							
reaction time 0.142	interval		4.90	5.20	5.50	5.60	6.00	6.40	6.30		# of strides	11.10	10.70	11.60	12.70	21.80	24.30	2.50
	velocity	8.06	10.20	9.62	9.09	8.93	8.33	7.81	7.94	8.68		9.01	9.35	8.62	7.87	9.17	8.23	

Cañal, Iñaki (ESP) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)										*European Athletics (2022) - european athletics championships race analysis*							
date 16-Aug-22	time		11.28		21.59		33.07		46.10	46.10	1 / 6							
reaction time 0.159	interval				10.31		11.48		13.03		# of strides	11.28	10.31	11.48	13.03	21.59	24.51	2.92
	velocity		8.87		9.70		8.71		7.67	8.68	181.0	8.87	9.70	8.71	7.67	9.26	8.16	

Golovastov, Dmitriy (RUS) (1971)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2001 European Cup (Bremen, GER)										*Graubner (2007) - http://www.fgs.uni-halle.de*							
date 23-Jun-01	time		11.34		21.90		33.29		46.11	46.11	/ 6							
reaction time	interval				10.56		11.39		12.82		# of strides	11.34	10.56	11.39	12.82	21.90	24.21	2.31
	velocity		8.82		9.47		8.78		7.80	8.67		8.82	9.47	8.78	7.80	9.13	8.26	

Kato, Nobuya (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 Japanese National High School Championships (Oita, JPN)										*Yanagiya (2014) - research on athlete performance and technique- 2014 data book*							
date 30-Jul-13	time	6.52	11.97	17.35	22.68	28.29	33.99	39.92	46.11	46.11	4 / 1							
reaction time	interval		5.45	5.38	5.33	5.61	5.70	5.93	6.19		# of strides	11.97	10.71	11.31	12.12	22.68	23.43	0.75
	velocity	7.67	9.17	9.29	9.38	8.91	8.77	8.43	8.08	8.67		8.35	9.34	8.84	8.25	8.82	8.54	

Walsh, Julian Jrummi (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2015 Japanese National Championships (Niigata, JPN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date 27-Jun-15	time	6.24	11.34	16.53	21.77	27.23	33.17	39.40	46.11	46.11	1 / 3							
reaction time 0.177	interval		5.10	5.19	5.24	5.46	5.94	6.23	6.71	**PB**	# of strides	11.34	10.43	11.40	12.94	21.77	24.34	2.57
	velocity	8.01	9.80	9.63	9.54	9.16	8.42	8.03	7.45	8.67		8.82	9.59	8.77	7.73	9.19	8.22	

Rooney, Martyn (GBR) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2018 Müller Anniversary Games (London, GBR)										*Omega Timing (2018) - diamond league race analysis*							
date 21-Jul-18	time		11.4		22.0		33.3		46.11	46.11	5 / 2							
reaction time 0.140	interval				10.6		11.3		12.8		# of strides	11.40	10.60	11.30	12.81	22.00	24.11	2.11
	velocity		8.77		9.43		8.85		7.81	8.67		8.77	9.43	8.85	7.81	9.09	8.30	

Bonevacia, Liemarvin (NED) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 FBK Games (Hengelo, NED)										*Omega Timing (2022) - continental tour race analysis*							
date 06-Jun-22	time	6.2	11.2	16.3	21.7	27.3	33.2	39.3	46.11	46.11	5 / 4							
reaction time 0.148	interval		5.00	5.10	5.40	5.60	5.90	6.10	6.81		# of strides	11.20	10.50	11.50	12.91	21.70	24.41	2.71
	velocity	8.06	10.00	9.80	9.26	8.93	8.47	8.20	7.34	8.67	184.0	8.93	9.52	8.70	7.75	9.22	8.19	

Mabille, Florent (BEL) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2023 Memorial van Damme (Brussels, BEL)										*Omega Timing (2023) - diamond league race analysis*							
date 08-Sep-23	time	6.29	11.18	16.27	21.65	27.24	33.00	39.20	46.11	46.11	3 / 7							
reaction time 0.164	interval		4.89	5.09	5.38	5.59	5.76	6.20	6.91		# of strides	11.18	10.47	11.35	13.11	21.65	24.46	2.81
	velocity	7.95	10.22	9.82	9.29	8.94	8.68	8.06	7.24	8.67		8.94	9.55	8.81	7.63	9.24	8.18	

Hooker, Ja'Warren (USA) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2003 USATF National Championships (Palo Alto, CA)										*USATF Women's Sprint Development (2003)*							
date 20-Jun-03	time				21.77		33.42	39.46	46.12	46.12	5 / 5							
reaction time	interval						11.65	6.04	6.66		# of strides			11.65	12.70	21.77	24.35	2.58
	velocity				9.19		8.58	8.28	7.51	8.67				8.58	7.87	9.19	8.21	

Sato, Kentaro (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Championships (Niigata, JPN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date 28-Jun-15	time	6.36	11.32	16.38	21.72	27.29	33.16	39.35	46.12	46.12	3 / 2							
reaction time 0.151	interval		4.96	5.06	5.34	5.57	5.87	6.19	6.77		# of strides	11.32	10.40	11.44	12.96	21.72	24.40	2.68
	velocity	7.86	10.08	9.88	9.36	8.98	8.52	8.08	7.39	8.67		8.83	9.62	8.74	7.72	9.21	8.20	

Krsek, Matěj (CZE) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2022 European Athletics Championships (Munich, GER)										*European Athletics (2022) - european athletics championships race analysis*							
date 15-Aug-22	time		11.50		22.19		33.51		46.12	46.12	4 / 3							
reaction time 0.173	interval				10.69		11.32		12.61		# of strides	11.50	10.69	11.32	12.61	22.19	23.93	1.74
	velocity		8.70		9.35		8.83		7.93	8.67		8.70	9.35	8.83	7.93	9.01	8.36	

Omalla, Eugene (NED) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 FBK Games (Hengelo, NED)										*Omega Timing (2024) - continental tour gold race analysis*							
date 07-Jul-24	time	6.15	11.05	16.05	21.26	26.84	32.72	39.04	46.12	46.12	5 / 2							
reaction time 0.192	interval		4.90	5.00	5.21	5.58	5.88	6.32	7.08		# of strides	11.05	10.21	11.46	13.40	21.26	24.86	3.60
	velocity	8.13	10.20	10.00	9.60	8.96	8.50	7.91	7.06	8.67		9.05	9.79	8.73	7.46	9.41	8.05	

Aceti, Vladimir (ITA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Weltklasse (Zürich, SUI)										*Omega Timing (2024) - diamond league race analysis*							
date 05-Sep-24	time	6.32	11.36	16.53	21.85	27.40	33.21	39.43	46.12	46.12	1 / 6							
reaction time 0.202	interval		5.04	5.17	5.32	5.55	5.81	6.22	6.69		# of strides	11.36	10.49	11.36	12.91	21.85	24.27	2.42
	velocity	7.91	9.92	9.67	9.40	9.01	8.61	8.04	7.47	8.67		8.80	9.53	8.80	7.75	9.15	8.24	

Rock, Andrew (USA) (1982)
Semi-Final 2 - 2003 USATF National Championships (Palo Alto, CA)
USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-03	time				21.67		33.55	39.54	46.13	46.13	7 / 6							
reaction time		interval						11.88	5.99	6.59		# of strides			11.88	12.58	21.67	24.46	2.79
		velocity				9.23		8.42	8.35	7.59	8.67				8.42	7.95	9.23	8.18	

Kato, Nobuya (JPN) (1995)
FINAL - 2014 Asian Games (Incheon, KOR)
Maho (2014) - race analysis of men's 400m run in the 2014 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Sep-14	time	6.46	11.75	17.10	22.65	28.37	34.31	40.13	46.13	46.13	/ 5							
reaction time	0.231	interval		5.29	5.35	5.55	5.72	5.94	5.82	6.00		# of strides	11.75	10.90	11.66	11.82	22.65	23.48	0.83
		velocity	7.74	9.45	9.35	9.01	8.74	8.42	8.59	8.33	8.67		8.51	9.17	8.58	8.46	8.83	8.52	

Jones, Jonathan (BAR) (1999)
FINAL - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jul-22	time		11.07		21.46		32.86		46.13	46.13	2 / 8							
reaction time	0.155	interval				10.39		11.40		13.27		# of strides	11.07	10.39	11.40	13.27	21.46	24.67	3.21
		velocity		9.03		9.62		8.77		7.54	8.67		9.03	9.62	8.77	7.54	9.32	8.11	

Ndori, Bayapo (BOT) (1999)
FINAL - 2023 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Jul-23	time	6.20	11.30	16.60	22.00	27.50	33.30	39.40	46.13	46.13	4 / 7							
reaction time	0.167	interval		5.10	5.30	5.40	5.50	5.80	6.10	6.73		# of strides	11.30	10.70	11.30	12.83	22.00	24.13	2.13
		velocity	8.06	9.80	9.43	9.26	9.09	8.62	8.20	7.43	8.67		8.85	9.35	8.85	7.79	9.09	8.29	

Sato, Fuga (JPN) (1996)
Heat 6 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-24	time	6.18	11.16	16.28	21.65	27.22	33.03	39.23	46.13	46.13	8 / 6							
reaction time	0.163	interval		4.98	5.12	5.37	5.57	5.81	6.20	6.90		# of strides	11.16	10.49	11.38	13.10	21.65	24.48	2.83
		velocity	8.09	10.04	9.77	9.31	8.98	8.61	8.06	7.25	8.67	176.0	8.96	9.53	8.79	7.63	9.24	8.17	

Harbig, Rudolf (GER) (1913)
FINAL - 1939 Internationale Leichtathletik Wettkampf (Frankfurt-am-Main, GER) (*500m track*)
Quercetani (2005) - a world history of the one-lap race: 1850-2004

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Aug-39	time		11.3		22.0		33.6		46.0	46.0	3 / 1							
reaction time		interval				10.70		11.60		12.40	WR	# of strides	11.30	10.70	11.60	12.40	22.00	24.00	2.00
		velocity		8.85		9.35		8.62		8.06	8.70		8.85	9.35	8.62	8.06	9.09	8.33	

Klemmer, Grover (USA) (1921)
FINAL - 1941 AAU Championships (Philadelphia, PA)
Hymans (2015) - progression of IAAF world records - 2015 edition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jun-41	time		10.8		21.8		33.4		46.0	46.0	/ 1							
reaction time		interval				11.0		11.6		12.6	=WR	# of strides	10.80	11.00	11.60	12.60	21.80	24.20	2.40
		velocity		9.26		9.09		8.62		7.94	8.70		9.26	9.09	8.62	7.94	9.17	8.26	

McKenley, Herb (JAM) (1922)
FINAL - 1947 PCC vs Big 10 (Berkeley, CA) (*yards*)
Hymans (2015) - progression of IAAF world records - 2015 edition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jun-47	time				20.9				46.0	46.0	/ 1							
reaction time		interval								25.1	WR yards	# of strides					20.90	25.10	4.20
		velocity				9.57				7.97	8.70	*(46.3/440y)*					9.57	7.97	

Williams, Ulis (USA) (1941)
FINAL - 1964 Olympic Games (Tokyo, JPN)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Sep-64	time				21.7		34.1		46.0	46.0	8 / 5							
reaction time		interval						12.40		11.90	*(46.01)*	# of strides		21.70	12.40	11.90	21.70	24.30	2.60
		velocity				9.22		8.06		8.40	8.70			9.22	8.06	8.40	9.22	8.23	

Graham, Tim (GBR) (1939)
FINAL - 1964 Olympic Games (Tokyo, JPN)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Sep-64	time				22.0		34.2		46.0	46.0	1 / 6							
reaction time		interval						12.20		11.80	*(46.08)*	# of strides		22.00	12.20	11.80	22.00	24.00	2.00
		velocity				9.09		8.20		8.47	8.70			9.09	8.20	8.47	9.09	8.33	

Ignatyev, Ardalion (URS) (1930)
FINAL - 1955 Znamenskiy Memorial (Moscow, URS)
Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-55	time				21.5				46.0	46.0	/ 1							
reaction time		interval								24.5	AR	# of strides					21.50	24.50	3.00
		velocity				9.30				8.16	8.70						9.30	8.16	

Thomas, Iwan (GBR) (1974)
FINAL - 2001 European Cup (Bremen, GER)
Graubner (2007) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-01	time		11.18		21.71		33.17		46.14	46.14	/ 7							
reaction time		interval				10.53		11.46		12.97		# of strides	11.18	10.53	11.46	12.97	21.71	24.43	2.72
		velocity		8.94		9.50		8.73		7.71	8.67		8.94	9.50	8.73	7.71	9.21	8.19	

Byrd, Leonard (USA) (1975)
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA)
USATF Women's Sprint Development (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jun-96	time		11.53		22.11		33.44	39.48	46.15	46.15	2 / 8							
reaction time		interval				10.58		11.33	6.04	6.67		# of strides	11.53	10.58	11.33	12.71	22.11	24.04	1.93
		velocity		8.67		9.45		8.83	8.28	7.50	8.67		8.67	9.45	8.83	7.87	9.05	8.32	

Benjamin, Tim (GBR) (1982)
Heat 2 - 2002 European Championships (Munich, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-02	time		11.49		22.14		33.55		46.15	46.15	/ 3							
reaction time	0.155	interval				10.65		11.41		12.60		# of strides	11.49	10.65	11.41	12.60	22.14	24.01	1.87
		velocity		8.70		9.39		8.76		7.94	8.67		8.70	9.39	8.76	7.94	9.03	8.33	

Bláha, Karel (CZE) (1975)
Semi-Final 2 - 2002 European Championships (Munich, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

date	07-Aug-02	time	11.34		21.85		33.22		46.15	46.15	/ 4						
reaction time	0.161	interval			10.51		11.37		12.93		# of strides	11.34	10.51	11.37	12.93	21.85	24.30	2.45
		velocity	8.82		9.51		8.80		7.73	8.67		8.82	9.51	8.80	7.73	9.15	8.23	

Rysiukiewicz, Piotr (POL) (1974)

Semi-Final 2 - 2002 European Championships (Munich, GER)

Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-02	time		11.40		22.09		33.74		46.15	46.15	/ 5							
reaction time	0.187	interval				10.69		11.65		12.41		# of strides	11.40	10.69	11.65	12.41	22.09	24.06	1.97
		velocity		8.77		9.35		8.58		8.06	8.67		8.77	9.35	8.58	8.06	9.05	8.31	

Homewood, Dirk (USA) (1982)

FINAL - 2005 USATF National Championships (Carson, CA)

USATF Women's Sprint Development (2005)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-05	time				22.12	27.57	33.31	39.66	46.15	46.15	9 / 9							
reaction time		interval					5.45	5.74	6.35	6.49		# of strides			11.19	12.84	22.12	24.03	1.91
		velocity				9.04	9.17	8.71	7.87	7.70	8.67				8.94	7.79	9.04	8.32	

Díaz, Yunior (CUB) (1987)

Decathlon - Heat 2 - 2009 IAAF World Championships (Berlin, GER)

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Aug-09	time		11.27		21.94		33.50		46.15	46.15	8 / 1							
reaction time	0.180	interval				10.67		11.56		12.65	PB	# of strides	11.27	10.67	11.56	12.65	21.94	24.21	2.27
		velocity		8.87		9.37		8.65		7.91	8.67		8.87	9.37	8.65	7.91	9.12	8.26	

Tamura, Tomoya (JPN) (1992)

FINAL - 2016 Japanese National Championships (Nagoya, JPN)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-16	time	6.23	11.29	16.45	21.75	27.30	33.16	39.29	46.15	46.15	2 / 4							
reaction time	0.195	interval		5.06	5.16	5.30	5.55	5.86	6.13	6.86		# of strides	11.29	10.46	11.41	12.99	21.75	24.40	2.65
		velocity	8.03	9.88	9.69	9.43	9.01	8.53	8.16	7.29	8.67		8.86	9.56	8.76	7.70	9.20	8.20	

Kitakani, Naoki (JPN) (1998)

Heat 3 - 2017 Japanese National Championships (Osaka, JPN)

(2017) - tfdata-store.com/2017/07/08/post-965/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-17	time		11.38		21.80		33.27		46.15	46.15	4 / 3							
reaction time	0.170	interval				10.42		11.47		12.88	PB	# of strides	11.38	10.42	11.47	12.88	21.80	24.35	2.55
		velocity		8.79		9.60		8.72		7.76	8.67	177.7	8.79	9.60	8.72	7.76	9.17	8.21	

Sato, Fuga (JPN) (1996)

FINAL - 2020 World Athletics Trials (Fuji, JPN)

Yamanaka (2020) - 400m race analysis of men and women during 2020 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Sep-20	time	6.39	11.58	16.83	22.19	27.70	33.38	39.44	46.15	46.15	3 / 1							
reaction time		interval		5.19	5.25	5.36	5.51	5.68	6.06	6.71		# of strides	11.58	10.61	11.19	12.77	22.19	23.96	1.77
		velocity	7.82	9.63	9.52	9.33	9.07	8.80	8.25	7.45	8.67	177.5	8.64	9.43	8.94	7.83	9.01	8.35	

Ito, Rikiya (JPN) (1998)

FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)

Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-May-21	time	6.02	10.92	15.93	21.22	26.88	32.86	39.23	46.15	46.15	6 / 2							
reaction time	0.128	interval		4.90	5.01	5.29	5.66	5.98	6.37	6.92		# of strides	10.92	10.30	11.64	13.29	21.22	24.93	3.71
		velocity	8.31	10.20	9.98	9.45	8.83	8.36	7.85	7.23	8.67	187.0	9.16	9.71	8.59	7.52	9.43	8.02	

Ito, Rikiya (JPN) (1998)

Final - 2021 Denka Athletics Challenge Cup (Niigata, JPN)

Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Jun-21	time	6.24	11.26	16.35	21.68	27.25	33.19	39.46	46.15	46.15	7 / 4							
reaction time		interval		5.02	5.09	5.33	5.57	5.94	6.27	6.69		# of strides	11.26	10.42	11.51	12.96	21.68	24.47	2.79
		velocity	8.01	9.96	9.82	9.38	8.98	8.42	7.97	7.47	8.67	185.2	8.88	9.60	8.69	7.72	9.23	8.17	

Kawabata, Kaito (JPN) (1998)

Final - 2021 Denka Athletics Challenge Cup (Niigata, JPN)

Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Jun-21	time	6.16	10.99	15.93	21.18	26.69	32.67	39.12	46.19	46.15	5 / 5							
reaction time		interval		4.83	4.94	5.25	5.51	5.98	6.45	7.07		# of strides	10.99	10.19	11.49	13.52	21.18	25.01	3.83
		velocity	8.12	10.35	10.12	9.52	9.07	8.36	7.75	7.07	8.67		9.10	9.81	8.70	7.40	9.44	8.00	

Frazier, Herman (USA) (1954)

FINAL - 1980 USA Olympic Trials (Eugene, OR)

Track Newsletter (1980) - US olympic trials

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-80	time		11.5		22.7		34.7		46.2	46.16	/ 4							
reaction time		interval				11.20		12.00		11.46		# of strides	11.50	11.20	12.00	11.46	22.70	23.46	0.76
		velocity		8.70		8.93		8.33		8.73	8.67		8.70	8.93	8.33	8.73	8.81	8.53	

Brew, Derrick (USA) (1977)

FINAL - 2007 USATF National Championships (Indianapolis, IN)

Track Newsletter (2007) - USATF men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-07	time						32.8		46.2	46.16	/ 8							
reaction time		interval								13.4		# of strides				13.40			
		velocity						9.15		7.46	8.67					7.46			

Steffensen, John (AUS) (1982)

FINAL - 2007 IAAF World Athletic Final (Stuttgart, GER)

Graubner (2007) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Sep-07	time		11.23		21.62		39.71		46.16	46.16	8 / 5							
reaction time	0.151	interval				10.39		18.09		6.45		# of strides	11.23	10.39	18.09	6.45	21.62	24.54	2.92
		velocity		8.90		9.62		5.53		15.50	8.67		8.90	9.62	5.53	15.50	9.25	8.15	

Venel, Teddy (FRA) (1985)

Heat 6 - 2009 IAAF World Championships (Berlin, GER)

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-09	time		11.16		21.64		33.03		46.16	46.16	2 / 3							
reaction time	0.161	interval				10.48		11.39		13.13		# of strides	11.16	10.48	11.39	13.13	21.64	24.52	2.88
		velocity		8.96		9.54		8.78		7.62	8.67		8.96	9.54	8.78	7.62	9.24	8.16	

Kobayashi, Naoki (JPN) (1990)

Heat 3 - 2017 Japanese National Championships (Osaka, JPN)

(2017) - tfdata-store.com/2017/07/08/post-965/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-17	time		11.26		21.63		33.09		46.16	46.16	7 / 4							
reaction time	0.144	interval				10.37		11.46		13.07		# of strides	11.26	10.37	11.46	13.07	21.63	24.53	2.90
		velocity		8.88		9.64		8.73		7.65	8.67	179.0	8.88	9.64	8.73	7.65	9.25	8.15	

Petrucciani, Ricky (SUI) (2000)
FINAL - 2022 Golden Gala Pietro Mennea (Rome, ITA)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-22	time	6.18	11.24	16.49	21.95	27.54	33.33	39.49	46.16	46.16	1 / 9							
reaction time	0.150	interval		5.06	5.25	5.46	5.59	5.79	6.16	6.67		# of strides	11.24	10.71	11.38	12.83	21.95	24.21	2.26
		velocity	8.09	9.88	9.52	9.16	8.94	8.64	8.12	7.50	8.67		8.90	9.34	8.79	7.79	9.11	8.26	

Jedrusik, Tomasz (POL) (1969)
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)
Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Sep-88	time		11.18		21.71		33.09		46.17	46.17	1 / 8							
reaction time	0.280	interval				10.53		11.38		13.08		# of strides	11.18	10.53	11.38	13.08	21.71	24.46	2.75
		velocity		8.94		9.50		8.79		7.65	8.66		8.94	9.50	8.79	7.65	9.21	8.18	

Roun, Jindrich (TCH) (1965)
FINAL - 1991 European Cup (Frankfurt, GER)
Federle (2003) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jun-91	time		11.56		22.01		33.24		46.17	46.17	/ 6							
reaction time		interval				10.45		11.23		12.93		# of strides	11.56	10.45	11.23	12.93	22.01	24.16	2.15
		velocity		8.65		9.57		8.90		7.73	8.66		8.65	9.57	8.90	7.73	9.09	8.28	

Kato, Nobuya (JPN) (1995)
FINAL - 2014 IAAF World Junior Championships (Eugene, OR)
Maho (2014) - race analysis of men's 400m run in the 2014 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jul-14	time	6.45	11.85	17.25	22.71	28.48	34.22	40.01	46.17	46.17	3 / 2							
reaction time	0.178	interval		5.40	5.40	5.46	5.77	5.74	5.79	6.16		# of strides	11.85	10.86	11.51	11.95	22.71	23.46	0.75
		velocity	7.75	9.26	9.26	9.16	8.67	8.71	8.64	8.12	8.66		8.44	9.21	8.69	8.37	8.81	8.53	

Kitagawa, Takamasa (JPN) (1996)
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/01/post-786/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.52		22.41		33.81		46.17	46.17	5 / 1							
reaction time		interval				10.89		11.40		12.36		# of strides	11.52	10.89	11.40	12.36	22.41	23.76	1.35
		velocity		8.68		9.18		8.77		8.09	8.66	180.0	8.68	9.18	8.77	8.09	8.92	8.42	

Santos, Luguelin (DOM) (1993)
FINAL - 2018 Weltklasse (Zürich, SUI)
Omega Timing (2018) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Aug-18	time		11.7		22.2		33.6		46.17	46.17	8 / 6							
reaction time	0.221	interval				10.5		11.4		12.6		# of strides	11.70	10.50	11.40	12.57	22.20	23.97	1.77
		velocity		8.55		9.52		8.77		7.96	8.66		8.55	9.52	8.77	7.96	9.01	8.34	

Allen, Nathon (JAM) (1995)
FINAL - 2019 Memorial van Damme (Brussels, BEL)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Sep-19	time	6.4	11.3	16.4	21.6	27.3	33.3	39.6	46.17	46.17	1 / 8							
reaction time	0.168	interval		4.9	5.1	5.2	5.7	6.0	6.3	12.9		# of strides	11.30	10.30	11.70	12.87	21.60	24.57	2.97
		velocity	7.81	10.20	9.80	9.62	8.77	8.33	7.94	7.77	8.66		8.85	9.71	8.55	7.77	9.26	8.14	

Kawauchi, Mitsuki (JPN) (1997)
FINAL - 2021 All Japan Corporate Championships (Osaka, JPN)
@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Sep-21	time		11.39		22.26		33.62		46.05	46.17	8 / 2							
reaction time	0.193	interval				10.87		11.36		12.43		# of strides	11.39	10.87	11.36	12.43	22.26	23.79	1.53
		velocity		8.78		9.20		8.80		8.05	8.66		8.78	9.20	8.80	8.05	8.98	8.41	

Cox, Anthony (JAM) (2000)
FINAL - 2022 Commonwealth Games (Birmingham, GBR)
Longines Timing (2022) - commonwealth games race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-22	time	6.5	11.6	16.9	22.3	28.0	33.8	39.7	46.17	46.17	2 / 6							
reaction time	0.216	interval		5.10	5.30	5.40	5.70	5.80	5.90	6.47		# of strides	11.60	10.70	11.50	12.37	22.30	23.87	1.57
		velocity	7.69	9.80	9.43	9.26	8.77	8.62	8.47	7.73	8.66		8.62	9.35	8.70	8.08	8.97	8.38	

Meli, Riccardo (ITA) (2001)
Heat 2 - 2024 European Athletics Championships (Roma, ITA)
European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jun-24	time		11.44		22.00		33.52		46.17	46.17	7 / 4							
reaction time	0.189	interval				10.56		11.52		12.65		# of strides	11.44	10.56	11.52	12.65	22.00	24.17	2.17
		velocity		8.74		9.47		8.68		7.91	8.66		8.74	9.47	8.68	7.91	9.09	8.27	

Knibbs, Alex (GBR) (1999)
National FINAL - 2024 London Athletics Meet (London, GBR)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-24	time		11.32	16.57	21.98	27.74	33.69	39.76	46.17	46.17	1 / 8							
reaction time	0.149	interval			5.25	5.41	5.76	5.95	6.07	6.41	PB	# of strides	11.32	10.66	11.71	12.48	21.98	24.19	2.21
		velocity		8.83	9.52	9.24	8.68	8.40	8.24	7.80	8.66		8.83	9.38	8.54	8.01	9.10	8.27	

Owens-Delerme, Ayden (PUR) (2000)
Decathlon - Heat 3 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-24	time	6.31	11.34	16.51	21.83	27.51	33.59	39.74	46.17	46.17	8 / 1							
reaction time	0.261	interval		5.03	5.17	5.32	5.68	6.08	6.15	6.43		# of strides	11.34	10.49	11.76	12.58	21.83	24.34	2.51
		velocity	7.92	9.94	9.67	9.40	8.80	8.22	8.13	7.78	8.66	174.2	8.82	9.53	8.50	7.95	9.16	8.22	

Wieruszewski, Rafeł (POL) (1981)
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)
Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Sep-06	time	6.2	11.6	16.8	22.4	28.1	34.0	39.9	46.18	46.18	3 / 4							
reaction time		interval		5.40	5.20	5.60	5.70	5.90	5.90	6.28		# of strides	11.60	10.80	11.60	12.18	22.40	23.78	1.38
		velocity	8.06	9.26	9.62	8.93	8.77	8.47	8.47	7.96	8.66		8.62	9.26	8.62	8.21	8.93	8.41	

Kanemaru, Yuzo (JPN) (1987)
FINAL - 2012 Japanese National Championships (Osaka, JPN)
Maho (2013) - race analysis of the men's 400m run in competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-12	time	6.04	10.98	16.05	21.57	27.35	33.36	39.58	46.18	46.18	7 / 1							
reaction time		interval		4.94	5.07	5.52	5.78	6.01	6.22	6.60		# of strides	10.98	10.59	11.79	12.82	21.57	24.61	3.04
		velocity	8.28	10.12	9.86	9.06	8.65	8.32	8.04	7.58	8.66	180.5	9.11	9.44	8.48	7.80	9.27	8.13	

Wakabayashi, Kota (JPN) (1997)
B FINAL - 2018 Shizuoka International Meeting (Fukuroi, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	03-May-18	time	6.20	11.27	16.37	21.68	27.31	33.17	39.33	46.18	46.18	7 / 3						
reaction time	0.199	interval		5.07	5.10	5.31	5.63	5.86	6.16	6.85		# of strides	11.27	10.41	11.49	13.01	21.68	24.50	2.82
		velocity	8.06	9.86	9.80	9.42	8.88	8.53	8.12	7.30	8.66	175.0	8.87	9.61	8.70	7.69	9.23	8.16	

Obuchi, Mizuki (JPN) (1997) — **FINAL** - 2019 Japanese National Championships (Fukuoka, JPN) — *Yamanaka (2019) - research on athlete performance and technique- 2019 data book*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jun-19	time	6.22	11.32	16.60	22.11	27.85	33.74	39.75	46.18	46.18	6 / 2							
reaction time	0.169	interval		5.10	5.28	5.51	5.74	5.89	6.01	6.43		# of strides	11.32	10.79	11.63	12.44	22.11	24.07	1.96
		velocity	8.04	9.80	9.47	9.07	8.71	8.49	8.32	7.78	8.66	192.0	8.83	9.27	8.60	8.04	9.05	8.31	

Doom, Alexander (BEL) (1997) — **Heat 3** - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		11.52		22.15		33.66		46.18	46.18	8 / 3							
reaction time	0.153	interval				10.63		11.51		12.52		# of strides	11.52	10.63	11.51	12.52	22.15	24.03	1.88
		velocity		8.68		9.41		8.69		7.99	8.66	186.0	8.68	9.41	8.69	7.99	9.03	8.32	

Ingvalsen, Håvard Bentdal (NOR) (20(— **Heat 3** - 2022 European Athletics Championships (Munich, GER) — *European Athletics (2022) - european athletics championships race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-22	time		11.68		22.45		33.89		46.18	46.18	5 / 4							
reaction time	0.218	interval				10.77		11.44		12.29		# of strides	11.68	10.77	11.44	12.29	22.45	23.73	1.28
		velocity		8.56		9.29		8.74		8.14	8.66		8.56	9.29	8.74	8.14	8.91	8.43	

Guijarro, Manuel (ESP) (1998) — **Heat 4** - 2022 European Athletics Championships (Munich, GER) — *European Athletics (2022) - european athletics championships race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-22	time		11.17		21.41		32.81		46.18	46.18	5 / 6							
reaction time	0.248	interval				10.24		11.40		13.37		# of strides	11.17	10.24	11.40	13.37	21.41	24.77	3.36
		velocity		8.95		9.77		8.77		7.48	8.66		8.95	9.77	8.77	7.48	9.34	8.07	

Sacoor, Jonathan (BEL) (1999) — **B Race** - 2023 Memorial van Damme (Brussels, BEL) — *Omega Timing (2023) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-23	time	6.25	11.23	16.42	21.75	27.23	33.03	39.28	46.18	46.18	2 / 8							
reaction time	0.141	interval		4.98	5.19	5.33	5.48	5.80	6.25	6.90		# of strides	11.23	10.52	11.28	13.15	21.75	24.43	2.68
		velocity	8.00	10.04	9.63	9.38	9.12	8.62	8.00	7.25	8.66		8.90	9.51	8.87	7.60	9.20	8.19	

Koch, Marc (GER) (1994) — **Heat 2** - 2024 European Athletics Championships (Roma, ITA) — *European Athletics (2024) - 2024 european athletics championships - results book*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jun-24	time		11.72		22.40		33.82		46.18	46.18	9 / 5							
reaction time	0.205	interval				10.68		11.42		12.36		# of strides	11.72	10.68	11.42	12.36	22.40	23.78	1.38
		velocity		8.53		9.36		8.76		8.09	8.66		8.53	9.36	8.76	8.09	8.93	8.41	

Swillims, Bastian (GER) (1982) — **Semi-Final 2** - 2002 European Championships (Munich, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-02	time		11.57		22.24		33.54		46.19	46.19	/ 6							
reaction time	0.191	interval				10.67		11.30		12.65	PB	# of strides	11.57	10.67	11.30	12.65	22.24	23.95	1.71
		velocity		8.64		9.37		8.85		7.91	8.66		8.64	9.37	8.85	7.91	8.99	8.35	

Obuchi, Mizuki (JPN) (1997) — **Division 1 FINAL** - 2017 Kanto Collegiate Championships (Yokohama, JPN) — *(2017) - tfdata-store.com/2017/06/01/post-786/*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.48		22.38		33.99		46.19	46.19	7 / 2							
reaction time		interval				10.90		11.61		12.20	PB	# of strides	11.48	10.90	11.61	12.20	22.38	23.81	1.43
		velocity		8.71		9.17		8.61		8.20	8.66	189.0	8.71	9.17	8.61	8.20	8.94	8.40	

Sato, Kentaro (JPN) (1994) — **FINAL** - 2019 Japanese National Championships (Fukuoka, JPN) — *Yamanaka (2019) - research on athlete performance and technique- 2019 data book*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jun-19	time	6.18	11.14	16.23	21.55	27.17	33.15	39.41	46.19	46.19	7 / 3							
reaction time	0.165	interval		4.96	5.09	5.32	5.62	5.98	6.26	6.78		# of strides	11.14	10.41	11.60	13.04	21.55	24.64	3.09
		velocity	8.09	10.08	9.82	9.40	8.90	8.36	7.99	7.37	8.66	181.0	8.98	9.61	8.62	7.67	9.28	8.12	

Feliz, Lidio Andres (DOM) (1997) — **Semi-Final 1** - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-22	time		11.04		21.38		32.96		46.19	46.19	8 / 7							
reaction time	0.192	interval				10.34		11.58		13.23		# of strides	11.04	10.34	11.58	13.23	21.38	24.81	3.43
		velocity		9.06		9.67		8.64		7.56	8.66		9.06	9.67	8.64	7.56	9.35	8.06	

Schlegel, Marvin (GER) (1998) — **Heat 2** - 2022 European Athletics Championships (Munich, GER) — *European Athletics (2022) - european athletics championships race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-22	time		11.32		21.67		33.08		46.19	46.19	6 / 6							
reaction time	0.257	interval				10.35		11.41		13.11		# of strides	11.32	10.35	11.41	13.11	21.67	24.52	2.85
		velocity		8.83		9.66		8.76		7.63	8.66		8.83	9.66	8.76	7.63	9.23	8.16	

Jones, William (USA) (2003) — **Semi-Final 3** - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-24	time		11.16		21.84		33.37		46.19	46.19	3 / 4							
reaction time		interval				10.68		11.53		12.82		# of strides	11.16	10.68	11.53	12.82	21.84	24.35	2.51
		velocity		8.96		9.36		8.67		7.80	8.66		8.96	9.36	8.67	7.80	9.16	8.21	

Biron, Gilles (FRA) (1995) — **Heat 6** - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-24	time	6.31	11.35	16.43	21.67	27.22	33.12	39.40	46.19	46.19	4 / 7							
reaction time	0.194	interval		5.04	5.08	5.24	5.55	5.90	6.28	6.79		# of strides	11.35	10.32	11.45	13.07	21.67	24.52	2.85
		velocity	7.92	9.92	9.84	9.54	9.01	8.47	7.96	7.36	8.66	180.0	8.81	9.69	8.73	7.65	9.23	8.16	

Okoro, Efekemo (GBR) (1992) — **Invitational** - 2024 Memorial van damme (Brussels, BEL) — *Omega Timing (2024) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Sep-24	time	6.28	11.34	16.49	21.84	27.40	33.24	39.41	46.19	46.19	5 / 4							
reaction time	0.164	interval		5.06	5.15	5.35	5.56	5.84	6.17	6.78		# of strides	11.34	10.50	11.40	12.95	21.84	24.35	2.51
		velocity	7.96	9.88	9.71	9.35	8.99	8.56	8.10	7.37	8.66		8.82	9.52	8.77	7.72	9.16	8.21	

Swillims, Bastian (GER) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2002 European Championships (Munich, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 06-Aug-02 time		11.56		22.27		33.84		46.20	46.20	/ 3							
reaction time 0.158 interval				10.71		11.57		12.36	PB	# of strides	11.56	10.71	11.57	12.36	22.27	23.93	1.66
velocity		8.65		9.34		8.64		8.09	8.66		8.65	9.34	8.64	8.09	8.98	8.36	

Ishitsuka, Yusuke (JPN) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 Japanese National Championships (Kumagaya, JPN)																	*Maho (2013) - race analysis of the men's 400m run in competition*
date 12-Jun-11 time	6.10	11.06	16.28	21.75	27.46	33.29	39.46	46.20	46.20	/ 3							
reaction time interval		4.96	5.22	5.47	5.71	5.83	6.17	6.74	PB	# of strides	11.06	10.69	11.54	12.91	21.75	24.45	2.70
velocity	8.20	10.08	9.58	9.14	8.76	8.58	8.10	7.42	8.66		9.04	9.35	8.67	7.75	9.20	8.18	

Kobayashi, Naoki (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 Shizuoka International Athletics Meeting (Fukuori, JPN)																	*Maho (2014) - race analysis of men's 400m run in the 2014 season*
date 03-May-14 time	6.32	11.44	16.67	21.98	27.61	33.52	39.64	46.20	46.20	/ 3							
reaction time interval		5.12	5.23	5.31	5.63	5.91	6.12	6.56	PB	# of strides	11.44	10.54	11.54	12.68	21.98	24.22	2.24
velocity	7.91	9.77	9.56	9.42	8.88	8.46	8.17	7.62	8.66		8.74	9.49	8.67	7.89	9.10	8.26	

Kimura, Atsushi (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN)																	*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*
date 20-May-18 time	6.17	11.16	16.27	21.66	27.34	33.30	39.53	46.20	46.20	8 / 2							
reaction time 0.141 interval		4.99	5.11	5.39	5.68	5.96	6.23	6.67		# of strides	11.16	10.50	11.64	12.90	21.66	24.54	2.88
velocity	8.10	10.02	9.78	9.28	8.80	8.39	8.03	7.50	8.66	179.7	8.96	9.52	8.59	7.75	9.23	8.15	

London, Wil (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 NCAA Championships (Eugene, OR)																	*Track Newsletter (2018) - NCAA men's championships*
date 08-Jun-18 time				22.1		33.3		46.2	46.20	/ 8							
reaction time interval						11.20		12.90		# of strides			11.20	12.90	22.10	24.10	2.00
velocity				9.05		8.93		7.75	8.66				8.93	7.75	9.05	8.30	

Scotti, Edoardo (ITA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)																	*Koyama (2018) - research on athlete performance and technique- 2018 data book*
date 13-Jul-18 time	6.34	11.51	16.80	22.30	27.95	33.66	39.63	46.20	46.20	3 / 4							
reaction time 0.180 interval		5.17	5.29	5.50	5.65	5.71	5.97	6.57		# of strides	11.51	10.79	11.36	12.54	22.30	23.90	1.60
velocity	7.89	9.67	9.45	9.09	8.85	8.76	8.38	7.61	8.66		8.69	9.27	8.80	7.97	8.97	8.37	

Walsh, Julian Jrummi (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2018 Asian Games (Jakarta, INA)																	*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*
date 25-Aug-18 time	6.05	11.11	16.31	21.75	27.44	33.37	39.53	46.20	46.20	5 / 2							
reaction time 0.128 interval		5.06	5.20	5.44	5.69	5.93	6.16	6.67		# of strides	11.11	10.64	11.62	12.83	21.75	24.45	2.70
velocity	8.26	9.88	9.62	9.19	8.79	8.43	8.12	7.50	8.66		9.00	9.40	8.61	7.79	9.20	8.18	

Ito, Rikiya (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2020 Japanese National Championships (Niigata, JPN)																	*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*
date 01-Oct-20 time	6.21	11.22	16.30	21.72	27.47	33.52	39.66	46.20	46.20	6 / 1							
reaction time 0.142 interval		5.01	5.08	5.42	5.75	6.05	6.14	6.54		# of strides	11.22	10.50	11.80	12.68	21.72	24.48	2.76
velocity	8.05	9.98	9.84	9.23	8.70	8.26	8.14	7.65	8.66		8.91	9.52	8.47	7.89	9.21	8.17	

Ikeda, Kohsuke (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 All Japan Corporate Championships (Osaka, JPN)																	*@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633*
date 25-Sep-21 time		11.44		22.16		33.58		46.08	46.20	6 / 3							
reaction time 0.223 interval				10.72		11.42		12.50		# of strides	11.44	10.72	11.42	12.50	22.16	23.92	1.76
velocity		8.74		9.33		8.76		8.00	8.66		8.74	9.33	8.76	8.00	9.03	8.36	

Deadmon, Bryce (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23 time		11.30		21.81		33.48		46.20	46.20	4 / 7							
reaction time 0.170 interval				10.51		11.67		12.72		# of strides	11.30	10.51	11.67	12.72	21.81	24.39	2.58
velocity		8.85		9.51		8.57		7.86	8.66		8.85	9.51	8.57	7.86	9.17	8.20	

Bláha, Karel (CZE) (1975)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 European Championships (Munich, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 08-Aug-02 time		11.72		22.35		33.73		46.21	46.21	/ 7							
reaction time 0.152 interval				10.63		11.38		12.48		# of strides	11.72	10.63	11.38	12.48	22.35	23.86	1.51
velocity		8.53		9.41		8.79		8.01	8.66		8.53	9.41	8.79	8.01	8.95	8.38	

Suguimati, Mahau (JPN) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Kokutai National Sport Festival (Gifu, JPN)																	*Maho (2013) - race analysis of the men's 400m run in competition*
date 08-Oct-12 time	6.15	11.25	16.55	21.99	27.68	33.60	39.70	46.21	46.21	/ 2							
reaction time interval		5.10	5.30	5.44	5.69	5.92	6.10	6.51	PB	# of strides	11.25	10.74	11.61	12.61	21.99	24.22	2.23
velocity	8.13	9.80	9.43	9.19	8.79	8.45	8.20	7.68	8.66		8.89	9.31	8.61	7.93	9.10	8.26	

Kato, Nobuya (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 Shizuoka International Athletics Meeting (Fukuori, JPN)																	*Maho (2014) - race analysis of men's 400m run in the 2014 season*
date 03-May-14 time	6.58	11.96	17.28	22.57	28.13	33.88	39.86	46.21	46.21	/ 4							
reaction time interval		5.38	5.32	5.29	5.56	5.75	5.98	6.35		# of strides	11.96	10.61	11.31	12.33	22.57	23.64	1.07
velocity	7.60	9.29	9.40	9.45	8.99	8.70	8.36	7.87	8.66		8.36	9.43	8.84	8.11	8.86	8.46	

Re, Davide (ITA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Herculis Meeting International d'Athlétisme (Monaco, MON)																	*Omega Timing (2019) - diamond league race analysis*
date 12-Jul-19 time		11.3		21.9		33.3		46.21	46.21	6 / ~~6~~ 5							
reaction time 0.137 interval				10.6		11.4		12.9		# of strides	11.30	10.60	11.40	12.91	21.90	24.31	2.41
velocity		8.85		9.43		8.77		7.75	8.66		8.85	9.43	8.77	7.75	9.13	8.23	

Brier, Joseph (GBR) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)																	*Omega Timing (2022) - diamond league race analysis*

date	21-May-22	time	6.2	11.2	16.4	21.7	27.4	33.5	39.6	46.21	46.21	5 / 1						
reaction time	0.164	interval		5.00	5.20	5.30	5.70	6.10	6.10	6.61		# of strides	11.20	10.50	11.80	12.71	21.70	24.51	2.81
		velocity	8.06	10.00	9.62	9.43	8.77	8.20	8.20	7.56	8.66	181.0	8.93	9.52	8.47	7.87	9.22	8.16	

Beck, Alex (AUS) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)																	
date 20-Jul-22 time		11.26		22.06		33.43		46.21	46.21	2 / 8							
reaction time 0.140 interval				10.80		11.37		12.78		# of strides	11.26	10.80	11.37	12.78	22.06	24.15	2.09
velocity		8.88		9.26		8.80		7.82	8.66	172.0	8.88	9.26	8.80	7.82	9.07	8.28	

Timing by Seiko (2022) - world athletics championships race analysis

Sanders, Manuel (GER) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2022 World Athletics Championships (Eugene, OR)																	
date 17-Jul-22 time		11.54		22.11		33.60		46.21	46.21	4 / 4							
reaction time 0.185 interval				10.57		11.49		12.61		# of strides	11.54	10.57	11.49	12.61	22.11	24.10	1.99
velocity		8.67		9.46		8.70		7.93	8.66		8.67	9.46	8.70	7.93	9.05	8.30	

Timing by Seiko (2022) - world athletics championships race analysis

Nakajima, Yuki Joseph (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Bauhaus Galan (Stockholm, SWE)																	
date 02-Jul-23 time	6.37	11.49	16.81	22.32	27.98	33.79	39.79	46.21	46.21	8 / 8							
reaction time 0.207 interval		5.12	5.32	5.51	5.66	5.81	6.00	6.42		# of strides	11.49	10.83	11.47	12.42	22.32	23.89	1.57
velocity	7.85	9.77	9.40	9.07	8.83	8.61	8.33	7.79	8.66		8.70	9.23	8.72	8.05	8.96	8.37	

Omega Timing (2023) - diamond league race analysis

Gaba, Kamghe (GER) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 IAAF World Athletic Final (Stuttgart, GER)																	
date 13-Sep-08 time		11.10		21.49		32.86		46.22	46.22	1 / 7							
reaction time 0.209 interval				10.39		11.37		13.36		# of strides	11.10	10.39	11.37	13.36	21.49	24.73	3.24
velocity		9.01		9.62		8.80		7.49	8.65		9.01	9.62	8.80	7.49	9.31	8.09	

Graubner (2009) - http://www.fgs.uni-halle.de

Solomon, Steven (AUS) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Commonwealth Games (Birmingham, GBR)																	
date 07-Aug-22 time	6.4	11.5	16.8	22.3	28.0	33.8	39.7	46.22	46.22	3 / 7							
reaction time 0.173 interval		5.10	5.30	5.50	5.70	5.80	5.90	6.52		# of strides	11.50	10.80	11.50	12.42	22.30	23.92	1.62
velocity	7.81	9.80	9.43	9.09	8.77	8.62	8.47	7.67	8.65		8.70	9.26	8.70	8.05	8.97	8.36	

Longines Timing (2022) - commonwealth games race analysis

Ju Tianqi (CHN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 Chinese National Championships (Quzhou, CHN)																	
date 21-Jul-23 time		11.58		22.27		33.90	39.91	46.22	46.22	4 / 1							
reaction time 0.209 interval				10.69		11.63	6.01	6.31	**PB**	# of strides	11.58	10.69	11.63	12.32	22.27	23.95	1.68
velocity		8.64		9.35		8.60	8.32	7.92	8.65	175.7	8.64	9.35	8.60	8.12	8.98	8.35	

Shandong Athletics Sport Science (2023)

van Branteghem, Cédric (BEL) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2002 European Championships (Munich, GER)																	
date 06-Aug-02 time		11.44		22.14		33.64		46.23	46.23	/ 2							
reaction time 0.180 interval				10.70		11.50		12.59		# of strides	11.44	10.70	11.50	12.59	22.14	24.09	1.95
velocity		8.74		9.35		8.70		7.94	8.65		8.74	9.35	8.70	7.94	9.03	8.30	

Graubner (2009) - http://www.fgs.uni-halle.de

Szeglet, Zsolt (HUN) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2002 European Championships (Munich, GER)																	
date 06-Aug-02 time		11.61		22.29		33.50		46.23	46.23	/ 3							
reaction time 0.205 interval				10.68		11.21		12.73		# of strides	11.61	10.68	11.21	12.73	22.29	23.94	1.65
velocity		8.61		9.36		8.92		7.86	8.65		8.61	9.36	8.92	7.86	8.97	8.35	

Graubner (2009) - http://www.fgs.uni-halle.de

Régas, Dimítrios (GRE) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 European Championships (Göteborg, SWE)																	
date 09-Aug-06 time				22.6		33.2		46.23	46.23	/ 8							
reaction time						10.60		13.03		# of strides			10.60	13.03	22.60	23.63	1.03
velocity				8.85		18.87		7.67	8.65				9.43	7.67	8.85	8.46	

Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles

Nakano, Hiroyuki (JPN) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Japanese National Championships (Osaka, JPN)																	
date 09-Jun-12 time	6.37	11.66	17.12	22.76	28.40	34.06	39.93	46.23	46.23	4 / 2							
reaction time		5.29	5.46	5.64	5.64	5.66	5.87	6.30		# of strides	11.66	11.10	11.30	12.17	22.76	23.47	0.71
velocity	7.85	9.45	9.16	8.87	8.87	8.83	8.52	7.94	8.65	182.7	8.58	9.01	8.85	8.22	8.79	8.52	

Maho (2013) - race analysis of the men's 400m run in competition

Dobber, Jochem (NED) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Bauhaus Galan (Stockholm, SWE)																	
date 23-Aug-20 time	6.3	11.2	16.5	21.9	27.6	33.5	39.7	46.23	46.23	2 / 3							
reaction time 0.190 interval		4.90	5.30	5.40	5.70	5.90	6.20	6.53		# of strides	11.20	10.70	11.60	12.73	21.90	24.33	2.43
velocity	7.94	10.20	9.43	9.26	8.77	8.47	8.06	7.66	8.65		8.93	9.35	8.62	7.86	9.13	8.22	

Omega Timing (2020) - diamond league race analysis

Nene, Zakhiti (RSA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Golden Gala Pietro Mennea (Florence, ITA)																	
date 10-Jun-21 time	6.3	11.3	16.5	21.9	27.5	33.3	39.4	46.23	46.23	8 / 4							
reaction time 0.142 interval		5.00	5.20	5.40	5.60	5.80	6.10	6.83		# of strides	11.30	10.60	11.40	12.93	21.90	24.33	2.43
velocity	7.94	10.00	9.62	9.26	8.93	8.62	8.20	7.32	8.65	179.0	8.85	9.43	8.77	7.73	9.13	8.22	

Omega Timing (2021) - diamond league race analysis

Eastman, Benjamin (USA) (1911)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1932 Los Angeles AC vs Stanford University (Stanford, CA) (yards)																	
date 26-Mar-32 time				21.2				46.1	46.1	/ 1							
reaction time								24.9	**WR** yards	# of strides					21.20	24.90	3.70
velocity				9.43				8.03	8.68	*(46.4/440y)*					9.43	8.03	

Hymans (2015) - progression of IAAF world records - 2015 edition

Klemmer, Grover (USA) (1921)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1941 Pacific Coast Championships (Champaign, IL)																	
date 31-May-41 time				22.6				46.1	46.1	/ 1							
reaction time								23.5	**=WR** yards	# of strides					22.60	23.50	0.90
velocity				8.85				8.51	8.68	*(46.4/440y)*					8.85	8.51	

Hymans (2015) - progression of IAAF world records - 2015 edition

Williams, Archie (USA) (1915)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 1936 NCAA Championships (Chicago, IL)																	*Quercetani (2005) - a world history of the one-lap race: 1850-2004*
date 19-Jun-36 time				21.6				46.1	46.1	/ 1							
reaction time		interval						24.5		# of strides					21.60	24.50	2.90
		velocity		9.26				8.16	8.68						9.26	8.16	

Zachoval, Radek (CZE) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2002 European Championships (Munich, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 07-Aug-02 time		11.52		22.13		33.55		46.24	46.24	/ 8							
reaction time 0.161	interval			10.61		11.42		12.69	PB	# of strides	11.52	10.61	11.42	12.69	22.13	24.11	1.98
	velocity	8.68		9.43		8.76		7.88	8.65		8.68	9.43	8.76	7.88	9.04	8.30	

Itahana, Kohei (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese Corporate Championships (Osaka, JPN)																	*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*
date 23-Sep-18 time	6.38	11.76	17.20	22.79	28.42	34.07	39.94	46.24	46.24	5 / 1							
reaction time 0.181	interval	5.38	5.44	5.59	5.63	5.65	5.87	6.30	PB	# of strides	11.76	11.03	11.28	12.17	22.79	23.45	0.66
	velocity	7.84	9.29	9.19	8.94	8.88	8.85	8.52	7.94	8.65	8.50	9.07	8.87	8.22	8.78	8.53	

Petrucciani, Ricky (SUI) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Golden Gala Pietro Mennea (Florence, ITA)																	*Omega Timing (2021) - diamond league race analysis*
date 10-Jun-21 time	6.3	11.4	16.8	22.2	27.8	33.6	39.7	46.24	46.24	1 / 5							
reaction time 0.169	interval	5.10	5.40	5.40	5.60	5.80	6.10	6.54		# of strides	11.40	10.80	11.40	12.64	22.20	24.04	1.84
	velocity	7.94	9.80	9.26	9.26	8.93	8.62	8.20	7.65	8.65	8.77	9.26	8.77	7.91	9.01	8.32	

Baker, Nicklas (GBR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)																	*Omega Timing (2021) - diamond league race analysis*
date 13-Jul-21 time	6.2	11.3	16.4	21.8	27.5	33.5	39.6	46.24	46.24	4 / 1							
reaction time 0.144	interval	5.10	5.10	5.40	5.70	6.00	6.10	6.64		# of strides	11.30	10.50	11.70	12.74	21.80	24.44	2.64
	velocity	8.06	9.80	9.80	9.26	8.77	8.33	8.20	7.53	8.65	8.85	9.52	8.55	7.85	9.17	8.18	

Zachoval, Radek (CZE) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2002 European Championships (Munich, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 06-Aug-02 time		11.84		22.54		33.81		46.25	46.25	/ 4							
reaction time 0.170	interval			10.70		11.27		12.44	PB	# of strides	11.84	10.70	11.27	12.44	22.54	23.71	1.17
	velocity	8.45		9.35		8.87		8.04	8.65		8.45	9.35	8.87	8.04	8.87	8.44	

Ammons, Andre (USA) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2003 USATF National Championships (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 20-Jun-03 time				21.71		33.62	39.66	46.25	46.25	2 / 7							
reaction time		interval				11.91	6.04	6.59		# of strides			11.91	12.63	21.71	24.54	2.83
		velocity		9.21		8.40	8.28	7.59	8.65				8.40	7.92	9.21	8.15	

Dabrowski, Daniel (POL) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 European Cup (Munich, GER)																	*Graubner (2007) - http://www.fgs.uni-halle.de*
date 23-Jun-07 time		11.64		22.41		33.90		46.25	46.25	/ 5							
reaction time 0.193	interval			10.77		11.49		12.35		# of strides	11.64	10.77	11.49	12.35	22.41	23.84	1.43
	velocity	8.59		9.29		8.70		8.10	8.65		8.59	9.29	8.70	8.10	8.92	8.39	

Rooney, Martyn (GBR) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Athletic Final (Stuttgart, GER)																	*Graubner (2007) - http://www.fgs.uni-halle.de*
date 22-Sep-07 time		11.42		22.18		39.92		46.25	46.25	1 / 6							
reaction time 0.155	interval			10.76		17.74		6.33		# of strides	11.42	10.76	17.74	6.33	22.18	24.07	1.89
	velocity	8.76		9.29		5.64		15.80	8.65		8.76	9.29	5.64	15.80	9.02	8.31	

Sato, Kentaro (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2019 Japanese National Championships (Fukuoka, JPN)																	*Yamanaka (2019) - race analysis of men and women 400m competition*
date 27-Jun-19 time	6.13	11.11	16.27	21.76	27.47	33.50	39.74	46.25	46.25	7 / 1							
reaction time 0.166	interval	4.98	5.16	5.49	5.71	6.03	6.24	6.51		# of strides	11.11	10.65	11.74	12.75	21.76	24.49	2.73
	velocity	8.16	10.04	9.69	9.11	8.76	8.29	8.01	7.68	8.65	9.00	9.39	8.52	7.84	9.19	8.17	

Obuchi, Mizuki (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN)																	*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*
date 23-Aug-20 time	6.17	11.22	16.37	21.70	27.37	33.24	39.44	46.25	46.25	2 / 2							
reaction time 0.168	interval	5.05	5.15	5.33	5.67	5.87	6.20	6.81		# of strides	11.22	10.48	11.54	13.01	21.70	24.55	2.85
	velocity	8.10	9.90	9.71	9.38	8.82	8.52	8.06	7.34	8.65	8.91	9.54	8.67	7.69	9.22	8.15	

Kawabata, Kaito (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)																	*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 09-May-21 time	6.17	11.19	16.35	21.68	27.14	32.97	39.25	46.25	46.25	5 / 3							
reaction time 0.173	interval	5.02	5.16	5.33	5.46	5.83	6.28	7.00		# of strides	11.19	10.49	11.29	13.28	21.68	24.57	2.89
	velocity	8.10	9.96	9.69	9.38	9.16	8.58	7.96	7.14	8.65	193.2	8.94	9.53	8.86	7.53	9.23	8.14

Bonevacia, Liemarvin (NED) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Weltklasse (Zürich, SUI)																	*Omega Timing (2023) - diamond league race analysis*
date 31-Aug-23 time	6.36	11.45	16.64	22.03	27.59	33.35	39.43	46.25	46.25	5 / 5							
reaction time 0.172	interval	5.09	5.19	5.39	5.56	5.76	6.08	6.82		# of strides	11.45	10.58	11.32	12.90	22.03	24.22	2.19
	velocity	7.86	9.82	9.63	9.28	8.99	8.68	8.22	7.33	8.65	8.73	9.45	8.83	7.75	9.08	8.26	

Grimerud, Andreas (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 09-Jun-24 time		11.45		21.98		33.53		46.25	46.25	3 / 9							
reaction time 0.151	interval			10.53		11.55		12.72		# of strides	11.45	10.53	11.55	12.72	21.98	24.27	2.29
	velocity	8.73		9.50		8.66		7.86	8.65	173.0	8.73	9.50	8.66	7.86	9.10	8.24	

Carvalho, Lucas (BRA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 1 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*

date	05-Aug-24	time	6.30	11.36	16.47	21.84	27.49	33.36	39.53	46.25	46.25	3 / 3						
reaction time	0.151	interval		5.06	5.11	5.37	5.65	5.87	6.17	6.72		# of strides	11.36	10.48	11.52	12.89	21.84	24.41	2.57
		velocity	7.94	9.88	9.78	9.31	8.85	8.52	8.10	7.44	8.65	181.0	8.80	9.54	8.68	7.76	9.16	8.19	

Merzah, Noureddine Adel (IRQ) (2003 | **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

West Asian GP - 2025 Jetour Doha Meeting (Doha, QAT) — *Omega Timing (2025) - diamond league race analysis*

date	16-May-25	time	6.34	11.61	16.98	22.50	28.12	33.91	39.83	46.25	46.25	4 / 1						
reaction time	0.176	interval		5.27	5.37	5.52	5.62	5.79	5.92	6.42	PB	# of strides	11.61	10.89	11.41	12.34	22.50	23.75	1.25
		velocity	7.89	9.49	9.31	9.06	8.90	8.64	8.45	7.79	8.65		8.61	9.18	8.76	8.10	8.89	8.42	

Demarthon, Francois (FRA) (1950) | **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Semi-Final 2 - 1978 European Championships (Prague, TCH) — *Lamare (1978) - championnats d'Europa 1978*

date	31-Aug-78	time		11.90		23.02		34.04		46.26	46.26	/ 3						
reaction time		interval				11.12		11.02		12.22		# of strides	11.90	11.12	11.02	12.22	23.02	23.24	0.22
		velocity		8.40		8.99		9.07		8.18	8.65		8.40	8.99	9.07	8.18	8.69	8.61	

Oliver, Justin (USA) (1987) | **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

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

date	25-Jun-05	time			17.05	22.77	28.33	33.87	39.88	46.26	46.26	7 / 1						
reaction time		interval				5.72	5.56	5.54	6.01	6.38		# of strides			11.10	12.39	22.77	23.49	0.72
		velocity			8.80	8.74	8.99	9.03	8.32	7.84	8.65				9.01	8.07	8.78	8.51	

Azuma, Yoshihiro (JPN) (1991) | **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 2012 Japanese National Championships (Osaka, JPN) — *Maho (2013) - race analysis of the men's 400m run in competition*

date	09-Jun-12	time	6.29	11.45	16.68	22.19	27.86	33.66	39.73	46.26	46.26	5 / 3						
reaction time		interval		5.16	5.23	5.51	5.67	5.80	6.07	6.53	PB	# of strides	11.45	10.74	11.47	12.60	22.19	24.07	1.88
		velocity	7.95	9.69	9.56	9.07	8.82	8.62	8.24	7.66	8.65	184.0	8.73	9.31	8.72	7.94	9.01	8.31	

Kato, Nobuya (JPN) (1995) | **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Semi-Final 2 - 2014 IAAF World Junior Championships (Eugene, OR) — *Maho (2014) - race analysis of men's 400m run in the 2014 season*

date	23-Jul-14	time	6.41	11.82	17.25	22.71	28.36	34.10	39.97	46.26	46.26	3 / 1						
reaction time	0.172	interval		5.41	5.43	5.46	5.65	5.74	5.87	6.29		# of strides	11.82	10.89	11.39	12.16	22.71	23.55	0.84
		velocity	7.80	9.24	9.21	9.16	8.85	8.71	8.52	7.95	8.65		8.46	9.18	8.78	8.22	8.81	8.49	

Kimura, Kazushi (JPN) (1993) | **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

date	20-May-18	time	6.24	11.30	16.48	21.86	27.37	33.23	39.50	46.26	46.26	5 / 3						
reaction time	0.174	interval		5.06	5.18	5.38	5.51	5.86	6.27	6.76		# of strides	11.30	10.56	11.37	13.03	21.86	24.40	2.54
		velocity	8.01	9.88	9.65	9.29	9.07	8.53	7.97	7.40	8.65	188.0	8.85	9.47	8.80	7.67	9.15	8.20	

Kawauchi, Mitsuki (JPN) (1997) | **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 2019 Japanese National Championships (Fukuoka, JPN) — *Yamanaka (2019) - research on athlete performance and technique- 2019 data book*

date	28-Jun-19	time	6.37	11.51	16.80	22.26	27.92	33.77	39.84	46.26	46.26	9 / 4						
reaction time	0.187	interval		5.14	5.29	5.46	5.66	5.85	6.07	6.42		# of strides	11.51	10.75	11.51	12.49	22.26	24.00	1.74
		velocity	7.85	9.73	9.45	9.16	8.83	8.55	8.24	7.79	8.65	183.2	8.69	9.30	8.69	8.01	8.98	8.33	

Chambers, Marcus (USA) (1994) | **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 2019 Müller Anniversary Games (London, GBR) — *Omega Timing (2019) - diamond league race analysis*

date	21-Jul-19	time		11.2		21.8		33.4		46.26	46.26	2 / 9						
reaction time	0.165	interval				10.6		11.6		12.9		# of strides	11.20	10.60	11.60	12.86	21.80	24.46	2.66
		velocity		8.93		9.43		8.62		7.78	8.65		8.93	9.43	8.62	7.78	9.17	8.18	

Benati, Lorenzo (ITA) (2002) | **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Heat 1 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

date	17-Jul-22	time		11.64		22.18		33.58		46.26	46.26	5 / 5						
reaction time	0.229	interval				10.54		11.40		12.68		# of strides	11.64	10.54	11.40	12.68	22.18	24.08	1.90
		velocity		8.59		9.49		8.77		7.89	8.65		8.59	9.49	8.77	7.89	9.02	8.31	

Liang Baotang (CHN) (2003) | **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 2023 Chinese National Championships (Quzhou, CHN) — *Shandong Athletics Sport Science (2023)*

date	22-Jul-23	time		11.78		22.52		34.03	39.93	46.26	46.26	4 / 1						
reaction time	0.146	interval				10.74		11.51	5.90	6.33	PB	# of strides	11.78	10.74	11.51	12.23	22.52	23.74	1.22
		velocity		8.49		9.31		8.69	8.47	7.90	8.65	196.0	8.49	9.31	8.69	8.18	8.88	8.42	

Tiacoh, Gabriel (CIV) (1963) | **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 1987 IAAF World Championship (Rome, ITA) — *Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*

date	03-Sep-87	time		11.56		22.17		33.56		46.27	46.27	9 / 7						
reaction time		interval				10.61		11.39		12.71		# of strides	11.56	10.61	11.39	12.71	22.17	24.10	1.93
		velocity		8.65		9.43		8.78		7.87	8.64		8.65	9.43	8.78	7.87	9.02	8.30	

Francique, Alleyne (GRN) (1976) | **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 2007 IAAF World Athletic Final (Stuttgart, GER) — *Graubner (2007) - http://www.fgs.uni-halle.de*

date	22-Sep-07	time		11.38		21.92		39.62		46.27	46.27	7 / 7						
reaction time	0.156	interval				10.54		17.70		6.65		# of strides	11.38	10.54	17.70	6.65	21.92	24.35	2.43
		velocity		8.79		9.49		5.65		15.04	8.64		8.79	9.49	5.65	15.04	9.12	8.21	

Borlée, Jonathan (BEL) (1988) | **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 2018 Müller Grand Prix (Birmingham, GBR) — *Omega Timing (2018) - diamond league race analysis*

date	18-Aug-18	time		11.4		22.3		33.9		46.27	46.27	1 / 6						
reaction time	0.149	interval				10.9		11.6		12.4		# of strides	11.40	10.90	11.60	12.37	22.30	23.97	1.67
		velocity		8.77		9.17		8.62		8.08	8.64	179.2	8.77	9.17	8.62	8.08	8.97	8.34	

Wakabayashi, Kota (JPN) (1997) | **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Heat 2 - 2019 Japanese National Championships (Fukuoka, JPN) — *Yamanaka (2019) - race analysis of men and women 400m competition*

date	27-Jun-19	time	6.24	11.25	16.40	21.86	27.57	33.53	39.67	46.27	46.27	6 / 1						
reaction time	0.177	interval		5.01	5.15	5.46	5.71	5.96	6.14	6.60		# of strides	11.25	10.61	11.67	12.74	21.86	24.41	2.55
		velocity	8.01	9.98	9.71	9.16	8.76	8.39	8.14	7.58	8.64		8.89	9.43	8.57	7.85	9.15	8.19	

Benati, Lorenzo (ITA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 European Athletics U20 Championships (Tallin, EST)											*European Athletics (2021) - european athletics U20 championships results book*						
date 16-Jul-21	time	11.61		22.14		33.43		46.27	46.27	4 / 2							
reaction time 0.247	interval			10.53		11.29		12.84	PB	# of strides	11.61	10.53	11.29	12.84	22.14	24.13	1.99
	velocity	8.61		9.50		8.86		7.79	8.64		8.61	9.50	8.86	7.79	9.03	8.29	

Vedel, Benjamin Lobo (DEN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 World Athletics Championships (Eugene, OR)											*Timing by Seiko (2022) - world athletics championships race analysis*						
date 17-Jul-22	time	11.33		22.08		33.55		46.27	46.27	5 / 5							
reaction time 0.134	interval			10.75		11.47		12.72		# of strides	11.33	10.75	11.47	12.72	22.08	24.19	2.11
	velocity	8.83		9.30		8.72		7.86	8.64	173.0	8.83	9.30	8.72	7.86	9.06	8.27	

Wu Yuang (CHN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese World Championship & Asian Games Trials (Shenyang, CHN)											*Shandong Athletics Sport Science (2023)*						
date 28-Jun-23	time	11.41		21.95		33.75	39.82	46.27	46.27	7 / 1							
reaction time 0.182	interval			10.54		11.80	6.07	6.45		# of strides	11.41	10.54	11.80	12.52	21.95	24.32	2.37
	velocity	8.76		9.49		8.47	8.24	7.75	8.64	181.5	8.76	9.49	8.47	7.99	9.11	8.22	

Canal, David (ESP) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 European Cup (Munich, GER)											*Jung (2003) - http://www.fgs.uni-halle.de*						
date 21-Jun-97	time	11.57		22.33		33.79		46.28	46.28	/ 2							
reaction time	interval			10.76		11.46		12.49		# of strides	11.57	10.76	11.46	12.49	22.33	23.95	1.62
	velocity	8.64		9.29		8.73		8.01	8.64		8.64	9.29	8.73	8.01	8.96	8.35	

Borzakovskiy, Yuriy (RUS) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2002 European Championships (Munich, GER)											*Graubner (2009) - http://www.fgs.uni-halle.de*						
date 06-Aug-02	time	12.04		22.94		34.26		46.28	46.28	/ 5							
reaction time 0.249	interval			10.90		11.32		12.02		# of strides	12.04	10.90	11.32	12.02	22.94	23.34	0.40
	velocity	8.31		9.17		8.83		8.32	8.64		8.31	9.17	8.83	8.32	8.72	8.57	

Haroun, Abdalelah (QAT) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2018 Asian Games (Jakarta, INA)											*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*						
date 25-Aug-18	time 6.34	11.53	16.82	22.29	27.95	33.85	39.91	46.28	46.28	3 / 1							
reaction time 0.192	interval	5.19	5.29	5.47	5.66	5.90	6.06	6.37		# of strides	11.53	10.76	11.56	12.43	22.29	23.99	1.70
	velocity 7.89	9.63	9.45	9.14	8.83	8.47	8.25	7.85	8.64		8.67	9.29	8.65	8.05	8.97	8.34	

Tamura, Tomoya (JPN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese World Championships Trials (Fujiyoshida, JPN)											*Yamanaka (2019) - race analysis of men and women 400m competition*						
date 01-Sep-19	time 6.33	11.41	16.63	22.04	27.56	33.35	39.51	46.28	46.28	8 / 3							
reaction time	interval	5.08	5.22	5.41	5.52	5.79	6.16	6.77		# of strides	11.41	10.63	11.31	12.93	22.04	24.24	2.20
	velocity 7.90	9.84	9.58	9.24	9.06	8.64	8.12	7.39	8.64	184.0	8.76	9.41	8.84	7.73	9.07	8.25	

Fan Tianrui (CHN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Grand Prix 4 (Chongqing, CHN)											*Shandong Athletics Sport Science (2023)*						
date 02-Jun-23	time	11.65		22.49		33.85	39.85	46.28	46.28	7 / 1							
reaction time 0.257	interval			10.84		11.36	6.00	6.43	PB	# of strides	11.65	10.84	11.36	12.43	22.49	23.79	1.30
	velocity	8.58		9.23		8.80	8.33	7.78	8.64	174.5	8.58	9.23	8.80	8.05	8.89	8.41	

Kimura, Kazushi (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 Shizuoka International Athletics Meeting (Fukuori, JPN)											*Maho (2014) - race analysis of men's 400m run in the 2014 season*						
date 03-May-14	time 6.51	11.93	17.42	22.88	28.40	34.07	40.01	46.29	46.29	/ 5							
reaction time	interval	5.42	5.49	5.46	5.52	5.67	5.94	6.28	PB	# of strides	11.93	10.95	11.19	12.22	22.88	23.41	0.53
	velocity 7.68	9.23	9.11	9.16	9.06	8.82	8.42	7.96	8.64		8.38	9.13	8.94	8.18	8.74	8.54	

Kanemaru, Yuzo (JPN) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN)											*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*						
date 20-May-18	time 6.03	11.13	16.27	21.63	27.35	33.45	39.80	46.29	46.29	4 / 4							
reaction time 0.173	interval	5.10	5.14	5.36	5.72	6.10	6.35	6.49		# of strides	11.13	10.50	11.82	12.84	21.63	24.66	3.03
	velocity 8.29	9.80	9.73	9.33	8.74	8.20	7.87	7.70	8.64	179.0	8.98	9.52	8.46	7.79	9.25	8.11	

Walsh, Julian Jrummi (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Seiko Golden Grand Prix (Osaka, JPN)											*Hirokawa (2019) - research on athlete performance and technique- 2019 data book*						
date 19-May-19	time 6.14	11.11	16.22	21.56	27.16	33.15	39.48	46.29	46.29	6 / 2							
reaction time 0.143	interval	4.97	5.11	5.34	5.60	5.99	6.33	6.81		# of strides	11.11	10.45	11.59	13.14	21.56	24.73	3.17
	velocity 8.14	10.06	9.78	9.36	8.93	8.35	7.90	7.34	8.64	178.7	9.00	9.57	8.63	7.61	9.28	8.09	

Agard, Terrence (NED) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Memorial van Damme (Brussels, BEL)											*Omega Timing (2019) - diamond league race analysis*						
date 06-Sep-19	time 6.4	11.4	16.6	21.9	27.4	33.3	39.5	46.29	46.29	2 / 4							
reaction time	interval	5.0	5.2	5.3	5.5	5.9	6.2	13.0		# of strides	11.40	10.50	11.40	12.99	21.90	24.39	2.49
	velocity 7.81	10.00	9.62	9.43	9.09	8.47	8.06	7.70	8.64		8.77	9.52	8.77	7.70	9.13	8.20	

Luchembe, Kennedy (ZAM) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2021 Doha Diamond League (Doha, QAT)											*Omega Timing (2021) - diamond league race analysis*						
date 28-May-21	time 6.2	11.1	16.4	22.0	27.7	33.7	39.8	46.29	46.29	4 / 1							
reaction time 0.183	interval	4.90	5.30	5.60	5.70	6.00	6.10	6.49		# of strides	11.10	10.90	11.70	12.59	22.00	24.29	2.29
	velocity 8.06	10.20	9.43	8.93	8.77	8.33	8.20	7.70	8.64		9.01	9.17	8.55	7.94	9.09	8.23	

Borlée, Kevin (BEL) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Doha Diamond League (Doha, QAT)											*Omega Timing (2021) - diamond league race analysis*						
date 28-May-21	time 6.3	11.5	16.8	22.3	27.9	33.8	39.8	46.29	46.29	2 / 8							
reaction time 0.136	interval	5.20	5.30	5.50	5.60	5.90	6.00	6.49		# of strides	11.50	10.80	11.50	12.49	22.30	23.99	1.69
	velocity 7.94	9.62	9.43	9.09	8.93	8.47	8.33	7.70	8.64		8.70	9.26	8.70	8.01	8.97	8.34	

Yoshizu, Takuho (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 All Japan Corporate Championships (Osaka, JPN)											*@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633*						

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

date	25-Sep-21	time		11.58		22.49		33.78		46.18	46.29	5 / 4						
reaction time	0.204	interval				10.91		11.29		12.40		# of strides	11.58	10.91	11.29	12.40	22.49	23.69	1.20
		velocity		8.64		9.17		8.86		8.06	8.64		8.64	9.17	8.86	8.06	8.89	8.44	

Bonevacia, Liemarvin (NED) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Athletissima (Lausanne, SUI)																	
																	Omega Timing (2023) - diamond league race analysis
date 30-Jun-23	time	6.31	11.40	16.50	21.82	27.36	33.22	39.37	46.29	46.29	4 / 5							
reaction time 0.148	interval		5.09	5.10	5.32	5.54	5.86	6.15	6.92		# of strides	11.40	10.42	11.40	13.07	21.82	24.47	2.65
	velocity	7.92	9.82	9.80	9.40	9.03	8.53	8.13	7.23	8.64		8.77	9.60	8.77	7.65	9.17	8.17	

Sato, Mitsuhiro (JPN) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)																	
																	Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix
date 19-Sep-05	time		11.13		21.37		33.20	39.32	46.30	46.30	3 / 6							
reaction time	interval				10.24		11.83	6.12	6.98		# of strides	11.13	10.24	11.83	13.10	21.37	24.93	3.56
	velocity		8.98		9.77		8.45	8.17	7.16	8.64		8.98	9.77	8.45	7.63	9.36	8.02	

Watanabe, Kazuya (JPN) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 Japanese National Championships (Fukushima, JPN)																	
																	Maho (2014) - race analysis of men's 400m run in the 2014 season
date 08-Jun-14	time	6.21	11.25	16.38	21.86	27.55	33.37	39.66	46.30	46.30	4 / 2							
reaction time	interval		5.04	5.13	5.48	5.69	5.82	6.29	6.64		# of strides	11.25	10.61	11.51	12.93	21.86	24.44	2.58
	velocity	8.05	9.92	9.75	9.12	8.79	8.59	7.95	7.53	8.64	185.7	8.89	9.43	8.69	7.73	9.15	8.18	

Ishitsuka, Yusuke (JPN) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2015 Japanese National Championships (Niigata, JPN)																	
																	Kohei (2015) - 400m race analysis of male & female at major 2015 competitions
date 27-Jun-15	time	6.18	11.29	16.43	21.81	27.49	33.36	39.57	46.30	46.30	4 / 4							
reaction time 0.175	interval		5.11	5.14	5.38	5.68	5.87	6.21	6.73		# of strides	11.29	10.52	11.55	12.94	21.81	24.49	2.68
	velocity	8.09	9.78	9.73	9.29	8.80	8.52	8.05	7.43	8.64	178.2	8.86	9.51	8.66	7.73	9.17	8.17	

Sato, Kentaro (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Championships (Nagoya, JPN)																	
																	Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016
date 25-Jun-16	time	6.24	11.27	16.42	21.79	27.47	33.40	39.64	46.30	46.30	8 / 5							
reaction time 0.158	interval		5.03	5.15	5.37	5.68	5.93	6.24	6.66		# of strides	11.27	10.52	11.61	12.90	21.79	24.51	2.72
	velocity	8.01	9.94	9.71	9.31	8.80	8.43	8.01	7.51	8.64		8.87	9.51	8.61	7.75	9.18	8.16	

Cherry, Michael (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Bauhaus Galan (Stockholm, SWE)																	
																	Omega Timing (2019) - diamond league race analysis
date 30-May-19	time		11.3		22.1		33.5		46.30	46.30	4 / 3							
reaction time 0.189	interval				10.8		11.4		12.8		# of strides	11.30	10.80	11.40	12.80	22.10	24.20	2.10
	velocity		8.85		9.26		8.77		7.81	8.64	174.7	8.85	9.26	8.77	7.81	9.05	8.26	

Šorm, Patrik (CZE) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 FBK Games (Hengelo, NED)																	
																	Omega Timing (2022) - continental tour race analysis
date 06-Jun-22	time	6.3	11.3	16.6	21.9	27.6	33.5	39.7	46.30	46.30	2 / 5							
reaction time 0.146	interval		5.00	5.30	5.30	5.70	5.90	6.20	6.60		# of strides	11.30	10.60	11.60	12.80	21.90	24.40	2.50
	velocity	7.94	10.00	9.43	9.43	8.77	8.47	8.06	7.58	8.64		8.85	9.43	8.62	7.81	9.13	8.20	

Solomon, Steven (AUS) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)																	
																	Longines Timing (2022) - commonwealth games race analysis
date 05-Aug-22	time	6.3	11.3	16.6	22.2	27.7	33.5	39.6	46.30	46.30	6 / 4							
reaction time 0.168	interval		5.00	5.30	5.60	5.50	5.80	6.10	6.70		# of strides	11.30	10.90	11.30	12.80	22.20	24.10	1.90
	velocity	7.94	10.00	9.43	8.93	9.09	8.62	8.20	7.46	8.64	178.0	8.85	9.17	8.85	7.81	9.01	8.30	

Nielsen, Gustav Lundholm (DEN) (19

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)																	
																	European Athletics (2022) - european athletics championships race analysis
date 16-Aug-22	time		11.30		22.05		33.51		46.30	46.30	1 / 8							
reaction time 0.190	interval				10.75		11.46		12.79		# of strides	11.30	10.75	11.46	12.79	22.05	24.25	2.20
	velocity		8.85		9.30		8.73		7.82	8.64	180.5	8.85	9.30	8.73	7.82	9.07	8.25	

Kersulis, Tomas (LTU) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 European Athletics U23 Championships (Espoo, FIN)																	
																	European Athletics (2023) - european athletics U23 championships results book
date 13-Jul-23	time		11.46		22.27		34.07		46.30	46.30	2 / 4							
reaction time 0.147	interval				10.81		11.80		12.23		# of strides	11.46	10.81	11.80	12.23	22.27	24.03	1.76
	velocity		8.73		9.25		8.47		8.18	8.64		8.73	9.25	8.47	8.18	8.98	8.32	

Nakano, Hiroyuki (JPN) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 Japanese National Championships (Kumagaya, JPN)																	
																	Maho (2013) - race analysis of the men's 400m run in competition
date 12-Jun-11	time	6.19	11.42	16.78	22.29	27.99	33.76	39.77	46.31	46.31	/ 4							
reaction time	interval		5.23	5.36	5.51	5.70	5.77	6.01	6.54		# of strides	11.42	10.87	11.47	12.55	22.29	24.02	1.73
	velocity	8.08	9.56	9.33	9.07	8.77	8.67	8.32	7.65	8.64		8.76	9.20	8.72	7.97	8.97	8.33	

Glass, Najee (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 NCAA Championships (Eugene, OR)																	
																	Track Newsletter (2015) - NCAA men's championships
date 12-Jun-15	time				21.4				46.3	46.31	/ 4							
reaction time	interval								24.90		# of strides					21.40	24.90	3.50
	velocity				9.35				8.03	8.64						9.35	8.03	

Obuchi, Mizuki (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2019 Japanese National Championships (Fukuoka, JPN)																	
																	Yamanaka (2019) - race analysis of men and women 400m competition
date 27-Jun-19	time	6.12	11.10	16.27	21.76	27.54	33.52	39.68	46.31	46.31	7 / 2							
reaction time 0.169	interval		4.98	5.17	5.49	5.78	5.98	6.16	6.63		# of strides	11.10	10.66	11.76	12.79	21.76	24.55	2.79
	velocity	8.17	10.04	9.67	9.11	8.65	8.36	8.12	7.54	8.64		9.01	9.38	8.50	7.82	9.19	8.15	

Kawauchi, Mitsuki (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Final - 2021 Denka Athletics Challenge Cup (Niigata, JPN)																	
																	Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition
date 06-Jun-21	time	6.34	11.55	16.85	22.30	27.88	33.77	39.87	46.31	46.31	9 / 6							
reaction time	interval		5.21	5.30	5.45	5.58	5.89	6.10	6.44		# of strides	11.55	10.75	11.47	12.54	22.30	24.01	1.71
	velocity	7.89	9.60	9.43	9.17	8.96	8.49	8.20	7.76	8.64		8.66	9.30	8.72	7.97	8.97	8.33	

Li Yiqing (CHN) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2023)*
date 21-Jul-23 time		11.44		22.06		33.72	39.84	46.31	46.31	5 / 2							
reaction time 0.213 interval				10.62		11.66	6.12	6.47	PB	# of strides	11.44	10.62	11.66	12.59	22.06	24.25	2.19
velocity		8.74		9.42		8.58	8.17	7.73	8.64	185.0	8.74	9.42	8.58	7.94	9.07	8.25	

Ayre, Sanjay (JAM) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Athletic Final (Stuttgart, GER)																	*Graubner (2007) - http://www.fgs.uni-halle.de*
date 22-Sep-07 time		11.20		21.90		39.78		46.32	46.32	2 / 8							
reaction time 0.155 interval				10.70		17.88		6.54		# of strides	11.20	10.70	17.88	6.54	21.90	24.42	2.52
velocity		8.93		9.35		5.59		15.29	8.64		8.93	9.35	5.59	15.29	9.13	8.19	

Smith, Miles (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2008 USA Olympic Trials (Eugene, OR)																	*USATF Women's Sprint Development with HPC (2008)*
date 30-Jun-08 time		11.18		21.90	27.54	33.53	39.57	46.32	46.32	1 / 6							
reaction time interval				10.72	5.64	5.99	6.04	6.75		# of strides	11.18	10.72	11.63	12.79	21.90	24.42	2.52
velocity		8.94		9.33	8.87	8.35	8.28	7.41	8.64		8.94	9.33	8.60	7.82	9.13	8.19	

Sato, Fuga (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 2 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/01/post-786/*
date 26-May-17 time		11.22		21.51		33.04		46.32	46.32	5 / 1							
reaction time interval				10.29		11.53		13.28	PB	# of strides	11.22	10.29	11.53	13.28	21.51	24.81	3.30
velocity		8.91		9.72		8.67		7.53	8.64	181.2	8.91	9.72	8.67	7.53	9.30	8.06	

Herron, Brian (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 21-Jun-24 time		10.87		21.32		32.98		46.32	46.32	5 / 6							
reaction time interval				10.45		11.66		13.34		# of strides	10.87	10.45	11.66	13.34	21.32	25.00	3.68
velocity		9.20		9.57		8.58		7.50	8.64	170.0	9.20	9.57	8.58	7.50	9.38	8.00	

Schuwer, Juno (NED) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 FBK Games (Hengelo, NED)																	*Omega Timing (2024) - continental tour gold race analysis*
date 07-Jul-24 time	6.35	11.44	16.63	22.15	27.86	33.70	39.76	46.32	46.32	8 / 3							
reaction time 0.150 interval		5.09	5.19	5.52	5.71	5.84	6.06	6.56	PB	# of strides	11.44	10.71	11.55	12.62	22.15	24.17	2.02
velocity	7.87	9.82	9.63	9.06	8.76	8.56	8.25	7.62	8.64		8.74	9.34	8.66	7.92	9.03	8.27	

Coombs, Joseph (TRI) (1952)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 Olympic Games (Moscow, URS)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 30-Jul-80 time						32.8		46.4	46.33	5 / 8							
reaction time 0.140 interval								13.60		# of strides				13.60			
velocity						9.15		7.35	8.63					7.35			

Alekseyev, Denis (RUS) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 ISTAF (Berlin, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 14-Jun-09 time		11.52		21.98		33.51		46.33	46.33	1 / 5							
reaction time 0.282 interval				10.46		11.53		12.82		# of strides	11.52	10.46	11.53	12.82	21.98	24.35	2.37
velocity		8.68		9.56		8.67		7.80	8.63		8.68	9.56	8.67	7.80	9.10	8.21	

Azuma, Kaiki (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2017 Japanese National Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/07/08/post-965/*
date 23-Jun-17 time		11.38		21.66		32.82		46.33	46.33	6 / 5							
reaction time 0.178 interval				10.28		11.16		13.51	PB	# of strides	11.38	10.28	11.16	13.51	21.66	24.67	3.01
velocity		8.79		9.73		8.96		7.40	8.63	186.2	8.79	9.73	8.96	7.40	9.23	8.11	

Scotch, Leungo (BOT) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 Commonwealth Games (Birmingham, GBR)																	*Longines Timing (2022) - commonwealth games race analysis*
date 05-Aug-22 time	6.0	10.9	16.1	21.4	27.0	33.1	39.3	46.33	46.33	7 / 3							
reaction time 0.170 interval		4.90	5.20	5.30	5.60	6.10	6.20	7.03		# of strides	10.90	10.50	11.70	13.23	21.40	24.93	3.53
velocity	8.33	10.20	9.62	9.43	8.93	8.20	8.06	7.11	8.63	181.0	9.17	9.52	8.55	7.56	9.35	8.02	

Fu Haoran (CHN) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2024)*
date 16-Sep-24 time		11.53		22.34		33.92	39.99	46.33	46.33	7 / 3							
reaction time 0.193 interval				10.81		11.58	6.07	6.34		# of strides	11.53	10.81	11.58	12.41	22.34	23.99	1.65
velocity		8.67		9.25		8.64	8.24	7.89	8.63	180.5	8.67	9.25	8.64	8.06	8.95	8.34	

Carr, William (USA) (1909)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1932 Olympic Games (Los Angeles, CA)																	*Quercetani (2005) - a world history of the one-lap race: 1850-2004*
date 05-Aug-32 time		10.9		22.1		33.8		46.2	46.2	4 / 1							
reaction time interval				11.20		11.70		12.40	WR	# of strides	10.90	11.20	11.70	12.40	22.10	24.10	2.00
velocity		9.17		8.93		8.55		8.06	8.66		9.17	8.93	8.55	8.06	9.05	8.30	

Wint, Arthur (JAM) (1920)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1948 Olympic Games (London, GBR)																	*Parienté (1978) - la fabuleuse histoire de l'athlétisme*
date 05-Aug-48 time				22.2				46.2	46.2	3 / 1							
reaction time interval								24.0	=OR	# of strides					22.20	24.00	1.80
velocity				9.01				8.33	8.66						9.01	8.33	

Hurtault, Erison (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2008 USA Olympic Trials (Eugene, OR)																	*USATF Women's Sprint Development with HPC (2008)*
date 30-Jun-08 time		11.14		21.70	27.22	33.21	39.32	46.34	46.34	7 / 7							
reaction time interval				10.56	5.52	5.99	6.11	7.02		# of strides	11.14	10.56	11.51	13.13	21.70	24.64	2.94
velocity		8.98		9.47	9.06	8.35	8.18	7.12	8.63		8.98	9.47	8.69	7.62	9.22	8.12	

Wakabayashi, Kota (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese National Championships (Fukuoka, JPN)																	*Yamanaka (2019) - research on athlete performance and technique- 2019 data book*

date	28-Jun-19	time	6.17	11.16	16.32	21.67	27.29	33.26	39.50	46.34	46.34	5 / 5						
reaction time	0.166	interval		4.99	5.16	5.35	5.62	5.97	6.24	6.84		# of strides	11.16	10.51	11.59	13.08	21.67	24.67	3.00
		velocity	8.10	10.02	9.69	9.35	8.90	8.38	8.01	7.31	8.63	175.2	8.96	9.51	8.63	7.65	9.23	8.11	

Brier, Joseph (GBR) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)																	*Omega Timing (2021) - diamond league race analysis*
date 13-Jul-21 time	6.3	11.4	16.7	22.1	27.6	33.3	39.5	46.34	46.34	2 / 2							
reaction time 0.178 interval		5.10	5.30	5.40	5.50	5.70	6.20	6.84		# of strides	11.40	10.70	11.20	13.04	22.10	24.24	2.14
velocity	7.94	9.80	9.43	9.26	9.09	8.77	8.06	7.31	8.63		8.77	9.35	8.93	7.67	9.05	8.25	

Kawabata, Kaito (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22 time		11.14		21.79		33.37		46.34	46.34	4 / 5							
reaction time 0.128 interval				10.65		11.58		12.97		# of strides	11.14	10.65	11.58	12.97	21.79	24.55	2.76
velocity		8.98		9.39		8.64		7.71	8.63	187.7	8.98	9.39	8.64	7.71	9.18	8.15	

Sito, Luca (ITA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 13-Jul-23 time		11.48		22.29		33.92		46.34	46.34	4 / 5							
reaction time 0.204 interval				10.81		11.63		12.42		# of strides	11.48	10.81	11.63	12.42	22.29	24.05	1.76
velocity		8.71		9.25		8.60		8.05	8.63		8.71	9.25	8.60	8.05	8.97	8.32	

Thebe, Baboloki (BOT) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Müller Grand Prix (Birmingham, GBR)																	*Omega Timing (2018) - diamond league race analysis*
date 18-Aug-18 time		11.5		22.6		33.8		46.35	46.35	2 / 7							
reaction time 0.167 interval				11.1		11.2		12.6		# of strides	11.50	11.10	11.20	12.55	22.60	23.75	1.15
velocity		8.70		9.01		8.93		7.97	8.63	181.0	8.70	9.01	8.93	7.97	8.85	8.42	

Nose, Daiki (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Shizuoka International Athletics Meeting (Fukuroi, JPN)																	*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 03-May-21 time	6.16	11.28	16.53	21.93	27.57	33.49	39.64	46.35	46.35	4 / 2							
reaction time 0.164 interval		5.12	5.25	5.40	5.64	5.92	6.15	6.71	PB	# of strides	11.28	10.65	11.56	12.86	21.93	24.42	2.49
velocity	8.12	9.77	9.52	9.26	8.87	8.45	8.13	7.45	8.63	183.0	8.87	9.39	8.65	7.78	9.12	8.19	

Jinushi, Naohiro (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2023 Japanese National Championsips (Osaka, JPN)																	*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*
date 03-Jun-23 time	6.37	11.68	17.07	22.51	28.04	33.80	39.86	46.35	46.35	5 / 2							
reaction time 0.174 interval		5.31	5.39	5.44	5.53	5.76	6.06	6.49		# of strides	11.68	10.83	11.29	12.55	22.51	23.84	1.33
velocity	7.85	9.42	9.28	9.19	9.04	8.68	8.25	7.70	8.63	177.2	8.56	9.23	8.86	7.97	8.88	8.39	

Yui, Kaisei (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2015 Japanese National Championships (Niigata, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 27-Jun-15 time	6.39	11.54	16.70	22.04	27.59	33.43	39.59	46.36	46.36	8 / 4							
reaction time 0.145 interval		5.15	5.16	5.34	5.55	5.84	6.16	6.77	PB	# of strides	11.54	10.50	11.39	12.93	22.04	24.32	2.28
velocity	7.82	9.71	9.69	9.36	9.01	8.56	8.12	7.39	8.63	183.0	8.67	9.52	8.78	7.73	9.07	8.22	

Sato, Kentaro (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese World Championships Trials (Fujiyoshida, JPN)																	*Yamanaka (2019) - race analysis of men and women 400m competition*
date 01-Sep-19 time	6.30	11.32	16.52	21.95	27.59	33.56	39.75	46.36	46.36	6 / 4							
reaction time interval		5.02	5.20	5.43	5.64	5.97	6.19	6.61		# of strides	11.32	10.63	11.61	12.80	21.95	24.41	2.46
velocity	7.94	9.96	9.62	9.21	8.87	8.38	8.08	7.56	8.63	179.0	8.83	9.41	8.61	7.81	9.11	8.19	

Dobber, Jochem (NED) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 15-Aug-22 time		11.38		21.78		33.18		46.36	46.36	2 / 7							
reaction time 0.281 interval				10.40		11.40		13.18		# of strides	11.38	10.40	11.40	13.18	21.78	24.58	2.80
velocity		8.79		9.62		8.77		7.59	8.63		8.79	9.62	8.77	7.59	9.18	8.14	

Maslák, Pavel (CZE) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 16-Aug-22 time		11.52		22.24		33.77		46.36	46.36	2 / 6							
reaction time 0.197 interval				10.72		11.53		12.59		# of strides	11.52	10.72	11.53	12.59	22.24	24.12	1.88
velocity		8.68		9.33		8.67		7.94	8.63	181.0	8.68	9.33	8.67	7.94	8.99	8.29	

Mukai, Yukihiro (JPN) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)																	*Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m*
date 24-Sep-06 time	6.3	11.4	16.7	22.3	28.1	33.9	39.9	46.37	46.37	2 / 5							
reaction time interval		5.10	5.30	5.60	5.80	5.80	6.00	6.47		# of strides	11.40	10.90	11.60	12.47	22.30	24.07	1.77
velocity	7.94	9.80	9.43	8.93	8.62	8.62	8.33	7.73	8.63		8.77	9.17	8.62	8.02	8.97	8.31	

Hogans, Obra (USA) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2008 USA Olympic Trials (Eugene, OR)																	*USATF Women's Sprint Development with HPC (2008)*
date 30-Jun-08 time		11.21		22.14	27.64	33.45	39.60	46.37	46.37	2 / 8							
reaction time interval				10.93	5.50	5.81	6.15	6.77		# of strides	11.21	10.93	11.31	12.92	22.14	24.23	2.09
velocity		8.92		9.15	9.09	8.61	8.13	7.39	8.63		8.92	9.15	8.84	7.74	9.03	8.25	

Walsh, Julian Jrummi (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2016 Olympic Games (Rio de Janeiro, BRA)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 12-Aug-16 time		11.14		21.76		33.32		46.37	46.37	8 / 1							
reaction time 0.149 interval				10.62		11.56		13.05		# of strides	11.14	10.62	11.56	13.05	21.76	24.61	2.85
velocity		8.98		9.42		8.65		7.66	8.63		8.98	9.42	8.65	7.66	9.19	8.13	

Bonevacia, Liemarvin (NED) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)																	*Omega Timing (2022) - diamond league race analysis*
date 21-May-22 time	6.37	11.41	16.53	21.83	27.39	33.36	39.61	46.37	46.37	3 / 6							
reaction time 0.159 interval		5.04	5.12	5.30	5.56	5.97	6.25	6.76		# of strides	11.41	10.42	11.53	13.01	21.83	24.54	2.71
velocity	7.85	9.92	9.77	9.43	8.99	8.38	8.00	7.40	8.63	185.7	8.76	9.60	8.67	7.69	9.16	8.15	

Kobayashi, Naoki (JPN) (1990)
FINAL - 2014 Japanese National Championships (Fukushima, JPN)
Maho (2014) - race analysis of men's 400m run in the 2014 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jun-14	time	6.14	11.36	16.45	21.83	27.56	33.45	39.65	46.38	46.38	6 / 3							
reaction time		interval		5.22	5.09	5.38	5.73	5.89	6.20	6.73		# of strides	11.36	10.47	11.62	12.93	21.83	24.55	2.72
		velocity	8.14	9.58	9.82	9.29	8.73	8.49	8.06	7.43	8.62	184.7	8.80	9.55	8.61	7.73	9.16	8.15	

Imoto, Yoshinobu (JPN) (1999)
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)
(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Oct-17	time		11.22		22.26		33.80		46.38	46.38	4 / 1							
reaction time	0.165	interval				11.04		11.54		12.58	PB	# of strides	11.22	11.04	11.54	12.58	22.26	24.12	1.86
		velocity		8.91		9.06		8.67		7.95	8.62	201.0	8.91	9.06	8.67	7.95	8.98	8.29	

Kanemaru, Yuzo (JPN) (1987)
A FINAL - 2018 Shizuoka International Meeting (Fukuroi, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-18	time	6.20	11.24	16.54	22.06	27.78	33.71	39.88	46.38	46.38	8 / 1							
reaction time	0.168	interval		5.04	5.30	5.52	5.72	5.93	6.17	6.50		# of strides	11.24	10.82	11.65	12.67	22.06	24.32	2.26
		velocity	8.06	9.92	9.43	9.06	8.74	8.43	8.10	7.69	8.62	180.5	8.90	9.24	8.58	7.89	9.07	8.22	

Richard, Tyrell (USA) (1997)
FINAL - 2019 The Match - Europe v USA (Minsk, BLR)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Sep-19	time		11.54		22.51		34.09		46.38	46.38	9 / 4							
reaction time	0.145	interval				10.97		11.58		12.29		# of strides	11.54	10.97	11.58	12.29	22.51	23.87	1.36
		velocity		8.67		9.12		8.64		8.14	8.62	176.7	8.67	9.12	8.64	8.14	8.88	8.38	

Scotti, Edoardo (ITA) (2000)
FINAL - 2021 Golden Gala Pietro Mennea (Florence, ITA)
Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Jun-21	time	6.5	11.6	16.7	22.1	27.7	33.6	39.8	46.38	46.38	7 / 6							
reaction time	0.169	interval		5.10	5.10	5.40	5.60	5.90	6.20	6.58		# of strides	11.60	10.50	11.50	12.78	22.10	24.28	2.18
		velocity	7.69	9.80	9.80	9.26	8.93	8.47	8.06	7.60	8.62	174.0	8.62	9.52	8.70	7.82	9.05	8.24	

Petrucciani, Ricky (SUI) (2000)
FINAL - 2021 Weltklasse (Zürich, SUI)
Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Sep-21	time	7.3	11.3	16.4	21.8	27.4	33.3	39.6	46.38	46.38	2 / 7							
reaction time	0.165	interval		4.00	5.10	5.40	5.60	5.90	6.30	6.78		# of strides	11.30	10.50	11.50	13.08	21.80	24.58	2.78
		velocity	6.85	12.50	9.80	9.26	8.93	8.47	7.94	7.37	8.62		8.85	9.52	8.70	7.65	9.17	8.14	

Sato, Fuga (JPN) (1996)
Heat 3 - 2021 All Japan Corporate Championships (Osaka, JPN)
@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Sep-21	time		10.99		21.52		33.23		46.21	46.38	5 / 1							
reaction time	0.202	interval				10.53		11.71		12.98		# of strides	10.99	10.53	11.71	12.98	21.52	24.69	3.17
		velocity		9.10		9.50		8.54		7.70	8.62		9.10	9.50	8.54	7.70	9.29	8.10	

Dair, Hamza (MAR) (2002)
National FINAL - 2022 Meeting International Mohammed VI d'Athlétime (Rabat, MAR)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Jun-22	time	6.38	11.59	17.00	22.47	28.33	34.28	40.16	46.38	46.38	4 / 1							
reaction time	0.176	interval		5.21	5.41	5.47	5.86	5.95	5.88	6.22	PB	# of strides	11.59	10.88	11.81	12.10	22.47	23.91	1.44
		velocity	7.84	9.60	9.24	9.14	8.53	8.40	8.50	8.04	8.62		8.63	9.19	8.47	8.26	8.90	8.36	

Xie Zhiyu (CHN) (2000)
FINAL - 2023 Chinese National Grand Prix 4 (Chongqing, CHN)
Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Jun-23	time		11.70		22.52		33.82	39.83	46.38	46.38	8 / 2							
reaction time	0.253	interval				10.82		11.30	6.01	6.55		# of strides	11.70	10.82	11.30	12.56	22.52	23.86	1.34
		velocity		8.55		9.24		8.85	8.32	7.63	8.62	167.7	8.55	9.24	8.85	7.96	8.88	8.38	

Petrucciani, Ricky (SUI) (2000)
FINAL - 2023 Athletissima (Lausanne, SUI)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jun-23	time	6.21	11.34	16.51	21.83	27.35	33.18	39.40	46.38	46.38	7 / 6							
reaction time	0.126	interval		5.13	5.17	5.32	5.52	5.83	6.22	6.98		# of strides	11.34	10.49	11.35	13.20	21.83	24.55	2.72
		velocity	8.05	9.75	9.67	9.40	9.06	8.58	8.04	7.16	8.62		8.82	9.53	8.81	7.58	9.16	8.15	

Kanemaru, Yuzo (JPN) (1987)
FINAL - 2017 Nanbu Memorial Meeting (Sapporo, JPN)
(2017) - tfdata-store.com/2017/07/11/post-1010/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jul-17	time		11.21		21.97		33.71		46.39	46.39	5 / 1							
reaction time		interval				10.76		11.74		12.68		# of strides	11.21	10.76	11.74	12.68	21.97	24.42	2.45
		velocity		8.92		9.29		8.52		7.89	8.62	177.0	8.92	9.29	8.52	7.89	9.10	8.19	

Kimura, Jun (JPN) (1991)
FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-18	time	6.13	11.22	16.45	21.98	27.73	33.65	39.77	46.39	46.39	4 / 2							
reaction time	0.138	interval		5.09	5.23	5.53	5.75	5.92	6.12	6.62		# of strides	11.22	10.76	11.67	12.74	21.98	24.41	2.43
		velocity	8.16	9.82	9.56	9.04	8.70	8.45	8.17	7.55	8.62	181.2	8.91	9.29	8.57	7.85	9.10	8.19	

Norwood, Vernon (USA) (1992)
FINAL - 2019 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-May-19	time		11.3		22.5		33.8		46.39	46.39	1 / 4							
reaction time	0.176	interval				11.2		11.3		12.6		# of strides	11.30	11.20	11.30	12.59	22.50	23.89	1.39
		velocity		8.85		8.93		8.85		7.94	8.62		8.85	8.93	8.85	7.94	8.89	8.37	

Kawauchi, Mitsuki (JPN) (1997)
Heat 3 - 2019 Japanese National Championships (Fukuoka, JPN)
Yamanaka (2019) - race analysis of men and women 400m competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-19	time	6.31	11.60	17.02	22.57	28.30	34.16	40.18	46.39	46.39	4 / 2							
reaction time	0.180	interval		5.29	5.42	5.55	5.73	5.86	6.02	6.21		# of strides	11.60	10.97	11.59	12.23	22.57	23.82	1.25
		velocity	7.92	9.45	9.23	9.01	8.73	8.53	8.31	8.05	8.62		8.62	9.12	8.63	8.18	8.86	8.40	

Sato, Fuga (JPN) (1996)
FINAL - 2020 All Japan Corporate Championships (Kumagaya, JPN)
Yamanaka (2020) - 400m race analysis of men and women during 2020 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	19-Sep-20	time	6.62	11.92	17.27	22.71	28.29	34.01	39.97	46.39	46.39	4 / 1						
reaction time	0.240	interval		5.30	5.35	5.44	5.58	5.72	5.96	6.42		# of strides	11.92	10.79	11.30	12.38	22.71	23.68	0.97
		velocity	7.55	9.43	9.35	9.19	8.96	8.74	8.39	7.79	8.62		8.39	9.27	8.85	8.08	8.81	8.45	

Benati, Lorenzo (ITA) (2002) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Semi-Final 1 - 2021 European Athletics U20 Championships (Tallin, EST) — *European Athletics (2021) - european athletics U20 championships results book*

date	15-Jul-21	time		12.01		22.88		34.37		46.39	46.39	6 / 2						
reaction time	0.204	interval				10.87		11.49		12.02		# of strides	12.01	10.87	11.49	12.02	22.88	23.51	0.63
		velocity		8.33		9.20		8.70		8.32	8.62		8.33	9.20	8.70	8.32	8.74	8.51	

Danylenko, Danylo (UKR) (1994) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Heat 1 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

date	17-Jul-22	time		11.71		22.27		33.76		46.39	46.39	3 / 6						
reaction time	0.258	interval				10.56		11.49		12.63		# of strides	11.71	10.56	11.49	12.63	22.27	24.12	1.85
		velocity		8.54		9.47		8.70		7.92	8.62		8.54	9.47	8.70	7.92	8.98	8.29	

Kebinatshipi, Collen (BOT) (2004) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

date	22-Aug-23	time		11.26		22.30		34.01		46.39	46.39	2 / 8						
reaction time	0.168	interval				11.04		11.71		12.38		# of strides	11.26	11.04	11.71	12.38	22.30	24.09	1.79
		velocity		8.88		9.06		8.54		8.08	8.62	189.7	8.88	9.06	8.54	8.08	8.97	8.30	

Kijanović, Boško (SRB) (2000) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Heat 2 - 2024 European Athletics Championships (Roma, ITA) — *European Athletics (2024) - 2024 european athletics championships - results book*

date	08-Jun-24	time		11.52		22.36		33.67		46.39	46.39	5 / 6						
reaction time	0.149	interval				10.84		11.31		12.72		# of strides	11.52	10.84	11.31	12.72	22.36	24.03	1.67
		velocity		8.68		9.23		8.84		7.86	8.62		8.68	9.23	8.84	7.86	8.94	8.32	

O'Bryant, Jevon (USA) (2001) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

date	23-Jun-24	time		11.33		22.11		33.86		46.39	46.39	1 / 5						
reaction time		interval				10.78		11.75		12.53		# of strides	11.33	10.78	11.75	12.53	22.11	24.28	2.17
		velocity		8.83		9.28		8.51		7.98	8.62		8.83	9.28	8.51	7.98	9.05	8.24	

Karsten, Kai (GER) (1968) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 1991 European Cup (Frankfurt, GER) — *Federle (2003) - http://www.fgs.uni-halle.de*

date	29-Jun-91	time		11.30		21.85		33.53		46.40	46.40	/ 7						
reaction time		interval				10.55		11.68		12.87		# of strides	11.30	10.55	11.68	12.87	21.85	24.55	2.70
		velocity		8.85		9.48		8.56		7.77	8.62		8.85	9.48	8.56	7.77	9.15	8.15	

Vaccari, Marco (ITA) (1966) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 1997 European Cup (Munich, GER) — *Jung (2003) - http://www.fgs.uni-halle.de*

date	21-Jun-97	time		11.79		22.61		34.09		46.40	46.40	/ 3						
reaction time		interval				10.82		11.48		12.31		# of strides	11.79	10.82	11.48	12.31	22.61	23.79	1.18
		velocity		8.48		9.24		8.71		8.12	8.62		8.48	9.24	8.71	8.12	8.85	8.41	

Kawauchi, Mitsuki (JPN) (1997) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 2019 Japanese World Championships Trials (Fujiyoshida, JPN) — *Yamanaka (2019) - race analysis of men and women 400m competition*

date	01-Sep-19	time	6.27	11.46	16.77	22.21	27.78	33.64	39.76	46.40	46.40	3 / 5						
reaction time		interval		5.19	5.31	5.44	5.57	5.86	6.12	6.64		# of strides	11.46	10.75	11.43	12.76	22.21	24.19	1.98
		velocity	7.97	9.63	9.42	9.19	8.98	8.53	8.17	7.53	8.62	190.0	8.73	9.30	8.75	7.84	9.00	8.27	

Powell, Jevaughn (JAM) (2000) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR) — *Longines Timing (2022) - commonwealth games race analysis*

date	05-Aug-22	time	6.3	11.3	16.6	22.2	27.8	33.7	39.7	46.40	46.40	4 / 3						
reaction time	0.158	interval		5.00	5.30	5.60	5.60	5.90	6.00	6.70		# of strides	11.30	10.90	11.50	12.70	22.20	24.20	2.00
		velocity	7.94	10.00	9.43	8.93	8.93	8.47	8.33	7.46	8.62	178.0	8.85	9.17	8.70	7.87	9.01	8.26	

Russell, Alonzo (BAH) (1992) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Semi-Final 3 - 2022 Commonwealth Games (Birmingham, GBR) — *Longines Timing (2022) - commonwealth games race analysis*

date	05-Aug-22	time	6.1	11.0	16.2	21.6	27.4	33.4	39.6	46.40	46.40	9 / 4						
reaction time	0.227	interval		4.90	5.20	5.40	5.80	6.00	6.20	6.80		# of strides	11.00	10.60	11.80	13.00	21.60	24.80	3.20
		velocity	8.20	10.20	9.62	9.26	8.62	8.33	8.06	7.35	8.62	180.0	9.09	9.43	8.47	7.69	9.26	8.06	

Šorm, Patrik (CZE) (1993) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Heat 2 - 2024 European Athletics Championships (Roma, ITA) — *European Athletics (2024) - 2024 european athletics championships - results book*

date	08-Jun-24	time		11.55		22.17		33.63		46.40	46.40	8 / 7						
reaction time	0.205	interval				10.62		11.46		12.77		# of strides	11.55	10.62	11.46	12.77	22.17	24.23	2.06
		velocity		8.66		9.42		8.73		7.83	8.62		8.66	9.42	8.73	7.83	9.02	8.25	

Roosen, Sven (NED) (2001) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

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

date	02-Aug-24	time	6.49	11.66	16.94	22.40	28.15	34.13	40.16	46.40	46.40	2 / 2						
reaction time	0.170	interval		5.17	5.28	5.46	5.75	5.98	6.03	6.24	PB	# of strides	11.66	10.74	11.73	12.27	22.40	24.00	1.60
		velocity	7.70	9.67	9.47	9.16	8.70	8.36	8.29	8.01	8.62	183.0	8.58	9.31	8.53	8.15	8.93	8.33	

Darden, Tony (USA) (1957) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 1980 USA Olympic Trials (Eugene, OR) — *Track Newsletter (1980) - US olympic trials*

date	27-Jun-80	time		12.3		22.6		34.2		46.4	46.41	/ 5						
reaction time		interval				10.30		11.60		12.21		# of strides	12.30	10.30	11.60	12.21	22.60	23.81	1.21
		velocity		8.13		9.71		8.62		8.19	8.62		8.13	9.71	8.62	8.19	8.85	8.40	

Wariner, Jeremy (USA) (1984) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

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

date	22-Jun-03	time				22.06		33.80	39.74	46.41	46.41	5 / 2						
reaction time		interval						11.74	5.94	6.67		# of strides			11.74	12.61	22.06	24.35	2.29
		velocity				9.07		8.52	8.42	7.50	8.62				8.52	7.93	9.07	8.21	

Tamesue, Dai (JPN) (1978)
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)
Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Sep-06	time	6.1	11.4	16.7	22.3	27.9	33.8	40.0	46.41	46.41	8 / 6							
reaction time		interval		5.30	5.30	5.60	5.60	5.90	6.20	6.41		# of strides	11.40	10.90	11.50	12.61	22.30	24.11	1.81
		velocity	8.20	9.43	9.43	8.93	8.93	8.47	8.06	7.80	8.62		8.77	9.17	8.70	7.93	8.97	8.30	

Fujiwara, Takeshi (JPN) (1985)
FINAL - 2016 Japanese National Championships (Nagoya, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-16	time	6.41	11.53	16.78	22.21	27.72	33.58	39.79	46.41	46.41	3 / 6							
reaction time	0.208	interval		5.12	5.25	5.43	5.51	5.86	6.21	6.62		# of strides	11.53	10.68	11.37	12.83	22.21	24.20	1.99
		velocity	7.80	9.77	9.52	9.21	9.07	8.53	8.05	7.55	8.62		8.67	9.36	8.80	7.79	9.00	8.26	

Kitakani, Naoki (JPN) (1998)
Semi-Final 1 - 2016 IAAF World Junior Championships (Bydgoszcz, POL)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-16	time	6.36	11.39	16.51	21.96	27.76	33.62	39.82	46.41	46.41	8 / 4							
reaction time	0.162	interval		5.03	5.12	5.45	5.80	5.86	6.20	6.59	PB	# of strides	11.39	10.57	11.66	12.79	21.96	24.45	2.49
		velocity	7.86	9.94	9.77	9.17	8.62	8.53	8.06	7.59	8.62		8.78	9.46	8.58	7.82	9.11	8.18	

Fujiwara, Takeshi (JPN) (1985)
Heat 2 - 2017 Japanese National Championships (Osaka, JPN)
(2017) - tfdata-store.com/2017/07/08/post-965/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-17	time		11.57		22.34		33.72		46.41	46.41	5 / 4							
reaction time	0.199	interval				10.77		11.38		12.69		# of strides	11.57	10.77	11.38	12.69	22.34	24.07	1.73
		velocity		8.64		9.29		8.79		7.88	8.62	179.5	8.64	9.29	8.79	7.88	8.95	8.31	

Abubaker, Abbas (BRN) (1996)
FINAL - 2018 Asian Games (Jakarta, INA)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-18	time	6.37	11.39	16.50	21.84	27.37	33.15	39.38	46.41	46.41	6 / 7							
reaction time	0.170	interval		5.02	5.11	5.34	5.53	5.78	6.23	7.03		# of strides	11.39	10.45	11.31	13.26	21.84	24.57	2.73
		velocity	7.85	9.96	9.78	9.36	9.04	8.65	8.03	7.11	8.62	178.7	8.78	9.57	8.84	7.54	9.16	8.14	

Angela, Ramsey (NED) (1999)
National FINAL - 2022 Weltklasse (Zürich, SUI)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-22	time	6.48	11.74	17.12	22.66	28.32	34.11	40.12	46.41	46.41	8 / 6							
reaction time	0.195	interval		5.26	5.38	5.54	5.66	5.79	6.01	6.29		# of strides	11.74	10.92	11.45	12.30	22.66	23.75	1.09
		velocity	7.72	9.51	9.29	9.03	8.83	8.64	8.32	7.95	8.62		8.52	9.16	8.73	8.13	8.83	8.42	

Zharov, Innokentiy (RUS) (1968)
FINAL - 1997 European Cup (Munich, GER)
Jung (2003) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-97	time		11.51		22.34		34.07		46.42	46.42	/ 4							
reaction time		interval				10.83		11.73		12.35		# of strides	11.51	10.83	11.73	12.35	22.34	24.08	1.74
		velocity		8.69		9.23		8.53		8.10	8.62		8.69	9.23	8.53	8.10	8.95	8.31	

Horii, Kosuke (JPN) (1994)
FINAL - 2017 Japanese National Championships (Osaka, JPN)
Yamanaka (2017) - male and female 400m analysis in the 2017 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-17	time	6.23	11.46	16.77	22.25	27.85	33.81	39.83	46.42	46.42	2 / 4							
reaction time	0.170	interval		5.23	5.31	5.48	5.60	5.96	6.02	6.59		# of strides	11.46	10.79	11.56	12.61	22.25	24.17	1.92
		velocity	8.03	9.56	9.42	9.12	8.93	8.39	8.31	7.59	8.62	183.0	8.73	9.27	8.65	7.93	8.99	8.27	

Petrucciani, Ricky (SUI) (2000)
FINAL - 2021 Athletissima (Lausanne, SUI)
Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-21	time	6.3	11.4	16.7	22.3	27.8	33.5	39.6	46.42	46.42	3 / 7							
reaction time	0.141	interval		5.10	5.30	5.60	5.50	5.70	6.10	6.82		# of strides	11.40	10.90	11.20	12.92	22.30	24.12	1.82
		velocity	7.94	9.80	9.43	8.93	9.09	8.77	8.20	7.33	8.62		8.77	9.17	8.93	7.74	8.97	8.29	

Powell, Jevaughn (JAM) (2000)
Heat 3 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		11.26		21.99		33.53		46.42	46.42	6 / 4							
reaction time	0.142	interval				10.73		11.54		12.89		# of strides	11.26	10.73	11.54	12.89	21.99	24.43	2.44
		velocity		8.88		9.32		8.67		7.76	8.62	180.0	8.88	9.32	8.67	7.76	9.10	8.19	

Husillos, Óscar (ESP) (1993)
Heat 3 - 2022 European Athletics Championships (Munich, GER)
European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-22	time		11.31		21.78		33.29		46.42	46.42	3 / 5							
reaction time	0.212	interval				10.47		11.51		13.13		# of strides	11.31	10.47	11.51	13.13	21.78	24.64	2.86
		velocity		8.84		9.55		8.69		7.62	8.62		8.84	9.55	8.69	7.62	9.18	8.12	

Walsh, Julian Jrummi (JPN) (1996)
A FINAL - 2018 Shizuoka International Meeting (Fukuroi, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-18	time	6.16	11.26	16.48	21.89	27.48	33.36	39.63	46.43	46.43	5 / 2							
reaction time	0.160	interval		5.10	5.22	5.41	5.59	5.88	6.27	6.80		# of strides	11.26	10.63	11.47	13.07	21.89	24.54	2.65
		velocity	8.12	9.80	9.58	9.24	8.94	8.50	7.97	7.35	8.62	172.2	8.88	9.41	8.72	7.65	9.14	8.15	

Kimura, Kazushi (JPN) (1993)
FINAL - 2018 Japanese Corporate Championships (Osaka, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Sep-18	time	6.42	11.78	17.20	22.71	28.27	33.91	39.85	46.43	46.43	6 / 2							
reaction time	0.192	interval		5.36	5.42	5.51	5.56	5.64	5.94	6.58		# of strides	11.78	10.93	11.20	12.52	22.71	23.72	1.01
		velocity	7.79	9.33	9.23	9.07	8.99	8.87	8.42	7.60	8.62		8.49	9.15	8.93	7.99	8.81	8.43	

Kawauchi, Mitsuki (JPN) (1997)
FINAL - 2018 National Sports Festival (Fukui, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-18	time	6.28	11.58	17.12	22.75	28.49	34.34	40.25	46.43	46.43	7 / 1							
reaction time	0.174	interval		5.30	5.54	5.63	5.74	5.85	5.91	6.18		# of strides	11.58	11.17	11.59	12.09	22.75	23.68	0.93
		velocity	7.96	9.43	9.03	8.88	8.71	8.55	8.46	8.09	8.62		8.64	8.95	8.63	8.27	8.79	8.45	

Ito, Rikiya (JPN) (1998)
Heat 3 - 2019 Japanese National Championships (Fukuoka, JPN)
Yamanaka (2019) - race analysis of men and women 400m competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	27-Jun-19	time	6.36	11.46	16.70	22.25	27.95	33.86	39.96	46.43	46.43	6 / 3						
reaction time	0.167	interval		5.10	5.24	5.55	5.70	5.91	6.10	6.47		# of strides	11.46	10.79	11.61	12.57	22.25	24.18	1.93
		velocity	7.86	9.80	9.54	9.01	8.77	8.46	8.20	7.73	8.62		8.73	9.27	8.61	7.96	8.99	8.27	

Kebinatshipi, Collen (BOT) (2004)

FINAL - 2024 Memorial van damme (Brussels, BEL) — *Omega Timing (2024) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Sep-24	time	6.03	10.83	15.83	21.09	26.76	32.80	39.28	46.43	46.43	2 / 7							
reaction time	0.140	interval		4.80	5.00	5.26	5.67	6.04	6.48	7.15		# of strides	10.83	10.26	11.71	13.63	21.09	25.34	4.25
		velocity	8.29	10.42	10.00	9.51	8.82	8.28	7.72	6.99	8.62	192.0	9.23	9.75	8.54	7.34	9.48	7.89	

Vassella, Peter (AUS) (1941)

FINAL - 1964 Olympic Games (Tokyo, JPN) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Sep-64	time				22.0		34.1		46.3	46.3	3 / 7							
reaction time		interval						12.10		12.20	*(46.32)*	# of strides			12.10	12.20	22.00	24.30	2.30
		velocity				9.09		8.26		8.20	8.64				8.26	8.20	9.09	8.23	

Rysiukiewicz, Piotr (POL) (1974)

Heat 4 - 2002 European Championships (Munich, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-02	time		11.64		22.43		33.07		46.44	46.44	/ 4							
reaction time	0.216	interval				10.79		10.64		13.37		# of strides	11.64	10.79	10.64	13.37	22.43	24.01	1.58
		velocity		8.59		9.27		9.40		7.48	8.61		8.59	9.27	9.40	7.48	8.92	8.33	

Owens-Delerme, Ayden (PUR) (2000)

Decathlon - Heat 3 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Aug-23	time		11.22		21.71		33.51		46.44	46.44	7 / 1							
reaction time	0.162	interval				10.49		11.80		12.93		# of strides	11.22	10.49	11.80	12.93	21.71	24.73	3.02
		velocity		8.91		9.53		8.47		7.73	8.61	173.0	8.91	9.53	8.47	7.73	9.21	8.09	

Gaba, Kamghe (GER) (1984)

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Jun-09	time		11.22		21.73		33.27		46.45	46.45	6 / 6							
reaction time	0.302	interval				10.51		11.54		13.18		# of strides	11.22	10.51	11.54	13.18	21.73	24.72	2.99
		velocity		8.91		9.51		8.67		7.59	8.61		8.91	9.51	8.67	7.59	9.20	8.09	

Borlée, Kevin (BEL) (1988)

FINAL - 2007 European Cup (Munich, GER) — *Graubner (2007) - http://www.fgs.uni-halle.de*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-07	time		11.70		22.49		33.94		46.46	46.46	/ 6							
reaction time	0.166	interval				10.79		11.45		12.52		# of strides	11.70	10.79	11.45	12.52	22.49	23.97	1.48
		velocity		8.55		9.27		8.73		7.99	8.61		8.55	9.27	8.73	7.99	8.89	8.34	

Thompson, Lee (GBR) (1997)

FINAL - 2021 Müller British Grand Prix (Gateshead, GBR) — *Omega Timing (2021) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jul-21	time	6.4	11.5	16.8	22.4	27.9	33.7	39.9	46.46	46.46	7 / 3							
reaction time	0.161	interval		5.10	5.30	5.60	5.50	5.80	6.20	6.56		# of strides	11.50	10.90	11.30	12.76	22.40	24.06	1.66
		velocity	7.81	9.80	9.43	8.93	9.09	8.62	8.06	7.62	8.61		8.70	9.17	8.85	7.84	8.93	8.31	

Scotti, Edoardo (ITA) (2000)

Heat 5 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		11.58		22.07		33.65		46.46	46.46	7 / 6							
reaction time	0.170	interval				10.49		11.58		12.81		# of strides	11.58	10.49	11.58	12.81	22.07	24.39	2.32
		velocity		8.64		9.53		8.64		7.81	8.61	176.0	8.64	9.53	8.64	7.81	9.06	8.20	

Guevara, Asa (TTO) (1995)

Semi-Final 3 - 2022 Commonwealth Games (Birmingham, GBR) — *Longines Timing (2022) - commonwealth games race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-22	time	6.0	10.8	15.8	21.1	26.7	32.8	39.2	46.46	46.46	8 / 5							
reaction time	0.132	interval		4.80	5.00	5.30	5.60	6.10	6.40	7.26		# of strides	10.80	10.30	11.70	13.66	21.10	25.36	4.26
		velocity	8.33	10.42	10.00	9.43	8.93	8.20	7.81	6.89	8.61	175.2	9.26	9.71	8.55	7.32	9.48	7.89	

Dobber, Jochem (NED) (1997)

FINAL - 2022 Memorial van Damme (Brussels, BEL) — *Omega Timing (2022) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Sep-22	time	6.34	11.44	16.72	22.14	27.73	33.59	39.82	46.46	46.46	1 / 6							
reaction time	0.160	interval		5.10	5.28	5.42	5.59	5.86	6.23	6.64		# of strides	11.44	10.70	11.45	12.87	22.14	24.32	2.18
		velocity	7.89	9.80	9.47	9.23	8.94	8.53	8.03	7.53	8.61		8.74	9.35	8.73	7.77	9.03	8.22	

Osman, Ashraf (QAT) (2001)

FINAL - 2024 Seashore Doha Meeting (Doha, QAT) — *Omega Timing (2024) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-May-24	time	6.37	11.40	16.60	22.03	27.66	33.60	39.71	46.46	46.46	2 / 8							
reaction time	0.169	interval		5.03	5.20	5.43	5.63	5.94	6.11	6.75		# of strides	11.40	10.63	11.57	12.86	22.03	24.43	2.40
		velocity	7.85	9.94	9.62	9.21	8.88	8.42	8.18	7.41	8.61		8.77	9.41	8.64	7.78	9.08	8.19	

Anderson, Nathaniel (USA) (1987)

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-05	time		11.53	16.96	22.56	28.22	33.77	39.89	46.47	46.47	5 / 2							
reaction time		interval			5.43	5.60	5.66	5.55	6.12	6.58	PB	# of strides	11.53	11.03	11.21	12.70	22.56	23.91	1.35
		velocity		8.67	9.21	8.93	8.83	9.01	8.17	7.60	8.61		8.67	9.07	8.92	7.87	8.87	8.36	

Avilés, Luis (MEX) (2002)

Heat 2 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		11.41		22.56		34.24		46.47	46.47	2 / 6							
reaction time	0.140	interval				11.15		11.68		12.23		# of strides	11.41	11.15	11.68	12.23	22.56	23.91	1.35
		velocity		8.76		8.97		8.56		8.18	8.61		8.76	8.97	8.56	8.18	8.87	8.36	

Yang Wang (CHN) (1996)

Semi-Final 1 - 2023 Chinese National Championships (Quzhou, CHN) — *Shandong Athletics Sport Science (2023)*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-23	time		11.25		21.67		33.47	39.79	46.47	46.47	7 / 3							
reaction time	0.165	interval				10.42		11.80	6.32	6.68	PB	# of strides	11.25	10.42	11.80	13.00	21.67	24.80	3.13
		velocity		8.89		9.60		8.47	7.91	7.49	8.61	186.0	8.89	9.60	8.47	7.69	9.23	8.06	

Wissman, Johan (SWE) (1982)
FINAL - 2008 IAAF World Athletic Final (Stuttgart, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Sep-08	time		11.41		22.08		33.70		46.48	46.48	7 / 8							
reaction time	0.174	interval				10.67		11.62		12.78		# of strides	11.41	10.67	11.62	12.78	22.08	24.40	2.32
		velocity		8.76		9.37		8.61		7.82	8.61		8.76	9.37	8.61	7.82	9.06	8.20	

Takase, Kei (JPN) (1988)
FINAL - 2012 Kokutai National Sport Festival (Gifu, JPN)
Maho (2013) - race analysis of the men's 400m run in competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-12	time	6.06	11.01	16.05	21.33	27.01	33.02	39.35	46.48	46.48	/ 3							
reaction time		interval		4.95	5.04	5.28	5.68	6.01	6.33	7.13		# of strides	11.01	10.32	11.69	13.46	21.33	25.15	3.82
		velocity	8.25	10.10	9.92	9.47	8.80	8.32	7.90	7.01	8.61		9.08	9.69	8.55	7.43	9.38	7.95	

Kimura, Jun (JPN) (1991)
Heat 3 - 2017 Japanese National Championships (Osaka, JPN)
(2017) - tfdata-store.com/2017/07/08/post-965/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-17	time		11.20		21.67		33.18		46.48	46.48	3 / 6							
reaction time	0.141	interval				10.47		11.51		13.30		# of strides	11.20	10.47	11.51	13.30	21.67	24.81	3.14
		velocity		8.93		9.55		8.69		7.52	8.61	180.2	8.93	9.55	8.69	7.52	9.23	8.06	

Montgomery, Kahmari (USA) (1997)
FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jul-16	time	6.24	11.49	16.82	22.28	27.88	33.62	39.71	46.48	46.48	8 / 5							
reaction time	0.203	interval		5.25	5.33	5.46	5.60	5.74	6.09	6.77		# of strides	11.49	10.79	11.34	12.86	22.28	24.20	1.92
		velocity	8.01	9.52	9.38	9.16	8.93	8.71	8.21	7.39	8.61		8.70	9.27	8.82	7.78	8.98	8.26	

Kawauchi, Mitsuki (JPN) (1997)
A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)
Kobayashi (2019) - research on athlete performance and technique- 2019 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-19	time	6.27	11.42	16.67	22.07	27.73	33.68	39.86	46.48	46.48	5 / 1							
reaction time		interval		5.15	5.25	5.40	5.66	5.95	6.18	6.62		# of strides	11.42	10.65	11.61	12.80	22.07	24.41	2.34
		velocity	7.97	9.71	9.52	9.26	8.83	8.40	8.09	7.55	8.61	189.7	8.76	9.39	8.61	7.81	9.06	8.19	

Inoue, Daichi (JPN) (1999)
FINAL - 2020 Japanese National Championships (Niigata, JPN)
Yamanaka (2020) - 400m race analysis of men and women during 2020 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Oct-20	time	6.30	11.27	16.47	22.04	27.75	33.71	39.82	46.48	46.48	3 / 2							
reaction time	0.215	interval		4.97	5.20	5.57	5.71	5.96	6.11	6.66		# of strides	11.27	10.77	11.67	12.77	22.04	24.44	2.40
		velocity	7.94	10.06	9.62	8.98	8.76	8.39	8.18	7.51	8.61	175.2	8.87	9.29	8.57	7.83	9.07	8.18	

Suzuki, Aoto (JPN) (2001)
FINAL - 2021 Japanese National Championships (Osaka, JPN)
Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-21	time	6.15	11.32	16.57	22.07	27.78	33.78	39.93	46.48	46.48	2 / 3							
reaction time	0.163	interval		5.17	5.25	5.50	5.71	6.00	6.15	6.55		# of strides	11.32	10.75	11.71	12.70	22.07	24.41	2.34
		velocity	8.13	9.67	9.52	9.09	8.76	8.33	8.13	7.63	8.61		8.83	9.30	8.54	7.87	9.06	8.19	

Makwala, Isaac (BOT) (1986)
FINAL - 2023 FBK Games (Hengelo, NED)
Omega Timing (2023) - continental tour race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Jun-23	time	6.27	11.31	16.50	21.77	27.32	33.14	39.45	46.48	46.48	1 / 6							
reaction time	0.183	interval		5.04	5.19	5.27	5.55	5.82	6.31	7.03		# of strides	11.31	10.46	11.37	13.34	21.77	24.71	2.94
		velocity	7.97	9.92	9.63	9.49	9.01	8.59	7.92	7.11	8.61		8.84	9.56	8.80	7.50	9.19	8.09	

Kato, Nobuya (JPN) (1995)
FINAL - 2014 Japanese National Championships (Fukushima, JPN)
Maho (2014) - race analysis of men's 400m run in the 2014 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jun-14	time	6.44	11.65	16.95	22.35	27.93	33.79	39.89	46.49	46.49	8 / 4							
reaction time		interval		5.21	5.30	5.40	5.58	5.86	6.10	6.60		# of strides	11.65	10.70	11.44	12.70	22.35	24.14	1.79
		velocity	7.76	9.60	9.43	9.26	8.96	8.53	8.20	7.58	8.60	170.0	8.58	9.35	8.74	7.87	8.95	8.29	

Horii, Kosuke (JPN) (1994)
FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-May-18	time	6.27	11.37	16.58	22.15	27.99	33.97	40.11	46.49	46.49	7 / 6							
reaction time	0.169	interval		5.10	5.21	5.57	5.84	5.98	6.14	6.38		# of strides	11.37	10.78	11.82	12.52	22.15	24.34	2.19
		velocity	7.97	9.80	9.60	8.98	8.56	8.36	8.14	7.84	8.60	185.2	8.80	9.28	8.46	7.99	9.03	8.22	

Ito, Rikiya (JPN) (1998)
FINAL - 2018 National Sports Festival (Fukui, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-18	time	6.36	11.57	16.93	22.47	28.21	34.10	40.09	46.49	46.49	6 / 2							
reaction time	0.166	interval		5.21	5.36	5.54	5.74	5.89	5.99	6.40	PB	# of strides	11.57	10.90	11.63	12.39	22.47	24.02	1.55
		velocity	7.86	9.60	9.33	9.03	8.71	8.49	8.35	7.81	8.60		8.64	9.17	8.60	8.07	8.90	8.33	

Haydock-Wilson, Alex (GBR) (1999)
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-May-22	time	6.26	11.40	16.82	22.37	28.01	33.87	39.99	46.49	46.49	2 / 7							
reaction time	0.137	interval		5.14	5.42	5.55	5.64	5.86	6.12	6.50		# of strides	11.40	10.97	11.50	12.62	22.37	24.12	1.75
		velocity	7.99	9.73	9.23	9.01	8.87	8.53	8.17	7.69	8.60		8.77	9.12	8.70	7.92	8.94	8.29	

Re, Davide (ITA) (1993)
Heat 4 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		11.72		22.33		33.91		46.49	46.49	4 / 5							
reaction time	0.148	interval				10.61		11.58		12.58		# of strides	11.72	10.61	11.58	12.58	22.33	24.16	1.83
		velocity		8.53		9.43		8.64		7.95	8.60	176.0	8.53	9.43	8.64	7.95	8.96	8.28	

Scotti, Edoardo (ITA) (2000)
Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)
European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		11.28		21.69		33.18		46.49	46.49	2 / 7							
reaction time	0.216	interval				10.41		11.49		13.31		# of strides	11.28	10.41	11.49	13.31	21.69	24.80	3.11
		velocity		8.87		9.61		8.70		7.51	8.60	172.7	8.87	9.61	8.70	7.51	9.22	8.06	

Liang Baotang (CHN) (2003)
Semi-Final 2 - 2023 Chinese National Championships (Quzhou, CHN)
Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	21-Jul-23	time		11.55		22.74		34.20	40.19	46.49	46.49	6 / 1						
reaction time	0.166	interval				11.19		11.46	5.99	6.30	PB	# of strides	11.55	11.19	11.46	12.29	22.74	23.75	1.01
		velocity		8.66		8.94		8.73	8.35	7.94	8.60	195.0	8.66	8.94	8.73	8.14	8.80	8.42	

Zambrano, Anthony (COL) (1998)

FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jul-16	time	6.15	11.33	16.72	22.41	28.14	34.05	40.09	46.50	46.50	2 / 6							
reaction time	0.185	interval		5.18	5.39	5.69	5.73	5.91	6.04	6.41		# of strides	11.33	11.08	11.64	12.45	22.41	24.09	1.68
		velocity	8.13	9.65	9.28	8.79	8.73	8.46	8.28	7.80	8.60		8.83	9.03	8.59	8.03	8.92	8.30	

Sato, Fuga (JPN) (1996)

FINAL - 2020 Japanese National Championships (Niigata, JPN)

Yamanaka (2020) - 400m race analysis of men and women during 2020 season

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Oct-20	time	6.43	11.53	16.82	22.38	28.07	33.89	39.93	46.50	46.50	9 / 3							
reaction time	0.176	interval		5.10	5.29	5.56	5.69	5.82	6.04	6.57		# of strides	11.53	10.85	11.51	12.61	22.38	24.12	1.74
		velocity	7.78	9.80	9.45	8.99	8.79	8.59	8.28	7.61	8.60	180.7	8.67	9.22	8.69	7.93	8.94	8.29	

Bynum, Emmanuel (USA) (2000)

Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-24	time		11.37		22.14		33.65		46.50	46.50	2 / 6							
reaction time		interval				10.77		11.51		12.85		# of strides	11.37	10.77	11.51	12.85	22.14	24.36	2.22
		velocity		8.80		9.29		8.69		7.78	8.60		8.80	9.29	8.69	7.78	9.03	8.21	

Semyonov, Andrey (RUS) (1977)

Semi-Final 2 - 2002 European Championships (Munich, GER)

Graubner (2009) - http://www.fgs.uni-halle.de

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-02	time		11.71		22.38		33.85		46.51	46.51	/ 7							
reaction time	0.139	interval				10.67		11.47		12.66		# of strides	11.71	10.67	11.47	12.66	22.38	24.13	1.75
		velocity		8.54		9.37		8.72		7.90	8.60		8.54	9.37	8.72	7.90	8.94	8.29	

Swarn, Brian (USA) (1979)

Semi-Final 1 - 2003 USATF National Championships (Palo Alto, CA)

USATF Women's Sprint Development (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-03	time				22.17		33.88	39.94	46.51	46.51	3 / ~~8~~ 5							
reaction time		interval						11.71	6.06	6.57		# of strides			11.71	12.63	22.17	24.34	2.17
		velocity				9.02		8.54	8.25	7.61	8.60				8.54	7.92	9.02	8.22	

Tomoda, Masataka (JPN) (2003)

A FINAL - 2020 Japanese High School National Championships (Hiroshima, JPN)

Kobayashi (2020) - national high school and U20 national championhsips

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Oct-20	time	6.23	11.36	16.65	22.12	27.79	33.75	40.01	46.51	46.51	3 / 1							
reaction time	0.152	interval		5.13	5.29	5.47	5.67	5.96	6.26	6.50		# of strides	11.36	10.76	11.63	12.76	22.12	24.39	2.27
		velocity	8.03	9.75	9.45	9.14	8.82	8.39	7.99	7.69	8.60	172.6	8.80	9.29	8.60	7.84	9.04	8.20	

Li Yiqing (CHN) (2005)

FINAL - 2023 Chinese National Championships (Quzhou, CHN)

Shandong Athletics Sport Science (2023)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jul-23	time		11.61		22.69		34.35	40.23	46.51	46.51	6 / 2							
reaction time	0.194	interval				11.08		11.66	5.88	6.28		# of strides	11.61	11.08	11.66	12.16	22.69	23.82	1.13
		velocity		8.61		9.03		8.58	8.50	7.96	8.60	186.0	8.61	9.03	8.58	8.22	8.81	8.40	

Larry, Lionel (USA) (1986)

FINAL - 2005 USATF National Junior Championships (Carson, CA)

USATF Women's Sprint Development (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-05	time		11.35	16.52	21.91	27.55	33.19	39.48	46.52	46.52	4 / 3							
reaction time		interval			5.17	5.39	5.64	5.64	6.29	7.04		# of strides	11.35	10.56	11.28	13.33	21.91	24.61	2.70
		velocity		8.81	9.67	9.28	8.87	8.87	7.95	7.10	8.60		8.81	9.47	8.87	7.50	9.13	8.13	

Horii, Kosuke (JPN) (1994)

FINAL - 2016 Japanese National Championships (Nagoya, JPN)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-16	time	6.25	11.43	16.75	22.25	27.98	33.93	40.06	46.52	46.52	7 / 7							
reaction time	0.167	interval		5.18	5.32	5.50	5.73	5.95	6.13	6.46		# of strides	11.43	10.82	11.68	12.59	22.25	24.27	2.02
		velocity	8.00	9.65	9.40	9.09	8.73	8.40	8.16	7.74	8.60		8.75	9.24	8.56	7.94	8.99	8.24	

Ito, Rikiya (JPN) (1998)

Semi-Final 2 - 2019 Asian Athletics Championships (Doha, QAT)

Yamanaka (2019) - race analysis of men and women 400m competition

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Apr-19	time	6.30	11.49	16.83	22.37	28.11	34.05	40.15	46.52	46.52	7 / 3							
reaction time	0.153	interval		5.19	5.34	5.54	5.74	5.94	6.10	6.37		# of strides	11.49	10.88	11.68	12.47	22.37	24.15	1.78
		velocity	7.94	9.63	9.36	9.03	8.71	8.42	8.20	7.85	8.60		8.70	9.19	8.56	8.02	8.94	8.28	

Williams, Harrison (USA) (1996)

Decathlon - Heat 3 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Aug-23	time		11.41		21.79		33.69		46.52	46.52	6 / 2							
reaction time	0.200	interval				10.38		11.90		12.83		# of strides	11.41	10.38	11.90	12.83	21.79	24.73	2.94
		velocity		8.76		9.63		8.40		7.79	8.60	159.0	8.76	9.63	8.40	7.79	9.18	8.09	

Bujna, Šimon (SVK) (1995)

Heat 2 - 2024 European Athletics Championships (Roma, ITA)

European Athletics (2024) - 2024 european athletics championships - results book

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jun-24	time		11.46		22.16		33.77		46.52	46.52	2 / 9							
reaction time	0.165	interval				10.70		11.61		12.75		# of strides	11.46	10.70	11.61	12.75	22.16	24.36	2.20
		velocity		8.73		9.35		8.61		7.84	8.60		8.73	9.35	8.61	7.84	9.03	8.21	

Campbell, Milton (USA) (1976)

Semi-Final 2 - 2003 USATF National Championships (Palo Alto, CA)

USATF Women's Sprint Development (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-03	time				21.77		33.79	39.77	46.53	46.53	3 / 8							
reaction time		interval						12.02	5.98	6.76		# of strides			12.02	12.74	21.77	24.76	2.99
		velocity				9.19		8.32	8.36	7.40	8.60				8.32	7.85	9.19	8.08	

Watanabe, Kazuya (JPN) (1988)

FINAL - 2014 Shizuoka International Athletics Meeting (Fukuori, JPN)

Maho (2014) - race analysis of men's 400m run in the 2014 season

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-14	time	6.29	11.52	16.75	22.12	27.69	33.61	39.87	46.53	46.53	/ 6							
reaction time		interval		5.23	5.23	5.37	5.57	5.92	6.26	6.66		# of strides	11.52	10.60	11.49	12.92	22.12	24.41	2.29
		velocity	7.95	9.56	9.56	9.31	8.98	8.45	7.99	7.51	8.60		8.68	9.43	8.70	7.74	9.04	8.19	

Fields, Howard (USA) (1999)
FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)
Koyama (2018) - research on athlete performance and technique- 2018 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jul-18	time	6.16	11.24	16.47	21.95	27.61	33.42	39.64	46.53	46.53	2 / 5							
reaction time	0.163	interval		5.08	5.23	5.48	5.66	5.81	6.22	6.89		# of strides	11.24	10.71	11.47	13.11	21.95	24.58	2.63
		velocity	8.12	9.84	9.56	9.12	8.83	8.61	8.04	7.26	8.60		8.90	9.34	8.72	7.63	9.11	8.14	

Devantay, Charles (SUI) (1998)
National FINAL - 2022 Weltklasse (Zürich, SUI)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-22	time	6.27	11.41	16.72	22.16	27.82	33.77	39.96	46.53	46.53	2 / 7							
reaction time	0.144	interval		5.14	5.31	5.44	5.66	5.95	6.19	6.57		# of strides	11.41	10.75	11.61	12.76	22.16	24.37	2.21
		velocity	7.97	9.73	9.42	9.19	8.83	8.40	8.08	7.61	8.60		8.76	9.30	8.61	7.84	9.03	8.21	

Zalewski, Karol (POL) (1993)
Heat 5 - 2023 World Athletics Championships (Budapest, HUN)
Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		11.37		22.03		33.80		46.53	46.53	2 / 6							
reaction time	0.168	interval				10.66		11.77		12.73		# of strides	11.37	10.66	11.77	12.73	22.03	24.50	2.47
		velocity		8.80		9.38		8.50		7.86	8.60		8.80	9.38	8.50	7.86	9.08	8.16	

Eastman, Benjamin (USA) (1911)
FINAL - 1932 Olympic Games (Los Angeles, CA)
Quercetani (2005) - a world history of the one-lap race: 1850-2004

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-32	time		10.8		21.9		33.6		46.4	46.4	2 / 2							
reaction time		interval				11.10		11.70		12.80	*(46.50)*	# of strides	10.80	11.10	11.70	12.80	21.90	24.50	2.60
		velocity		9.26		9.01		8.55		7.81	8.62		9.26	9.01	8.55	7.81	9.13	8.16	

McKenley, Herb (JAM) (1922)
FINAL - 1948 Olympic Games (London, GBR)
Parienté (1978) - la fabuleuse histoire de l'athlétisme

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-48	time				21.4				46.4	46.4	2 / 2							
reaction time		interval								25.0		# of strides					21.40	25.00	3.60
		velocity				9.35				8.00	8.62	*(46.53)*					9.35	8.00	

Rapnouil, Jean-Louis (FRA) (1965)
FINAL - 1997 European Cup (Munich, GER)
Jung (2003) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-97	time		11.70		22.67		34.14		46.46	46.54	/ 5							
reaction time		interval				10.97		11.47		12.32		# of strides	11.70	10.97	11.47	12.32	22.67	23.79	1.12
		velocity		8.55		9.12		8.72		8.12	8.59		8.55	9.12	8.72	8.12	8.82	8.41	

Semyonov, Andrey (RUS) (1977)
Heat 3 - 2002 European Championships (Munich, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-02	time		11.65		22.26		33.70		46.54	46.54	/ 3							
reaction time	0.138	interval				10.61		11.44		12.84		# of strides	11.65	10.61	11.44	12.84	22.26	24.28	2.02
		velocity		8.58		9.43		8.74		7.79	8.59		8.58	9.43	8.74	7.79	8.98	8.24	

Walsh, Julian Jrummi (JPN) (1996)
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Oct-15	time	6.24	11.35	16.60	22.05	27.68	33.66	39.94	46.54	46.54	/ 1							
reaction time		interval		5.11	5.25	5.45	5.63	5.98	6.28	6.60		# of strides	11.35	10.70	11.61	12.88	22.05	24.49	2.44
		velocity	8.01	9.78	9.52	9.17	8.88	8.36	7.96	7.58	8.59		8.81	9.35	8.61	7.76	9.07	8.17	

Rhoden-Stevens, Jamal (GBR) (1994)
National FINAL - 2018 Müller Anniversary Games (London, GBR)
Omega Timing (2018) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-18	time		11.6		22.6		34.1		46.54	46.54	3 / 3							
reaction time	0.138	interval				11.0		11.5		12.4	PB	# of strides	11.60	11.00	11.50	12.44	22.60	23.94	1.34
		velocity		8.62		9.09		8.70		8.04	8.59		8.62	9.09	8.70	8.04	8.85	8.35	

Wakabayashi, Kota (JPN) (1997)
FINAL - 2018 National Sports Festival (Fukui, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-18	time	6.31	11.41	16.74	22.27	28.01	33.88	39.93	46.54	46.54	4 / 3							
reaction time	0.194	interval		5.10	5.33	5.53	5.74	5.87	6.05	6.61		# of strides	11.41	10.86	11.61	12.66	22.27	24.27	2.00
		velocity	7.92	9.80	9.38	9.04	8.71	8.52	8.26	7.56	8.59		8.76	9.21	8.61	7.90	8.98	8.24	

Gu Xiofei (CHN) (2001)
FINAL - 2023 Chinese World Championship & Asian Games Trials (Shenyang, CHN)
Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jun-23	time		11.48		22.12		33.75	39.82	46.54	46.54	4 / 2							
reaction time	0.228	interval				10.64		11.63	6.07	6.72		# of strides	11.48	10.64	11.63	12.79	22.12	24.42	2.30
		velocity		8.71		9.40		8.60	8.24	7.44	8.59	176.7	8.71	9.40	8.60	7.82	9.04	8.19	

Kitagawa, Takamasa (JPN) (1996)
FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)
Yamanaka (2017) - male and female 400m analysis in the 2017 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-17	time	6.24	11.32	16.63	22.13	27.82	33.66	39.82	46.55	46.55	/ 1							
reaction time		interval		5.08	5.31	5.50	5.69	5.84	6.16	6.73		# of strides	11.32	10.81	11.53	12.89	22.13	24.42	2.29
		velocity	8.01	9.84	9.42	9.09	8.79	8.56	8.12	7.43	8.59		8.83	9.25	8.67	7.76	9.04	8.19	

Watanabe, Yoshihiro (JPN) (1997)
FINAL - 2017 National Sports Festival (Matsuyama, JPN)
Yamanaka (2017) - male and female 400m analysis in the 2017 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time	5.99	11.02	16.23	21.75	27.50	33.51	39.79	46.55	46.55	8 / 2							
reaction time	0.165	interval		5.03	5.21	5.52	5.75	6.01	6.28	6.76	PB	# of strides	11.02	10.73	11.76	13.04	21.75	24.80	3.05
		velocity	8.35	9.94	9.60	9.06	8.70	8.32	7.96	7.40	8.59	189.0	9.07	9.32	8.50	7.67	9.20	8.06	

Sato, Kentaro (JPN) (1994)
A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)
Kobayashi (2019) - research on athlete performance and technique- 2019 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-19	time	6.21	11.26	16.48	21.83	27.51	33.58	39.94	46.55	46.55	2 / 2							
reaction time		interval		5.05	5.22	5.35	5.68	6.07	6.36	6.61		# of strides	11.26	10.57	11.75	12.97	21.83	24.72	2.89
		velocity	8.05	9.90	9.58	9.35	8.80	8.24	7.86	7.56	8.59		8.88	9.46	8.51	7.71	9.16	8.09	

Matsukiyo, Kazuki (JPN) (1997)
Heat 2 - 2019 Japanese National Championships (Fukuoka, JPN)
Yamanaka (2019) - race analysis of men and women 400m competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	27-Jun-19	time	6.49	11.91	17.38	22.90	28.50	34.19	40.07	46.55	46.55	3 / 3						
reaction time	0.205	interval		5.42	5.47	5.52	5.60	5.69	5.88	6.48		# of strides	11.91	10.99	11.29	12.36	22.90	23.65	0.75
		velocity	7.70	9.23	9.14	9.06	8.93	8.79	8.50	7.72	8.59		8.40	9.10	8.86	8.09	8.73	8.46	

Aceti, Vladimir (ITA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Golden Gala Pietro Mennea (Florence, ITA)																	*Omega Timing (2021) - diamond league race analysis*
date 10-Jun-21 time	6.6	11.8	17.1	22.5	28.1	33.9	40.0	46.55	46.55	2 / 7							
reaction time 0.170 interval		5.20	5.30	5.40	5.60	5.80	6.10	6.55		# of strides	11.80	10.70	11.40	12.65	22.50	24.05	1.55
velocity	7.58	9.62	9.43	9.26	8.93	8.62	8.20	7.63	8.59		8.47	9.35	8.77	7.91	8.89	8.32	

Metzger, Kevin (GBR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)																	*Omega Timing (2022) - diamond league race analysis*
date 21-May-22 time	6.3	11.4	16.7	22.2	28.0	34.1	40.1	46.55	46.55	4 / 2							
reaction time 0.157 interval		5.10	5.30	5.50	5.80	6.10	6.00	6.45		# of strides	11.40	10.80	11.90	12.45	22.20	24.35	2.15
velocity	7.94	9.80	9.43	9.09	8.62	8.20	8.33	7.75	8.59	180.5	8.77	9.26	8.40	8.03	9.01	8.21	

Brijdenbach, Alfons (BEL) (1954)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 1 - 1976 Olympic Games (Montreal, CAN)																	*Lamare (1976) - les jeux de la XXI olympia, Montreal 1976*
date 26-Jul-76 time				22.2		33.7		46.56	46.56	3 / 2							
reaction time						11.5		12.86		# of strides			11.50	12.86	22.20	24.36	2.16
velocity				9.01		8.70		7.78	8.59				8.70	7.78	9.01	8.21	

Li Yiqing (CHN) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2023 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2023)*
date 21-Jul-23 time		11.57		22.32		34.05	40.13	46.56	46.56	3 / 1							
reaction time 0.208 interval				10.75		11.73	6.08	6.43		# of strides	11.57	10.75	11.73	12.51	22.32	24.24	1.92
velocity		8.64		9.30		8.53	8.22	7.78	8.59	185.5	8.64	9.30	8.53	7.99	8.96	8.25	

Williams, Harrison (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 21-Jun-24 time		11.24		21.82		33.80		46.56	46.56	9 / 1							
reaction time				10.58		11.98		12.76		# of strides	11.24	10.58	11.98	12.76	21.82	24.74	2.92
velocity		8.90		9.45		8.35		7.84	8.59		8.90	9.45	8.35	7.84	9.17	8.08	

Blair, Anthony (USA) (1957)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 USA Olympic Trials (Eugene, OR)																	*Track Newsletter (1980) - US olympic trials*
date 27-Jun-80 time		12.1		23.5		34.5		46.6	46.57	/ 6							
reaction time				11.40		11.00		12.07		# of strides	12.10	11.40	11.00	12.07	23.50	23.07	-0.43
velocity		8.26		8.77		9.09		8.29	8.59		8.26	8.77	9.09	8.29	8.51	8.67	

Kitagawa, Takamasa (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)																	*Yanagiya (2014) - research on athlete performance and technique- 2014 data book*
date 30-Jul-14 time	6.50	11.79	17.05	22.42	27.91	33.79	40.08	46.57	46.57	/ 1							
reaction time		5.29	5.26	5.37	5.49	5.88	6.29	6.49		# of strides	11.79	10.63	11.37	12.78	22.42	24.15	1.73
velocity	7.69	9.45	9.51	9.31	9.11	8.50	7.95	7.70	8.59		8.48	9.41	8.80	7.82	8.92	8.28	

Ito, Rikiya (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)																	*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*
date 23-Jun-18 time	6.31	11.52	16.83	22.41	28.17	34.14	40.22	46.57	46.57	6 / 3							
reaction time 0.140 interval		5.21	5.31	5.58	5.76	5.97	6.08	6.35	PB	# of strides	11.52	10.89	11.73	12.43	22.41	24.16	1.75
velocity	7.92	9.60	9.42	8.96	8.68	8.38	8.22	7.87	8.59	186.7	8.68	9.18	8.53	8.05	8.92	8.28	

Zalewski, Karol (POL) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 The Match - Europe v USA (Minsk, BLR)																	*Omega Timing (2019) - diamond league race analysis*
date 09-Sep-19 time		11.30		22.06		33.65		46.57	46.57	2 / 5							
reaction time 0.171 interval				10.76		11.59		12.92		# of strides	11.30	10.76	11.59	12.92	22.06	24.51	2.45
velocity		8.85		9.29		8.63		7.74	8.59	175.2	8.85	9.29	8.63	7.74	9.07	8.16	

Yoshizu, Takuho (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Japanese National Championships (Niigata, JPN)																	*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*
date 02-Oct-20 time	6.33	11.51	16.83	22.36	28.00	33.81	39.86	46.57	46.57	5 / 4							
reaction time 0.171 interval		5.18	5.32	5.53	5.64	5.81	6.05	6.71	PB	# of strides	11.51	10.85	11.45	12.76	22.36	24.21	1.85
velocity	7.90	9.65	9.40	9.04	8.87	8.61	8.26	7.45	8.59	176.0	8.69	9.22	8.73	7.84	8.94	8.26	

Duszynski, Kajetan (POL) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22 time		11.29		22.11		33.60		46.57	46.57	6 / 7							
reaction time 0.132 interval				10.82		11.49		12.97		# of strides	11.29	10.82	11.49	12.97	22.11	24.46	2.35
velocity		8.86		9.24		8.70		7.71	8.59		8.86	9.24	8.70	7.71	9.05	8.18	

James-King, Malik (JAM) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Kingston (Kingston, JAM)																	*Grand Slam Track (2025) - results and splits by race*
date 06-Apr-25 time		13.55		22.31		33.66		46.57	46.57	3 / 5							
reaction time 0.180 interval				8.76		11.35		12.91		# of strides	13.55	8.76	11.35	12.91	22.31	24.26	1.95
velocity		7.38		11.42		8.81		7.75	8.59	186.0	7.38	11.42	8.81	7.75	8.96	8.24	

Tamura, Tomoya (JPN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Championships (Niigata, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 28-Jun-15 time	6.36	11.64	17.08	22.54	28.19	33.81	39.86	46.58	46.58	9 / 3							
reaction time 0.205 interval		5.28	5.44	5.46	5.65	5.62	6.05	6.72		# of strides	11.64	10.90	11.27	12.77	22.54	24.04	1.50
velocity	7.86	9.47	9.19	9.16	8.85	8.90	8.26	7.44	8.59	186.2	8.59	9.17	8.87	7.83	8.87	8.32	

Tamura, Tomoya (JPN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)																	*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*
date 23-Jun-18 time	6.18	11.33	16.58	22.07	27.75	33.62	39.82	46.58	46.58	8 / 4							
reaction time 0.169 interval		5.15	5.25	5.49	5.68	5.87	6.20	6.76		# of strides	11.33	10.74	11.55	12.96	22.07	24.51	2.44
velocity	8.09	9.71	9.52	9.11	8.80	8.52	8.06	7.40	8.59	185.7	8.83	9.31	8.66	7.72	9.06	8.16	

Obuchi, Mizuki (JPN) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Japanese National Championships (Niigata, JPN)															*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*	
date 02-Oct-20	time	6.31	11.40	16.80	22.52	28.36	34.30	40.21	46.58	46.58	7 / 5							
reaction time 0.179	interval		5.09	5.40	5.72	5.84	5.94	5.91	6.37		# of strides	11.40	11.12	11.78	12.28	22.52	24.06	1.54
	velocity	7.92	9.82	9.26	8.74	8.56	8.42	8.46	7.85	8.59	192.2	8.77	8.99	8.49	8.14	8.88	8.31	

Ikeda, Kosuke (JPN) (1995)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)															*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*	
date 09-May-21	time	6.25	11.27	16.40	21.83	27.49	33.42	39.77	46.58	46.58	9 / 4							
reaction time 0.156	interval		5.02	5.13	5.43	5.66	5.93	6.35	6.81	PB	# of strides	11.27	10.56	11.59	13.16	21.83	24.75	2.92
	velocity	8.00	9.96	9.75	9.21	8.83	8.43	7.87	7.34	8.59		8.87	9.47	8.63	7.60	9.16	8.08	

Yoshiki, Tsubasa (JPN) (2003)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U20 National Championships (Osaka, JPN)															*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*	
date 25-Jun-21	time	6.22	11.27	16.45	21.86	27.36	33.18	39.58	46.58	46.58	6 / 1							
reaction time 0.172	interval		5.05	5.18	5.41	5.50	5.82	6.40	7.00	PB	# of strides	11.27	10.59	11.32	13.40	21.86	24.72	2.86
	velocity	8.04	9.90	9.65	9.24	9.09	8.59	7.81	7.14	8.59	207.0	8.87	9.44	8.83	7.46	9.15	8.09	

Yang Wang (CHN) (1996)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Championships (Quzhou, CHN)															*Shandong Athletics Sport Science (2023)*	
date 22-Jul-23	time		11.33		22.10		33.80	40.03	46.58	46.58	3 / 3							
reaction time 0.198	interval				10.77		11.70	6.23	6.55		# of strides	11.33	10.77	11.70	12.78	22.10	24.48	2.38
	velocity		8.83		9.29		8.55	8.03	7.63	8.59	186.2	8.83	9.29	8.55	7.82	9.05	8.17	

Sasaki, Yudai (JPN) (1986)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)															*Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m*	
date 24-Sep-06	time	6.3	11.5	16.6	22.1	27.8	33.7	39.8	46.59	46.59	1 / 7							
reaction time	interval		5.20	5.10	5.50	5.70	5.90	6.10	6.79		# of strides	11.50	10.60	11.60	12.89	22.10	24.49	2.39
	velocity	7.94	9.62	9.80	9.09	8.77	8.47	8.20	7.36	8.59		8.70	9.43	8.62	7.76	9.05	8.17	

Uike, Yuji (JPN) (1998)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)															*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*	
date 21-Oct-16	time	6.56	11.93	17.32	22.83	28.54	34.39	40.39	46.59	46.59	3 / 1							
reaction time	interval		5.37	5.39	5.51	5.71	5.85	6.00	6.20	PB	# of strides	11.93	10.90	11.56	12.20	22.83	23.76	0.93
	velocity	7.62	9.31	9.28	9.07	8.76	8.55	8.33	8.06	8.59		8.38	9.17	8.65	8.20	8.76	8.42	

Uike, Yuji (JPN) (1998)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2017 Japanese National Championships (Osaka, JPN)															*(2017) - tfdata-store.com/2017/07/08/post-965/*	
date 23-Jun-17	time		11.27		21.80		33.27		46.59	46.59	6 / 5							
reaction time 0.194	interval				10.53		11.47		13.32	=PB	# of strides	11.27	10.53	11.47	13.32	21.80	24.79	2.99
	velocity		8.87		9.50		8.72		7.51	8.59	185.2	8.87	9.50	8.72	7.51	9.17	8.07	

Ito, Rikiya (JPN) (1998)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Final - 2021 Japanese National Championships (Osaka, JPN)															*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*	
date 25-Jun-21	time	6.28	11.36	16.60	22.11	27.91	33.90	40.00	46.58	46.59	7 / 4							
reaction time 0.174	interval		5.08	5.24	5.51	5.80	5.99	6.10	6.58		# of strides	11.36	10.75	11.79	12.68	22.11	24.47	2.36
	velocity	7.96	9.84	9.54	9.07	8.62	8.35	8.20	7.60	8.59		8.80	9.30	8.48	7.89	9.05	8.17	

Higgins, Ben (GBR) (2000)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)															*Omega Timing (2022) - diamond league race analysis*	
date 21-May-22	time	6.3	11.4	16.6	22.0	27.7	33.8	40.0	46.59	46.59	3 / 3							
reaction time 0.134	interval		5.10	5.20	5.40	5.70	6.10	6.20	6.59		# of strides	11.40	10.60	11.80	12.79	22.00	24.59	2.59
	velocity	7.94	9.80	9.62	9.26	8.77	8.20	8.06	7.59	8.59	194.0	8.77	9.43	8.47	7.82	9.09	8.13	

Willie, Ryan (USA) (2002)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 USA Olympic Trials (Eugene, OR)															*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*	
date 21-Jun-24	time		11.45		22.30		34.02		46.59	46.59	7 / 7							
reaction time	interval				10.85		11.72		12.57		# of strides	11.45	10.85	11.72	12.57	22.30	24.29	1.99
	velocity		8.73		9.22		8.53		7.96	8.59	172.2	8.73	9.22	8.53	7.96	8.97	8.23	

Boase, Jordan (USA) (1985)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2008 USA Olympic Trials (Eugene, OR)															*USATF Women's Sprint Development with HPC (2008)*	
date 30-Jun-08	time		11.42		22.12	27.66	33.72	39.82	46.60	46.60	3 / 7							
reaction time	interval				10.70	5.54	6.06	6.10	6.78		# of strides	11.42	10.70	11.60	12.88	22.12	24.48	2.36
	velocity		8.76		9.35	9.03	8.25	8.20	7.37	8.58		8.76	9.35	8.62	7.76	9.04	8.17	

Kawauchi, Mitsuki (JPN) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)															*(2017) - tfdata-store.com/2017/05/13/post-441/*	
date 11-May-17	time		11.42		22.01		33.47		46.60	46.60	5 / 1							
reaction time	interval				10.59		11.46		13.13	PB	# of strides	11.42	10.59	11.46	13.13	22.01	24.59	2.58
	velocity		8.76		9.44		8.73		7.62	8.58	186.7	8.76	9.44	8.73	7.62	9.09	8.13	

Janežič, Luka (SLO) (1995)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Bauhaus Galan (Stockholm, SWE)															*Omega Timing (2019) - diamond league race analysis*	
date 30-May-19	time		11.4		22.2		33.8		46.60	46.60	8 / 5							
reaction time 0.162	interval				10.8		11.6		12.8		# of strides	11.40	10.80	11.60	12.80	22.20	24.40	2.20
	velocity		8.77		9.26		8.62		7.81	8.58	170.0	8.77	9.26	8.62	7.81	9.01	8.20	

Watrin, Julien (BEL) (1992)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Memorial van Damme (Brussels, BEL)															*Omega Timing (2019) - diamond league race analysis*	
date 06-Sep-19	time	6.4	11.4	16.6	22.0	27.7	33.6	39.8	46.60	46.60	3 / 5							
reaction time	interval		5.0	5.2	5.4	5.7	5.9	6.2	13.0		# of strides	11.40	10.60	11.60	13.00	22.00	24.60	2.60
	velocity	7.81	10.00	9.62	9.26	8.77	8.47	8.06	7.69	8.58		8.77	9.43	8.62	7.69	9.09	8.13	

Ingvalsen, Håvard Bentdal (NOR) (20(

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Bislett Games (Oslo, NOR)															*Omega Timing (2022) - diamond league race analysis*	

date	16-Jun-22	time	6.42	11.54	16.76	22.15	27.77	33.73	39.91	46.60	46.60	8 / 8						
reaction time	0.175	interval		5.12	5.22	5.39	5.62	5.96	6.18	6.69		# of strides	11.54	10.61	11.58	12.87	22.15	24.45	2.30
		velocity	7.79	9.77	9.58	9.28	8.90	8.39	8.09	7.47	8.58	185.5	8.67	9.43	8.64	7.77	9.03	8.18	

Petrucciani, Ricky (SUI) (2000)

Heat 3 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 17-Jul-22	time	11.26		22.13		33.55		46.60	46.60	5 / 5							
reaction time 0.165	interval			10.87		11.42		13.05		# of strides	11.26	10.87	11.42	13.05	22.13	24.47	2.34
	velocity	8.88		9.20		8.76		7.66	8.58	180.2	8.88	9.20	8.76	7.66	9.04	8.17	

St. Hillaire, Dwight (TTO) (1997)

Heat 4 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 17-Jul-22	time	11.49		22.25		33.96		46.60	46.60	5 / 6							
reaction time 0.166	interval			10.76		11.71		12.64		# of strides	11.49	10.76	11.71	12.64	22.25	24.35	2.10
	velocity	8.70		9.29		8.54		7.91	8.58	180.7	8.70	9.29	8.54	7.91	8.99	8.21	

Sacoor, Jonathan (BEL) (1999)

FINAL - 2022 Memorial van Damme (Brussels, BEL)

Omega Timing (2022) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 02-Sep-22	time	6.46	11.64	16.90	22.36	27.90	33.69	39.85	46.60	46.60	4 / 7						
reaction time 0.153	interval		5.18	5.26	5.46	5.54	5.79	6.16	6.75		# of strides	11.64	10.72	11.33	12.91	22.36	24.24	1.88
	velocity	7.74	9.65	9.51	9.16	9.03	8.64	8.12	7.41	8.58		8.59	9.33	8.83	7.75	8.94	8.25	

Ju Tianqi (CHN) (2002)

FINAL - 2023 Chinese World Championship & Asian Games Trials (Shenyang, CHN)

Shandong Athletics Sport Science (2023)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 28-Jun-23	time		11.54		21.99		33.68	39.82	46.60	46.60	5 / 3						
reaction time 0.242	interval				10.45		11.69	6.14	6.78	PB	# of strides	11.54	10.45	11.69	12.92	21.99	24.61	2.62
	velocity		8.67		9.57		8.55	8.14	7.37	8.58	177.5	8.67	9.57	8.55	7.74	9.10	8.13	

Phijffers, Jonas (NED) (2003)

Semi-Final 2 - 2023 European Athletics U23 Championships (Espoo, FIN)

European Athletics (2023) - european athletics U23 championships results book

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 13-Jul-23	time		11.94		22.94		34.71		46.60	46.60	2 / 5						
reaction time 0.198	interval				11.00		11.77		11.89		# of strides	11.94	11.00	11.77	11.89	22.94	23.66	0.72
	velocity		8.38		9.09		8.50		8.41	8.58		8.38	9.09	8.50	8.41	8.72	8.45	

Stankulov, Tsvetoslav (BUL) (1969)

FINAL - 1991 European Cup (Frankfurt, GER)

Federle (2003) - http://www.fgs.uni-halle.de

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 29-Jun-91	time		11.49		22.90		33.56		46.61	46.61	/ 8						
reaction time	interval				11.41		10.66		13.05		# of strides	11.49	11.41	10.66	13.05	22.90	23.71	0.81
	velocity		8.70		8.76		9.38		7.66	8.58		8.70	8.76	9.38	7.66	8.73	8.44	

Yamamoto, Satoshi (JPN) (1996)

FINAL - 2014 Japanese National High School Championships (Kofu, JPN)

Yanagiya (2014) - research on athlete performance and technique- 2014 data book

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 30-Jul-14	time	6.48	11.55	16.65	21.94	27.38	33.34	39.83	46.61	46.61	/ 2						
reaction time	interval		5.07	5.10	5.29	5.44	5.96	6.49	6.78		# of strides	11.55	10.39	11.40	13.27	21.94	24.67	2.73
	velocity	7.72	9.86	9.80	9.45	9.19	8.39	7.70	7.37	8.58		8.66	9.62	8.77	7.54	9.12	8.11	

Imoto, Yoshinobu (JPN) (1999)

FINAL - 2018 National Sports Festival (Fukui, JPN)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 08-Oct-18	time	6.13	11.15	16.47	22.04	27.79	33.82	40.04	46.61	46.61	3 / 4						
reaction time 0.156	interval		5.02	5.32	5.57	5.75	6.03	6.22	6.57		# of strides	11.15	10.89	11.78	12.79	22.04	24.57	2.53
	velocity	8.16	9.96	9.40	8.98	8.70	8.29	8.04	7.61	8.58		8.97	9.18	8.49	7.82	9.07	8.14	

Watanabe, Kazuya (JPN) (1988)

FINAL - 2012 Kokutai National Sport Festival (Gifu, JPN)

Maho (2013) - race analysis of the men's 400m run in competition

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 08-Oct-12	time	6.19	11.42	16.75	22.21	27.86	33.85	40.05	46.62	46.62	/ 4						
reaction time	interval		5.23	5.33	5.46	5.65	5.99	6.20	6.57		# of strides	11.42	10.79	11.64	12.77	22.21	24.41	2.20
	velocity	8.08	9.56	9.38	9.16	8.85	8.35	8.06	7.61	8.58		8.76	9.27	8.59	7.83	9.00	8.19	

Kinoshita, Yuichi (JPN) (2002)

FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)

Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 04-Aug-19	time	6.43	11.62	16.72	21.98	27.47	33.45	39.88	46.62	46.62	5 / 1						
reaction time	interval		5.19	5.10	5.26	5.49	5.98	6.43	6.74	PB	# of strides	11.62	10.36	11.47	13.17	21.98	24.64	2.66
	velocity	7.78	9.63	9.80	9.51	9.11	8.36	7.78	7.42	8.58		8.61	9.65	8.72	7.59	9.10	8.12	

Brown, Phil (GBR) (1962)

Heat 2 - 1984 Olympic Games (Los Angeles, CA) (*TV Analysis*)

Adams (1984) - 1984 olympic games - 200m & 400m

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 05-Aug-84	time				22.27				46.63	46.63	8 / 7						
reaction time	interval								24.36		# of strides					22.27	24.36	2.09
	velocity				8.98				8.21	8.58						8.98	8.21	

Morgan, Ricky (USA) (1996)

FINAL - 2016 NCAA Championships (Eugene, OR)

Track Newsletter (2016) - NCAA men's championships

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 10-Jun-16	time				21.6		33.4		46.6	46.63	/ ~~8~~ 7						
reaction time	interval						11.80		13.20		# of strides			11.80	13.20	21.60	25.00	3.40
	velocity				9.26		8.47		7.58	8.58				8.47	7.58	9.26	8.00	

Sato, Kentaro (JPN) (1994)

FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)

Yamanaka (2017) - male and female 400m analysis in the 2017 season

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 03-May-17	time	6.35	11.48	16.77	22.37	27.99	33.82	39.98	46.63	46.63	/ 2						
reaction time	interval		5.13	5.29	5.60	5.62	5.83	6.16	6.65		# of strides	11.48	10.89	11.45	12.81	22.37	24.26	1.89
	velocity	7.87	9.75	9.45	8.93	8.90	8.58	8.12	7.52	8.58		8.71	9.18	8.73	7.81	8.94	8.24	

Yousif, Rabah (GBR) (1986)

FINAL - 2020 Bauhaus Galan (Stockholm, SWE)

Omega Timing (2020) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 23-Aug-20	time	6.4	11.6	16.9	22.3	27.9	33.7	39.9	46.63	46.63	4 / 4						
reaction time 0.177	interval		5.20	5.30	5.40	5.60	5.80	6.20	6.73		# of strides	11.60	10.70	11.40	12.93	22.30	24.33	2.03
	velocity	7.81	9.62	9.43	9.26	8.93	8.62	8.06	7.43	8.58		8.62	9.35	8.77	7.73	8.97	8.22	

Haydock-Wilson, Alex (GBR) (1999)
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)
Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jul-21	time	6.4	11.4	16.8	22.3	27.9	33.8	39.9	46.63	46.63	8 / 4							
reaction time	0.200	interval		5.00	5.40	5.50	5.60	5.90	6.10	6.73		# of strides	11.40	10.90	11.50	12.83	22.30	24.33	2.03
		velocity	7.81	10.00	9.26	9.09	8.93	8.47	8.20	7.43	8.58		8.77	9.17	8.70	7.79	8.97	8.22	

Song Jiahui (CHN) (2002)
FINAL - 2023 Chinese National Grand Prix 4 (Chongqing, CHN)
Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Jun-23	time		11.61		22.14		33.68	39.81	46.63	46.63	3 / 3							
reaction time	0.228	interval				10.53		11.54	6.13	6.82	PB	# of strides	11.61	10.53	11.54	12.95	22.14	24.49	2.35
		velocity		8.61		9.50		8.67	8.16	7.33	8.58	168.0	8.61	9.50	8.67	7.72	9.03	8.17	

Hirakawa, Kei (JPN)
FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN)
Takashima (2023) - national high school sports festival - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-23	time		11.26		22.12		33.85		46.63	46.63	5 / 1							
reaction time	0.205	interval				10.86		11.73		12.78		# of strides	11.26	10.86	11.73	12.78	22.12	24.51	2.39
		velocity		8.88		9.21		8.53		7.82	8.58		8.88	9.21	8.53	7.82	9.04	8.16	

Williams, Archie (USA) (1915)
FINAL - 1936 Olympic Games (Berlin, GER)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-36	time				22.0				46.50	46.5	5 / 1	(46.66)						
reaction time		interval								24.5		# of strides					22.00	24.50	2.50
		velocity				9.09				8.16	8.60	189.7					9.09	8.16	

Wrighton, John (GBR) (1933)
FINAL - 1958 European Championships (Stockholm, SWE)
(1959) - der 400-m-hürdenlauf in stockholm

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Aug-58	time				22.4				46.3	46.5	/ 1							
reaction time		interval								23.9		# of strides					22.40	23.90	1.50
		velocity				8.93				8.37	8.60						8.93	8.37	

Oliver, Charles (USA) (1954)
FINAL - 1980 USA Olympic Trials (Eugene, OR)
Track Newsletter (1980) - US olympic trials

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-80	time		12.5		22.9		34.2		46.6	46.64	/ 7							
reaction time		interval				10.40		11.30		12.44		# of strides	12.50	10.40	11.30	12.44	22.90	23.74	0.84
		velocity		8.00		9.62		8.85		8.04	8.58		8.00	9.62	8.85	8.04	8.73	8.42	

Hirose, Hideyuki (JPN) (1989)
FINAL - 2016 Japanese National Championships (Nagoya, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-16	time	6.34	11.53	16.78	22.20	27.87	33.79	39.98	46.64	46.64	1 / 8							
reaction time	0.176	interval		5.19	5.25	5.42	5.67	5.92	6.19	6.66		# of strides	11.53	10.67	11.59	12.85	22.20	24.44	2.24
		velocity	7.89	9.63	9.52	9.23	8.82	8.45	8.08	7.51	8.58		8.67	9.37	8.63	7.78	9.01	8.18	

Strother, Nathan (USA) (1995)
FINAL - 2019 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-May-19	time		11.5		22.5		34.1		46.64	46.64	7 / 6							
reaction time	0.199	interval				11.0		11.6		12.5		# of strides	11.50	11.00	11.60	12.54	22.50	24.14	1.64
		velocity		8.70		9.09		8.62		7.97	8.58	179.7	8.70	9.09	8.62	7.97	8.89	8.29	

Daichi, Tomita (JPN) (2001)
U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN)
Kijima (2019) - research on athlete performance and technique- 2019 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Oct-19	time	6.30	11.48	16.77	22.38	28.13	34.07	40.16	46.64	46.64	5 / 1							
reaction time	0.189	interval		5.18	5.29	5.61	5.75	5.94	6.09	6.48		# of strides	11.48	10.90	11.69	12.57	22.38	24.26	1.88
		velocity	7.94	9.65	9.45	8.91	8.70	8.42	8.21	7.72	8.58	181.0	8.71	9.17	8.55	7.96	8.94	8.24	

Re, Davide (ITA) (1993)
FINAL - 2021 Weltklasse (Zürich, SUI)
Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Sep-21	time	6.4	11.7	17.1	22.6	28.2	34.1	40.3	46.64	46.64	1 / 8							
reaction time	0.146	interval		5.30	5.40	5.50	5.60	5.90	6.20	6.34		# of strides	11.70	10.90	11.50	12.54	22.60	24.04	1.44
		velocity	7.81	9.43	9.26	9.09	8.93	8.47	8.06	7.89	8.58		8.55	9.17	8.70	7.97	8.85	8.32	

Borlée, Kevin (BEL) (1988)
FINAL - 2022 Meeting de Paris (Paris, FRA)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Jun-22	time	6.43	11.68	17.05	22.48	28.10	33.91	39.96	46.64	46.64	1 / 7							
reaction time	0.154	interval		5.25	5.37	5.43	5.62	5.81	6.05	6.68		# of strides	11.68	10.80	11.43	12.73	22.48	24.16	1.68
		velocity	7.78	9.52	9.31	9.21	8.90	8.61	8.26	7.49	8.58	176.0	8.56	9.26	8.75	7.86	8.90	8.28	

Graham, Hugh (JAM) (1992)
FINAL - 2014 NCAA Championships (Eugene, OR)
Track Newsletter (2014) - NCAA men's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jun-14	time				21.8				46.6	46.65	/ 8							
reaction time		interval								24.80		# of strides					21.80	24.80	3.00
		velocity				9.17				8.06	8.57						9.17	8.06	

Uozato, Yusuke (JPN) (1994)
Race B - 2016 Shizuoka International Meeting (Fukuroi, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-16	time	6.23	11.40	16.68	22.12	27.82	33.79	40.01	46.65	46.65	/ 1							
reaction time		interval		5.17	5.28	5.44	5.70	5.97	6.22	6.64	PB	# of strides	11.40	10.72	11.67	12.86	22.12	24.53	2.41
		velocity	8.03	9.67	9.47	9.19	8.77	8.38	8.04	7.53	8.57		8.77	9.33	8.57	7.78	9.04	8.15	

Kimura, Kazushi (JPN) (1993)
Heat 2 - 2018 Japanese National Championships (Yamaguchi, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-18	time	6.32	11.56	17.02	22.66	28.36	34.12	40.07	46.65	46.65	5 / 1							
reaction time	0.184	interval		5.24	5.46	5.64	5.70	5.76	5.95	6.58		# of strides	11.56	11.10	11.46	12.53	22.66	23.99	1.33
		velocity	7.91	9.54	9.16	8.87	8.77	8.68	8.40	7.60	8.57		8.65	9.01	8.73	7.98	8.83	8.34	

Spitz, Lionel (SUI) (2001)
B Race - 2021 Athletissima (Lausanne, SUI)
Omega Timing (2021) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	26-Aug-21	time	6.4	11.6	17.0	22.6	28.4	34.3	40.3	46.65	46.65	5 / 1						
reaction time	0.153	interval		5.20	5.40	5.60	5.80	5.90	6.00	6.35		# of strides	11.60	11.00	11.70	12.35	22.60	24.05	1.45
		velocity	7.81	9.62	9.26	8.93	8.62	8.47	8.33	7.87	8.57		8.62	9.09	8.55	8.10	8.85	8.32	

Tomlyanovich, TJ (USA) (2003)

Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-24	time		11.14		22.00		33.62		46.65	46.65	4 / 7							
reaction time		interval				10.86		11.62		13.03		# of strides	11.14	10.86	11.62	13.03	22.00	24.65	2.65
		velocity		8.98		9.21		8.61		7.67	8.57		8.98	9.21	8.61	7.67	9.09	8.11	

Wakabayashi, Kota (JPN) (1997)

Heat 2 - 2017 National Sports Festival (Matsuyama, JPN)

(2017) - tfdata-store.com/2017/10/12/post-1100/

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.45		21.92		33.69		46.66	46.66	3 / 1							
reaction time	0.191	interval				10.47		11.77		12.97		# of strides	11.45	10.47	11.77	12.97	21.92	24.74	2.82
		velocity		8.73		9.55		8.50		7.71	8.57	173.2	8.73	9.55	8.50	7.71	9.12	8.08	

Sacoor, Jonathan (BEL) (1999)

FINAL - 2021 Memorial van Damme (Brussels, BEL)

Omega Timing (2021) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Sep-21	time	6.3	11.3	16.5	21.9	27.4	33.3	39.6	46.66	46.66	1 / 8							
reaction time	0.127	interval		5.00	5.20	5.40	5.50	5.90	6.30	7.06		# of strides	11.30	10.60	11.40	13.36	21.90	24.76	2.86
		velocity	7.94	10.00	9.62	9.26	9.09	8.47	7.94	7.08	8.57		8.85	9.43	8.77	7.49	9.13	8.08	

Petrucciani, Ricky (SUI) (2000)

FINAL - 2023 Weltklasse (Zürich, SUI)

Omega Timing (2023) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	31-Aug-23	time	6.24	11.38	16.68	22.14	27.74	33.62	39.82	46.66	46.66	7 / 6							
reaction time	0.170	interval		5.14	5.30	5.46	5.60	5.88	6.20	6.84		# of strides	11.38	10.76	11.48	13.04	22.14	24.52	2.38
		velocity	8.01	9.73	9.43	9.16	8.93	8.50	8.06	7.31	8.57		8.79	9.29	8.71	7.67	9.03	8.16	

Douglas, Quincy (NOR) (1975)

FINAL - 1997 European Cup (Munich, GER)

Jung (2003) - http://www.fgs.uni-halle.de

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-97	time		11.83		22.97		34.33		46.67	46.67	/ 6							
reaction time		interval				11.14		11.36		12.34		# of strides	11.83	11.14	11.36	12.34	22.97	23.70	0.73
		velocity		8.45		8.98		8.80		8.10	8.57		8.45	8.98	8.80	8.10	8.71	8.44	

Kitagawa, Takamasa (JPN) (1996)

FINAL - 2015 Japanese National Championships (Niigata, JPN)

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jun-15	time	6.24	11.34	16.58	22.16	27.89	33.73	40.00	46.67	46.67	6 / 4							
reaction time	0.167	interval		5.10	5.24	5.58	5.73	5.84	6.27	6.67		# of strides	11.34	10.82	11.57	12.94	22.16	24.51	2.35
		velocity	8.01	9.80	9.54	8.96	8.73	8.56	7.97	7.50	8.57	177.5	8.82	9.24	8.64	7.73	9.03	8.16	

Kokubo, Tomohiro (JPN) (1998)

FINAL - 2016 Japanese National High School Championships (Okayama, JPN)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-16	time	6.53	11.97	17.40	23.02	28.79	34.61	40.51	46.67	46.67	5 / 1							
reaction time	0.160	interval		5.44	5.43	5.62	5.77	5.82	5.90	6.16	PB	# of strides	11.97	11.05	11.59	12.06	23.02	23.65	0.63
		velocity	7.66	9.19	9.21	8.90	8.67	8.59	8.47	8.12	8.57		8.35	9.05	8.63	8.29	8.69	8.46	

Ikeda, Kosuke (JPN) (1995)

Heat 2 - 2017 National Sports Festival (Matsuyama, JPN)

(2017) - tfdata-store.com/2017/10/12/post-1100/

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.64		22.28		33.98		46.67	46.67	5 / 2							
reaction time	0.193	interval				10.64		11.70		12.69	PB	# of strides	11.64	10.64	11.70	12.69	22.28	24.39	2.11
		velocity		8.59		9.40		8.55		7.88	8.57	180.5	8.59	9.40	8.55	7.88	8.98	8.20	

Kimura, Kazushi (JPN) (1993)

FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-18	time	6.32	11.46	16.75	22.20	27.77	33.57	39.83	46.67	46.67	7 / 5							
reaction time	0.197	interval		5.14	5.29	5.45	5.57	5.80	6.26	6.84		# of strides	11.46	10.74	11.37	13.10	22.20	24.47	2.27
		velocity	7.91	9.73	9.45	9.17	8.98	8.62	7.99	7.31	8.57	186.2	8.73	9.31	8.80	7.63	9.01	8.17	

Imoto, Yoshinobu (JPN) (1999)

FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN)

Yamanaka (2020) - 400m race analysis of men and women during 2020 season

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Aug-20	time	6.06	10.99	16.17	21.72	27.44	33.44	39.80	46.67	46.67	7 / 3							
reaction time	0.138	interval		4.93	5.18	5.55	5.72	6.00	6.36	6.87		# of strides	10.99	10.73	11.72	13.23	21.72	24.95	3.23
		velocity	8.25	10.14	9.65	9.01	8.74	8.33	7.86	7.28	8.57		9.10	9.32	8.53	7.56	9.21	8.02	

Gyger, Nathan (SUI) (1992)

B Race - 2021 Athletissima (Lausanne, SUI)

Omega Timing (2021) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-21	time	6.5	11.8	17.2	22.7	28.2	34.1	40.3	46.67	46.67	4 / 2							
reaction time	0.161	interval		5.30	5.40	5.50	5.50	5.90	6.20	6.37		# of strides	11.80	10.90	11.40	12.57	22.70	23.97	1.27
		velocity	7.69	9.43	9.26	9.09	9.09	8.47	8.06	7.85	8.57		8.47	9.17	8.77	7.96	8.81	8.34	

Agard, Terrence (NED) (1990)

National FINAL - 2024 FBK Games (Hengelo, NED)

Omega Timing (2024) - continental tour gold race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Jul-24	time	6.43	11.42	16.60	21.89	27.37	33.19	39.52	46.67	46.67	4 / 4							
reaction time	0.166	interval		4.99	5.18	5.29	5.48	5.82	6.33	7.15		# of strides	11.42	10.47	11.30	13.48	21.89	24.78	2.89
		velocity	7.78	10.02	9.65	9.45	9.12	8.59	7.90	6.99	8.57		8.76	9.55	8.85	7.42	9.14	8.07	

Devantay, Charles (SUI) (1998)

FINAL - 2024 Weltklasse (Zürich, SUI)

Omega Timing (2024) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Sep-24	time	6.27	11.45	16.80	22.29	28.01	33.90	40.07	46.67	46.67	2 / 7							
reaction time	0.140	interval		5.18	5.35	5.49	5.72	5.89	6.17	6.60		# of strides	11.45	10.84	11.61	12.77	22.29	24.38	2.09
		velocity	7.97	9.65	9.35	9.11	8.74	8.49	8.10	7.58	8.57		8.73	9.23	8.61	7.83	8.97	8.20	

Yui, Kaisei (JPN) (1996)

Semi-Final 1 - 2014 IAAF World Junior Championships (Eugene, OR)

Maho (2014) - race analysis of men's 400m run in the 2014 season

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jul-14	time	6.46	11.72	16.98	22.45	28.27	34.15	40.28	46.68	46.68	3 / 3							
reaction time	0.170	interval		5.26	5.26	5.47	5.82	5.88	6.13	6.40	PB	# of strides	11.72	10.73	11.70	12.53	22.45	24.23	1.78
		velocity	7.74	9.51	9.51	9.14	8.59	8.50	8.16	7.81	8.57		8.53	9.32	8.55	7.98	8.91	8.25	

Kimura, Kazushi (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2018 Shizuoka International Meeting (Fukuroi, JPN)										*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
date 03-May-18 time	6.35	11.62	16.87	22.29	27.81	33.53	39.73	46.68	46.68	4 / 3							
reaction time 0.222 interval		5.27	5.25	5.42	5.52	5.72	6.20	6.95		# of strides	11.62	10.67	11.24	13.15	22.29	24.39	2.10
velocity	7.87	9.49	9.52	9.23	9.06	8.74	8.06	7.19	8.57	185.2	8.61	9.37	8.90	7.60	8.97	8.20	

Kitakani, Naoki (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)										*Kobayashi (2019) - research on athlete performance and technique- 2019 data book*							
date 03-May-19 time	6.17	11.18	16.42	21.91	27.66	33.67	39.97	46.68	46.68	4 / 4							
reaction time interval		5.01	5.24	5.49	5.75	6.01	6.30	6.71		# of strides	11.18	10.73	11.76	13.01	21.91	24.77	2.86
velocity	8.10	9.98	9.54	9.11	8.70	8.32	7.94	7.45	8.57	179.2	8.94	9.32	8.50	7.69	9.13	8.07	

Geldenhuys, Ivan Danny (NAM) (2001

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)										*Longines Timing (2022) - commonwealth games race analysis*							
date 05-Aug-22 time	6.2	11.1	16.4	22.0	27.8	33.8	39.9	46.68	46.68	8 / 4							
reaction time 0.213 interval		4.90	5.30	5.60	5.80	6.00	6.10	6.78		# of strides	11.10	10.90	11.80	12.88	22.00	24.68	2.68
velocity	8.06	10.20	9.43	8.93	8.62	8.33	8.20	7.37	8.57	185.0	9.01	9.17	8.47	7.76	9.09	8.10	

Meli, Riccardo (ITA) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 European Athletics U23 Championships (Espoo, FIN)										*European Athletics (2023) - european athletics U23 championships results book*							
date 13-Jul-23 time		11.71		22.83		34.74		46.68	46.68	4 / 6							
reaction time 0.212 interval				11.12		11.91		11.94		# of strides	11.71	11.12	11.91	11.94	22.83	23.85	1.02
velocity		8.54		8.99		8.40		8.38	8.57		8.54	8.99	8.40	8.38	8.76	8.39	

Ishitsuka, Yusuke (JPN) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 Japanese National Championships (Fukushima, JPN)										*Maho (2014) - race analysis of men's 400m run in the 2014 season*							
date 08-Jun-14 time	6.15	11.25	16.48	21.91	27.58	33.52	39.81	46.69	46.69	9 / 5							
reaction time interval		5.10	5.23	5.43	5.67	5.94	6.29	6.88		# of strides	11.25	10.66	11.61	13.17	21.91	24.78	2.87
velocity	8.13	9.80	9.56	9.21	8.82	8.42	7.95	7.27	8.57	180.7	8.89	9.38	8.61	7.59	9.13	8.07	

Matsukiyo, Kazuki (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2016 IAAF World Junior Championships (Bydgoszcz, POL)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 21-Jul-16 time	6.36	11.56	17.00	22.58	28.27	34.06	40.11	46.69	46.69	5 / 2							
reaction time 0.139 interval		5.20	5.44	5.58	5.69	5.79	6.05	6.58	PB	# of strides	11.56	11.02	11.48	12.63	22.58	24.11	1.53
velocity	7.86	9.62	9.19	8.96	8.79	8.64	8.26	7.60	8.57		8.65	9.07	8.71	7.92	8.86	8.30	

Matsukiyo, Kazuki (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 22-Jul-16 time	6.49	11.72	17.15	22.66	28.34	34.16	40.19	46.69	46.69	9 / 7							
reaction time 0.196 interval		5.23	5.43	5.51	5.68	5.82	6.03	6.50	=PB	# of strides	11.72	10.94	11.50	12.53	22.66	24.03	1.37
velocity	7.70	9.56	9.21	9.07	8.80	8.59	8.29	7.69	8.57		8.53	9.14	8.70	7.98	8.83	8.32	

Obuchi, Mizuki (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Japanese National Championships (Osaka, JPN)										*(2017) - tfdata-store.com/2017/07/08/post-965/*							
date 24-Jun-17 time		11.47		22.30		33.91		46.69	46.69	3 / 5							
reaction time 0.169 interval				10.83		11.61		12.78		# of strides	11.47	10.83	11.61	12.78	22.30	24.39	2.09
velocity		8.72		9.23		8.61		7.82	8.57	194.0	8.72	9.23	8.61	7.82	8.97	8.20	

Kawauchi, Mitsuki (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Seiko Golden Grand Prix (Osaka, JPN)										*Hirokawa (2019) - research on athlete performance and technique- 2019 data book*							
date 19-May-19 time	6.26	11.49	16.83	22.23	27.89	33.92	40.10	46.69	46.69	5 / 3							
reaction time 0.164 interval		5.23	5.34	5.40	5.66	6.03	6.18	6.59		# of strides	11.49	10.74	11.69	12.77	22.23	24.46	2.23
velocity	7.99	9.56	9.36	9.26	8.83	8.29	8.09	7.59	8.57	190.2	8.70	9.31	8.55	7.83	9.00	8.18	

Borlée, Dylan (BEL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Memorial van Damme (Brussels, BEL)										*Omega Timing (2019) - diamond league race analysis*							
date 06-Sep-19 time	6.3	11.2	16.3	21.7	27.3	33.4	39.8	46.69	46.69	7 / 6							
reaction time interval		4.9	5.1	5.4	5.6	6.1	6.4	13.3		# of strides	11.20	10.50	11.70	13.29	21.70	24.99	3.29
velocity	7.94	10.20	9.80	9.26	8.93	8.20	7.81	7.52	8.57		8.93	9.52	8.55	7.52	9.22	8.00	

Chalmers, Cameron (GBR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)										*Omega Timing (2022) - diamond league race analysis*							
date 21-May-22 time	6.2	11.2	16.4	21.7	27.5	33.6	39.9	46.69	46.69	6 / 5							
reaction time 0.199 interval		5.00	5.20	5.30	5.80	6.10	6.30	6.79		# of strides	11.20	10.50	11.90	13.09	21.70	24.99	3.29
velocity	8.06	10.00	9.62	9.43	8.62	8.20	7.94	7.36	8.57	173.0	8.93	9.52	8.40	7.64	9.22	8.00	

Boers, Isayah (NED) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 FBK Games (Hengelo, NED)										*Omega Timing (2022) - continental tour race analysis*							
date 06-Jun-22 time	6.0	10.9	15.9	21.3	26.9	33.0	39.5	46.69	46.69	2 / 6							
reaction time 0.159 interval		4.90	5.00	5.40	5.60	6.10	6.50	7.19		# of strides	10.90	10.40	11.70	13.69	21.30	25.39	4.09
velocity	8.33	10.20	10.00	9.26	8.93	8.20	7.69	6.95	8.57		9.17	9.62	8.55	7.30	9.39	7.88	

Johansson, Emil (SWE) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2023 Bauhaus Galan (Stockholm, SWE)										*Omega Timing (2023) - diamond league race analysis*							
date 02-Jul-23 time	6.33	11.39	16.61	22.03	27.75	33.81	40.01	46.69	46.69	5 / 1							
reaction time 0.169 interval		5.06	5.22	5.42	5.72	6.06	6.20	6.68	PB	# of strides	11.39	10.64	11.78	12.88	22.03	24.66	2.63
velocity	7.90	9.88	9.58	9.23	8.74	8.25	8.06	7.49	8.57		8.78	9.40	8.49	7.76	9.08	8.11	

Karam, Youssef (KUW) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat A - West Asian Championships - 2024 Seashore Doha Meeting (Doha, QAT)										*Omega Timing (2024) - diamond league race analysis*							
date 10-May-24 time	6.23	11.41	16.81	22.36	28.18	34.21	40.29	46.69	46.69	5 / 1							
reaction time 0.145 interval		5.18	5.40	5.55	5.82	6.03	6.08	6.40		# of strides	11.41	10.95	11.85	12.48	22.36	24.33	1.97
velocity	8.03	9.65	9.26	9.01	8.59	8.29	8.22	7.81	8.57		8.76	9.13	8.44	8.01	8.94	8.22	

Krsek, Matěj (CZE) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 European Athletics Championships (Roma, ITA)										*European Athletics (2024) - 2024 european athletics championships - results book*							

date	08-Jun-24	time	11.72		22.51		34.06		46.69	46.69	6 / 7						
reaction time	0.145	interval		10.79		11.55		12.63		# of strides	11.72	10.79	11.55	12.63	22.51	24.18	1.67
		velocity	8.53		9.27		8.66		7.92	8.57	8.53	9.27	8.66	7.92	8.88	8.27	

Wakabayashi, Kota (JPN) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Division 2 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)

(2017) - tfdata-store.com/2017/06/01/post-786/

date	26-May-17	time	11.62		22.24		34.02		46.70	46.70	7 / 2						
reaction time		interval		10.62		11.78		12.68		PB	# of strides	11.62	10.62	11.78	12.68	22.24	24.46	2.22
		velocity	8.61		9.42		8.49		7.89	8.57	172.2	8.61	9.42	8.49	7.89	8.99	8.18	

Obuchi, Mizuki (JPN) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 2 - 2020 Japanese National Championships (Niigata, JPN)

Yamanaka (2020) - 400m race analysis of men and women during 2020 season

date	01-Oct-20	time	6.23	11.23	16.42	21.96	27.70	33.72	40.00	46.70	46.70	5 / 2						
reaction time	0.176	interval		5.00	5.19	5.54	5.74	6.02	6.28	6.70		# of strides	11.23	10.73	11.76	12.98	21.96	24.74	2.78
		velocity	8.03	10.00	9.63	9.03	8.71	8.31	7.96	7.46	8.57		8.90	9.32	8.50	7.70	9.11	8.08	

Sato, Fuga (JPN) (1996)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Final - 2021 Japanese National Championships (Osaka, JPN)

Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

date	25-Jun-21	time	6.29	11.47	16.82	22.42	28.18	34.09	40.17	46.70	46.70	3 / 5						
reaction time	0.190	interval		5.18	5.35	5.60	5.76	5.91	6.08	6.53		# of strides	11.47	10.95	11.67	12.61	22.42	24.28	1.86
		velocity	7.95	9.65	9.35	8.93	8.68	8.46	8.22	7.66	8.57		8.72	9.13	8.57	7.93	8.92	8.24	

Ingvalsen, Håvard Bentdal (NOR) (20(

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2021 European Athletics U20 Championships (Tallin, EST)

European Athletics (2021) - european athletics U20 championships results book

date	16-Jul-21	time		11.59		22.46		34.15		46.70	46.70	8 / 3						
reaction time	0.205	interval			10.87		11.69		12.55		PB	# of strides	11.59	10.87	11.69	12.55	22.46	24.24	1.78
		velocity		8.63		9.20		8.55		7.97	8.57		8.63	9.20	8.55	7.97	8.90	8.25	

Wen Junji (CHN) (2001)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2024 Chinese National Championships (Quzhou, CHN)

Shandong Athletics Sport Science (2024)

date	16-Sep-24	time		11.54		22.42		34.07	40.21	46.70	46.70	3 / 4						
reaction time	0.168	interval			10.88		11.65	6.14	6.49		# of strides	11.54	10.88	11.65	12.63	22.42	24.28	1.86
		velocity		8.67		9.19		8.58	8.14	7.70	8.57	182.7	8.67	9.19	8.58	7.92	8.92	8.24	

Wilson, Assinie (JAM) (2002)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Long Hurdles - 2025 Grand Slam Track Kingston (Kingston, JAM)

Grand Slam Track (2025) - results and splits by race

date	06-Apr-25	time		11.31		22.14		33.58		46.70	46.70	2 / 6						
reaction time	0.390	interval			10.83		11.44		13.12		# of strides	11.31	10.83	11.44	13.12	22.14	24.56	2.42
		velocity		8.84		9.23		8.74		7.62	8.57		8.84	9.23	8.74	7.62	9.03	8.14	

Ito, Rikiya (JPN) (1998)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2019 Japanese World Championships Trials (Fujiyoshida, JPN)

Yamanaka (2019) - race analysis of men and women 400m competition

date	01-Sep-19	time	6.42	11.54	16.73	22.17	27.85	33.74	39.94	46.71	46.71	7 / 6						
reaction time		interval		5.12	5.19	5.44	5.68	5.89	6.20	6.77		# of strides	11.54	10.63	11.57	12.97	22.17	24.54	2.37
		velocity	7.79	9.77	9.63	9.19	8.80	8.49	8.06	7.39	8.56	187.5	8.67	9.41	8.64	7.71	9.02	8.15	

Kawauchi, Mitsuki (JPN) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)

Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

date	09-May-21	time	6.29	11.46	16.73	22.14	27.89	33.87	40.08	46.71	46.71	1 / 6						
reaction time	0.150	interval		5.17	5.27	5.41	5.75	5.98	6.21	6.63		# of strides	11.46	10.68	11.73	12.84	22.14	24.57	2.43
		velocity	7.95	9.67	9.49	9.24	8.70	8.36	8.05	7.54	8.56		8.73	9.36	8.53	7.79	9.03	8.14	

Williams, Harrison (USA) (1996)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Decathlon - Heat 3 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	02-Aug-24	time	6.45	11.50	16.67	22.14	27.83	33.84	40.05	46.71	46.71	6 / 3						
reaction time	0.238	interval		5.05	5.17	5.47	5.69	6.01	6.21	6.66		# of strides	11.50	10.64	11.70	12.87	22.14	24.57	2.43
		velocity	7.75	9.90	9.67	9.14	8.79	8.32	8.05	7.51	8.56	161.2	8.70	9.40	8.55	7.77	9.03	8.14	

McDonald, Rusheen (JAM) (1992)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Invitational - 2024 Memorial van damme (Brussels, BEL)

Omega Timing (2024) - diamond league race analysis

date	13-Sep-24	time	6.49	11.57	16.75	22.13	27.79	33.62	39.81	46.71	46.71	3 / 5						
reaction time	0.167	interval		5.08	5.18	5.38	5.66	5.83	6.19	6.90		# of strides	11.57	10.56	11.49	13.09	22.13	24.58	2.45
		velocity	7.70	9.84	9.65	9.29	8.83	8.58	8.08	7.25	8.56		8.64	9.47	8.70	7.64	9.04	8.14	

Inoue, Yosuke (JPN) (1983)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)

Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix

date	19-Sep-05	time		11.33		22.24		33.44	39.78	46.72	46.72	8 / 7						
reaction time		interval			10.91		11.20	6.34	6.94		# of strides	11.33	10.91	11.20	13.28	22.24	24.48	2.24
		velocity		8.83		9.17		8.93	7.89	7.20	8.56		8.83	9.17	8.93	7.53	8.99	8.17	

Blakely, Fernada (USA) (1981)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 1 - 2008 USA Olympic Trials (Eugene, OR)

USATF Women's Sprint Development with HPC (2008)

date	30-Jun-08	time		11.29		22.00	27.64	33.63	39.88	46.72	46.72	1 / 8						
reaction time		interval			10.71	5.64	5.99	6.25	6.84		# of strides	11.29	10.71	11.63	13.09	22.00	24.72	2.72
		velocity		8.86		9.34	8.87	8.35	8.00	7.31	8.56		8.86	9.34	8.60	7.64	9.09	8.09	

Ju Tianqi (CHN) (2002)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2023 Chinese National Championships (Quzhou, CHN)

Shandong Athletics Sport Science (2023)

date	22-Jul-23	time		11.64		22.62		34.38	40.36	46.72	46.72	5 / 4						
reaction time	0.215	interval			10.98		11.76	5.98	6.36		# of strides	11.64	10.98	11.76	12.34	22.62	24.10	1.48
		velocity		8.59		9.11		8.50	8.36	7.86	8.56	176.5	8.59	9.11	8.50	8.10	8.84	8.30	

Wardenburg, Nout (NED) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

National FINAL - 2024 FBK Games (Hengelo, NED)

Omega Timing (2024) - continental tour gold race analysis

date	07-Jul-24	time	6.25	11.19	16.22	21.55	27.20	33.24	39.64	46.72	46.72	7 / 5						
reaction time	0.174	interval		4.94	5.03	5.33	5.65	6.04	6.40	7.08		# of strides	11.19	10.36	11.69	13.48	21.55	25.17	3.62
		velocity	8.00	10.12	9.94	9.38	8.85	8.28	7.81	7.06	8.56		8.94	9.65	8.55	7.42	9.28	7.95	

Demarthon, Francois (FRA) (1950)
Heat 3 - 1978 European Championships (Prague, TCH)
Lamare (1978) - championnats d'Europa 1978

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Aug-78	time				22.50				46.73	46.73	/ 2							
reaction time		interval								24.23		# of strides					22.50	24.23	1.73
		velocity				8.89				8.25	8.56						8.89	8.25	

Quow, Rennie (TTO) (1987)
FINAL - 2016 Seiko Golden Grand Prix (Kawasaki, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-May-16	time	6.24	11.26	16.45	21.78	27.35	33.15	39.49	46.73	46.73	5 / 4							
reaction time	0.226	interval		5.02	5.19	5.33	5.57	5.80	6.34	7.24		# of strides	11.26	10.52	11.37	13.58	21.78	24.95	3.17
		velocity	8.01	9.96	9.63	9.38	8.98	8.62	7.89	6.91	8.56	189.7	8.88	9.51	8.80	7.36	9.18	8.02	

Jelassi, Mohamed Fares (TUN) (1997)
B FINAL - 2021 Doha Diamond League (Doha, QAT)
Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-21	time	6.4	11.7	17.2	22.9	28.6	34.5	40.5	46.73	46.73	7 / 2							
reaction time	0.181	interval		5.30	5.50	5.70	5.70	5.90	6.00	6.23		# of strides	11.70	11.20	11.60	12.23	22.90	23.83	0.93
		velocity	7.81	9.43	9.09	8.77	8.77	8.47	8.33	8.03	8.56		8.55	8.93	8.62	8.18	8.73	8.39	

Godwin, Elija (USA) (1999)
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)
USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-24	time		11.06		21.63		33.32		46.73	46.73	2 / 9							
reaction time		interval				10.57		11.69		13.41		# of strides	11.06	10.57	11.69	13.41	21.63	25.10	3.47
		velocity		9.04		9.46		8.55		7.46	8.56		9.04	9.46	8.55	7.46	9.25	7.97	

Grothkopp, Martin (GER) (1986)
B FINAL - 2009 ISTAF (Berlin, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Jun-09	time		11.34		22.12		33.74		46.74	46.74	/ 1							
reaction time	0.313	interval				10.78		11.62		13.00		# of strides	11.34	10.78	11.62	13.00	22.12	24.62	2.50
		velocity		8.82		9.28		8.61		7.69	8.56		8.82	9.28	8.61	7.69	9.04	8.12	

Horii, Kosuke (JPN) (1994)
FINAL - 2015 Japanese National Championships (Niigata, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jun-15	time	6.26	11.25	16.38	21.94	27.80	33.74	39.98	46.74	46.74	2 / 5							
reaction time	0.158	interval		4.99	5.13	5.56	5.86	5.94	6.24	6.76		# of strides	11.25	10.69	11.80	13.00	21.94	24.80	2.86
		velocity	7.99	10.02	9.75	8.99	8.53	8.42	8.01	7.40	8.56		8.89	9.35	8.47	7.69	9.12	8.06	

Kinoshita, Yuichi (JPN) (2002)
FINAL - 2021 Japanese U20 National Championships (Osaka, JPN)
Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-21	time	6.22	11.48	16.86	22.46	28.22	34.13	40.29	46.74	46.74	4 / 2							
reaction time	0.161	interval		5.26	5.38	5.60	5.76	5.91	6.16	6.45		# of strides	11.48	10.98	11.67	12.61	22.46	24.28	1.82
		velocity	8.04	9.51	9.29	8.93	8.68	8.46	8.12	7.75	8.56	187.0	8.71	9.11	8.57	7.93	8.90	8.24	

Re, Davide (ITA) (1993)
Heat 5 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-24	time	6.31	11.42	16.65	22.07	27.76	33.75	40.02	46.74	46.74	2 / 8							
reaction time	0.157	interval		5.11	5.23	5.42	5.69	5.99	6.27	6.72		# of strides	11.42	10.65	11.68	12.99	22.07	24.67	2.60
		velocity	7.92	9.78	9.56	9.23	8.79	8.35	7.97	7.44	8.56	181.2	8.76	9.39	8.56	7.70	9.06	8.11	

Sato, Kentaro (JPN) (1994)
FINAL - 2016 Seiko Golden Grand Prix (Kawasaki, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-May-16	time	6.31	11.35	16.52	21.92	27.54	33.49	39.86	46.75	46.75	2 / 5							
reaction time	0.151	interval		5.04	5.17	5.40	5.62	5.95	6.37	6.89		# of strides	11.35	10.57	11.57	13.26	21.92	24.83	2.91
		velocity	7.92	9.92	9.67	9.26	8.90	8.40	7.85	7.26	8.56	184	8.81	9.46	8.64	7.54	9.12	8.05	

Yousif, Rabah (GBR) (1986)
FINAL - 2019 The Match - Europe v USA (Minsk, BLR)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Sep-19	time		11.42		21.89		33.48		46.76	46.76	6 / 6							
reaction time	0.166	interval				10.47		11.59		13.28		# of strides	11.42	10.47	11.59	13.28	21.89	24.87	2.98
		velocity		8.76		9.55		8.63		7.53	8.55	167.0	8.76	9.55	8.63	7.53	9.14	8.04	

O'Donnell, Christopher (IRL) (1998)
Heat 5 - 2023 World Athletics Championships (Budapest, HUN)
Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		11.55		22.30		33.88		46.76	46.76	6 / 7							
reaction time	0.159	interval				10.75		11.58		12.88		# of strides	11.55	10.75	11.58	12.88	22.30	24.46	2.16
		velocity		8.66		9.30		8.64		7.76	8.55		8.66	9.30	8.64	7.76	8.97	8.18	

Haley, Roddie (USA) (1965)
FINAL - 1987 IAAF World Championship (Rome, ITA)
Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Sep-87	time		10.88		21.30		32.79		46.77	46.77	3 / 8							
reaction time		interval				10.42		11.49		13.98		# of strides	10.88	10.42	11.49	13.98	21.30	25.47	4.17
		velocity		9.19		9.60		8.70		7.15	8.55		9.19	9.60	8.70	7.15	9.39	7.85	

Sato, Kentaro (JPN) (1994)
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-16	time	6.25	11.34	16.68	22.20	27.89	33.85	40.12	46.77	46.77	/ 2							
reaction time		interval		5.09	5.34	5.52	5.69	5.96	6.27	6.65		# of strides	11.34	10.86	11.65	12.92	22.20	24.57	2.37
		velocity	8.00	9.82	9.36	9.06	8.79	8.39	7.97	7.52	8.55		8.82	9.21	8.58	7.74	9.01	8.14	

Ito, Rikiya (JPN) (1998)
A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)
Kobayashi (2019) - research on athlete performance and technique- 2019 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-19	time	6.20	11.20	16.30	21.63	27.28	33.39	39.83	46.77	46.77	6 / 5							
reaction time		interval		5.00	5.10	5.33	5.65	6.11	6.44	6.94		# of strides	11.20	10.43	11.76	13.38	21.63	25.14	3.51
		velocity	8.06	10.00	9.80	9.38	8.85	8.18	7.76	7.20	8.55	190.0	8.93	9.59	8.50	7.47	9.25	7.96	

Sato, Kentaro (JPN) (1994)
Heat 1 - 2020 Japanese National Championships (Niigata, JPN)
Yamanaka (2020) - 400m race analysis of men and women during 2020 season

date	01-Oct-20	time	6.13	11.13	16.20	21.53	27.12	33.35	39.84	46.77	46.77	3 / 1						
reaction time	0.183	interval		5.00	5.07	5.33	5.59	6.23	6.49	6.93		# of strides	11.13	10.40	11.82	13.42	21.53	25.24	3.71
		velocity	8.16	10.00	9.86	9.38	8.94	8.03	7.70	7.22	8.55		8.98	9.62	8.46	7.45	9.29	7.92	

Xie Yuqiang (CHN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Grand Prix 3 (Taizhou, CHN)																	*Shandong Athletics Sport Science (2023)*
date 26-May-23	time		11.28		22.17		33.90	40.11	46.77	46.77	6 / 1							
reaction time 0.167	interval				10.89		11.73	6.21	6.66		# of strides	11.28	10.89	11.73	12.87	22.17	24.60	2.43
	velocity		8.87		9.18		8.53	8.05	7.51	8.55	177.5	8.87	9.18	8.53	7.77	9.02	8.13	

Jordier, Thomas (FRA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Athletissima (Lausanne, SUI)																	*Omega Timing (2023) - diamond league race analysis*
date 30-Jun-23	time	6.25	11.33	16.52	21.99	27.68	33.62	39.83	46.77	46.77	6 / 7							
reaction time 0.140	interval		5.08	5.19	5.47	5.69	5.94	6.21	6.94		# of strides	11.33	10.66	11.63	13.15	21.99	24.78	2.79
	velocity	8.00	9.84	9.63	9.14	8.79	8.42	8.05	7.20	8.55		8.83	9.38	8.60	7.60	9.10	8.07	

Devantay, Charles (SUI) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Athletissima (Lausanne, SUI)																	*Omega Timing (2023) - diamond league race analysis*
date 30-Jun-23	time	6.27	11.33	16.54	21.99	27.69	33.67	39.98	46.77	46.77	1 / 8							
reaction time 0.131	interval		5.06	5.21	5.45	5.70	5.98	6.31	6.79		# of strides	11.33	10.66	11.68	13.10	21.99	24.78	2.79
	velocity	7.97	9.88	9.60	9.17	8.77	8.36	7.92	7.36	8.55		8.83	9.38	8.56	7.63	9.10	8.07	

Ju Tianqi (CHN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2024)*
date 16-Sep-24	time		11.66		22.39		33.95	39.99	46.77	46.77	5 / 5							
reaction time 0.224	interval				10.73		11.56	6.04	6.78		# of strides	11.66	10.73	11.56	12.82	22.39	24.38	1.99
	velocity		8.58		9.32		8.65	8.28	7.37	8.55	171.2	8.58	9.32	8.65	7.80	8.93	8.20	

Shorts, Albert (USA) (1953)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 USA Olympic Trials (Eugene, OR)																	*Track Newsletter (1980) - US olympic trials*
date 27-Jun-80	time		12.7		22.4		34.1		46.8	46.78	/ 8							
reaction time	interval				9.70		11.70		12.70		# of strides	12.70	9.70	11.70	12.70	22.40	24.40	2.00
	velocity		7.87		10.31		8.55		7.87	8.55		7.87	10.31	8.55	7.87	8.93	8.20	

Yui, Kaisei (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 Shizuoka International Athletics Meeting (Fukuori, JPN)																	*Maho (2014) - race analysis of men's 400m run in the 2014 season*
date 03-May-14	time	6.33	11.54	16.72	22.07	27.71	33.60	39.88	46.78	46.78	/ 7							
reaction time	interval		5.21	5.18	5.35	5.64	5.89	6.28	6.90	**PB**	# of strides	11.54	10.53	11.53	13.18	22.07	24.71	2.64
	velocity	7.90	9.60	9.65	9.35	8.87	8.49	7.96	7.25	8.55		8.67	9.50	8.67	7.59	9.06	8.09	

Williams, Conrad (GBR) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Seiko Golden Grand Prix (Kawasaki, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 08-May-16	time	6.30	11.41	16.63	22.00	27.55	33.40	39.79	46.78	46.78	6 / 6							
reaction time 0.174	interval		5.11	5.22	5.37	5.55	5.85	6.39	6.99		# of strides	11.41	10.59	11.40	13.38	22.00	24.78	2.78
	velocity	7.94	9.78	9.58	9.31	9.01	8.55	7.82	7.15	8.55		8.76	9.44	8.77	7.47	9.09	8.07	

Matsukiyo, Kazuki (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2016 IAAF World Junior Championships (Bydgoszcz, POL)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 20-Jul-16	time	6.47	11.72	17.22	22.82	28.67	34.53	40.45	46.78	46.78	6 / 3							
reaction time 0.205	interval		5.25	5.50	5.60	5.85	5.86	5.92	6.33		# of strides	11.72	11.10	11.71	12.25	22.82	23.96	1.14
	velocity	7.73	9.52	9.09	8.93	8.55	8.53	8.45	7.90	8.55		8.53	9.01	8.54	8.16	8.76	8.35	

Matsukiyo, Kazuki (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2017 Japanese National Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/07/08/post-965/*
date 23-Jun-17	time		11.71		22.58		33.97		46.78	46.78	2 / 7							
reaction time 0.185	interval				10.87		11.39		12.81		# of strides	11.71	10.87	11.39	12.81	22.58	24.20	1.62
	velocity		8.54		9.20		8.78		7.81	8.55	181.7	8.54	9.20	8.78	7.81	8.86	8.26	

Ito, Rikiya (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese National Championships (Fukuoka, JPN)																	*Yamanaka (2019) - research on athlete performance and technique- 2019 data book*
date 28-Jun-19	time	6.30	11.46	16.75	22.25	28.00	33.95	40.12	46.78	46.78	3 / 6							
reaction time 0.161	interval		5.16	5.29	5.50	5.75	5.95	6.17	6.66		# of strides	11.46	10.79	11.70	12.83	22.25	24.53	2.28
	velocity	7.94	9.69	9.45	9.09	8.70	8.40	8.10	7.51	8.55		8.73	9.27	8.55	7.79	8.99	8.15	

Gale, Kyle (BAR) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)																	*Longines Timing (2022) - commonwealth games race analysis*
date 05-Aug-22	time	6.2	11.3	16.6	22.1	27.8	33.8	40.0	46.78	46.78	2 / 5							
reaction time 0.189	interval		5.10	5.30	5.50	5.70	6.00	6.20	6.78		# of strides	11.30	10.80	11.70	12.98	22.10	24.68	2.58
	velocity	8.06	9.80	9.43	9.09	8.77	8.33	8.06	7.37	8.55	78.7	8.85	9.26	8.55	7.70	9.05	8.10	

Dautzenberg, Jens (GER) (1974)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 European Cup (Munich, GER)																	*Jung (2003) - http://www.fgs.uni-halle.de*
date 21-Jun-97	time		11.72		23.01		34.48		46.79	46.79	/ 7							
reaction time	interval				11.29		11.47		12.31		# of strides	11.72	11.29	11.47	12.31	23.01	23.78	0.77
	velocity		8.53		8.86		8.72		8.12	8.55		8.53	8.86	8.72	8.12	8.69	8.41	

Yui, Kaisei (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 Japanese National High School Championships (Oita, JPN)																	*Matsuo (2013) - 66th high school championships: JAF scientific committee - biomechanics data*
date 30-Jul-13	time		11.58		22.63		34.13		46.79	46.79	7 / 2							
reaction time	interval				11.05		11.50		12.66		# of strides	11.58	11.05	11.50	12.66	22.63	24.16	1.53
	velocity		8.64		9.05		8.70		7.90	8.55		8.64	9.05	8.70	7.90	8.84	8.28	

Azuma, Kaiki (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/10/05/post-1097/*
date 24-Sep-17	time		11.64		22.63		34.12		46.79	46.79	5 / 1							
reaction time	interval				10.99		11.49		12.67		# of strides	11.64	10.99	11.49	12.67	22.63	24.16	1.53
	velocity		8.59		9.10		8.70		7.89	8.55	185.0	8.59	9.10	8.70	7.89	8.84	8.28	

Stewart-Baynes, Khamal (CAN) (1999

FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)

Koyama (2018) - research on athlete performance and technique- 2018 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jul-18	time	6.22	11.16	16.17	21.61	27.43	33.52	39.97	46.79	46.79	7 / 6							
reaction time	0.158	interval		4.94	5.01	5.44	5.82	6.09	6.45	6.82		# of strides	11.16	10.45	11.91	13.27	21.61	25.18	3.57
		velocity	8.04	10.12	9.98	9.19	8.59	8.21	7.75	7.33	8.55		8.96	9.57	8.40	7.54	9.25	7.94	

Bujna, Šimon (SVK) (1995)

Heat 3 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-22	time		11.32		22.15		33.73		46.79	46.79	6 / 6							
reaction time	0.177	interval				10.83		11.58		13.06		# of strides	11.32	10.83	11.58	13.06	22.15	24.64	2.49
		velocity		8.83		9.23		8.64		7.66	8.55		8.83	9.23	8.64	7.66	9.03	8.12	

Pesela, Anthony (BOT) (2002)

FINAL - 2023 FBK Games (Hengelo, NED)

Omega Timing (2023) - continental tour race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Jun-23	time	6.34	11.29	16.55	22.15	27.85	33.72	39.81	46.79	46.79	8 / 7							
reaction time	0.255	interval		4.95	5.26	5.60	5.70	5.87	6.09	6.98		# of strides	11.29	10.86	11.57	13.07	22.15	24.64	2.49
		velocity	7.89	10.10	9.51	8.93	8.77	8.52	8.21	7.16	8.55		8.86	9.21	8.64	7.65	9.03	8.12	

Sato, Fuga (JPN) (1996)

Heat 2 - 2017 National Sports Festival (Matsuyama, JPN)

(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.46		21.97		33.71		46.80	46.80	4 / 3							
reaction time	0.205	interval				10.51		11.74		13.09		# of strides	11.46	10.51	11.74	13.09	21.97	24.83	2.86
		velocity		8.73		9.51		8.52		7.64	8.55	180.0	8.73	9.51	8.52	7.64	9.10	8.05	

Ito, Rikiya (JPN) (1998)

Heat 2 - 2018 Japanese National Championships (Yamaguchi, JPN)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-18	time	6.25	11.45	16.82	22.46	28.32	34.28	40.39	46.80	46.80	8 / 2							
reaction time	0.169	interval		5.20	5.37	5.64	5.86	5.96	6.11	6.41		# of strides	11.45	11.01	11.82	12.52	22.46	24.34	1.88
		velocity	8.00	9.62	9.31	8.87	8.53	8.39	8.18	7.80	8.55		8.73	9.08	8.46	7.99	8.90	8.22	

Ingvalsen, Håvard Bentdal (NOR) (20(

Semi-Final 1 - 2021 European Athletics U20 Championships (Tallin, EST)

European Athletics (2021) - european athletics U20 championships results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Jul-21	time		12.13		23.07		34.58		46.80	46.80	4 / 3							
reaction time	0.181	interval				10.94		11.51		12.22	PB	# of strides	12.13	10.94	11.51	12.22	23.07	23.73	0.66
		velocity		8.24		9.14		8.69		8.18	8.55		8.24	9.14	8.69	8.18	8.67	8.43	

van Wyk, Tumo Statago (BOT) (2002)

Invitational FINAL - 2025 Jetour Doha Meeting (Doha, QAT)

Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-May-25	time	5.94	10.81	16.18	21.91	27.73	33.70	39.89	46.80	46.80	7 / 2							
reaction time	0.157	interval		4.87	5.37	5.73	5.82	5.97	6.19	6.91		# of strides	10.81	11.10	11.79	13.10	21.91	24.89	2.98
		velocity	8.42	10.27	9.31	8.73	8.59	8.38	8.08	7.24	8.55		9.25	9.01	8.48	7.63	9.13	8.04	

Imoto, Yoshinobu (JPN) (1999)

U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)

(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.04		21.68		33.51		46.81	46.81	5 / 1							
reaction time	0.164	interval				10.64		11.83		13.30		# of strides	11.04	10.64	11.83	13.30	21.68	25.13	3.45
		velocity		9.06		9.40		8.45		7.52	8.55	198.0	9.06	9.40	8.45	7.52	9.23	7.96	

Sato, Kentaro (JPN) (1994)

FINAL - 2020 Japanese National Championships (Niigata, JPN)

Yamanaka (2020) - 400m race analysis of men and women during 2020 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Oct-20	time	6.10	11.06	16.15	21.61	27.30	33.40	39.75	46.81	46.81	6 / 6							
reaction time	0.175	interval		4.96	5.09	5.46	5.69	6.10	6.35	7.06		# of strides	11.06	10.55	11.79	13.41	21.61	25.20	3.59
		velocity	8.20	10.08	9.82	9.16	8.79	8.20	7.87	7.08	8.55	178.2	9.04	9.48	8.48	7.46	9.25	7.94	

Ding Wenhao (CHN) (2003)

Semi-Final 1 - 2023 Chinese National Championships (Quzhou, CHN)

Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-23	time		11.38		22.42		34.32	40.41	46.81	46.81	1 / 4							
reaction time	0.205	interval				11.04		11.90	6.09	6.40	PB	# of strides	11.38	11.04	11.90	12.49	22.42	24.39	1.97
		velocity		8.79		9.06		8.40	8.21	7.81	8.55	170.0	8.79	9.06	8.40	8.01	8.92	8.20	

Qiao Zhiyang (CHN) (1999)

Semi-Final 2 - 2023 Chinese National Championships (Quzhou, CHN)

Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-23	time		11.49		22.27		34.16	40.31	46.81	46.81	2 / 1							
reaction time	0.208	interval				10.78		11.89	6.15	6.50	PB	# of strides	11.49	10.78	11.89	12.65	22.27	24.54	2.27
		velocity		8.70		9.28		8.41	8.13	7.69	8.55	177.0	8.70	9.28	8.41	7.91	8.98	8.15	

Bain, Andretti (BAH) (1985)

FINAL - 2009 ISTAF (Berlin, GER)

Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Jun-09	time		11.45		22.10		33.70		46.82	46.82	2 / 7							
reaction time	0.232	interval				10.65		11.60		13.12		# of strides	11.45	10.65	11.60	13.12	22.10	24.72	2.62
		velocity		8.73		9.39		8.62		7.62	8.54		8.73	9.39	8.62	7.62	9.05	8.09	

Kitagawa, Takamasa (JPN) (1996)

FINAL - 2016 Seiko Golden Grand Prix (Kawasaki, JPN)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-May-16	time	6.40	11.52	16.83	22.33	28.02	33.95	40.24	46.82	46.82	3 / 7							
reaction time	0.177	interval		5.12	5.31	5.50	5.69	5.93	6.29	6.58		# of strides	11.52	10.81	11.62	12.87	22.33	24.49	2.16
		velocity	7.81	9.77	9.42	9.09	8.79	8.43	7.95	7.60	8.54	176.2	8.68	9.25	8.61	7.77	8.96	8.17	

Horii, Kosuke (JPN) (1994)

FINAL - 2017 Nanbu Memorial Meeting (Sapporo, JPN)

(2017) - tfdata-store.com/2017/07/11/post-1010/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jul-17	time		11.54		22.65		34.54		46.82	46.82	6 / 2							
reaction time		interval				11.11		11.89		12.28		# of strides	11.54	11.11	11.89	12.28	22.65	24.17	1.52
		velocity		8.67		9.00		8.41		8.14	8.54	184.0	8.67	9.00	8.41	8.14	8.83	8.27	

Rajiv, Arokia (IND) (1991)

Heat 4 - 2018 Asian Games (Jakarta, INA)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

date	25-Aug-18	time	6.31	11.40	16.73	22.27	27.99	33.97	40.17	46.82	46.82	5 / 2						
reaction time	0.184	interval		5.09	5.33	5.54	5.72	5.98	6.20	6.65		# of strides	11.40	10.87	11.70	12.85	22.27	24.55	2.28
		velocity	7.92	9.82	9.38	9.03	8.74	8.36	8.06	7.52	8.54		8.77	9.20	8.55	7.78	8.98	8.15	

Matsukiyo, Kazuki (JPN) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2019 Japanese National Championships (Fukuoka, JPN)

Yamanaka (2019) - research on athlete performance and technique- 2019 data book

date	28-Jun-19	time	6.54	11.77	17.14	22.71	28.35	34.13	40.15	46.82	46.82	2 / 7						
reaction time	0.172	interval		5.23	5.37	5.57	5.64	5.78	6.02	6.67		# of strides	11.77	10.94	11.42	12.69	22.71	24.11	1.40
		velocity	7.65	9.56	9.31	8.98	8.87	8.65	8.31	7.50	8.54		8.50	9.14	8.76	7.88	8.81	8.30	

Brier, Joseph (GBR) (1999)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2023 Weltklasse (Zürich, SUI)

Omega Timing (2023) - diamond league race analysis

date	31-Aug-23	time	6.22	11.29	16.60	22.08	27.70	33.60	39.90	46.82	46.82	2 / 7						
reaction time	0.200	interval		5.07	5.31	5.48	5.62	5.90	6.30	6.92		# of strides	11.29	10.79	11.52	13.22	22.08	24.74	2.66
		velocity	8.04	9.86	9.42	9.12	8.90	8.47	7.94	7.23	8.54		8.86	9.27	8.68	7.56	9.06	8.08	

Grávalos, Dimítrios (GRE) (1984)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2007 European Cup (Munich, GER)

Graubner (2007) - http://www.fgs.uni-halle.de

date	23-Jun-07	time		11.63		22.36		33.76		46.83	46.83	/ 7						
reaction time	0.139	interval				10.73		11.40		13.07		# of strides	11.63	10.73	11.40	13.07	22.36	24.47	2.11
		velocity		8.60		9.32		8.77		7.65	8.54		8.60	9.32	8.77	7.65	8.94	8.17	

Yamazaki, Kengo (JPN) (1992)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2009 Japanese National High School Championships (Nara, JPN)

Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data

date	29-Jul-09	time		11.63		23.02		34.57		46.83	46.83	5 / 1						
reaction time		interval				11.39		11.55		12.26		# of strides	11.63	11.39	11.55	12.26	23.02	23.81	0.79
		velocity		8.60		8.78		8.66		8.16	8.54		8.60	8.78	8.66	8.16	8.69	8.40	

Momiki, Shogo (JPN) (1992)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2012 Japanese National Championships (Osaka, JPN)

Maho (2013) - race analysis of the men's 400m run in competition

date	09-Jun-12	time	6.15	11.28	16.48	22.02	27.72	33.58	39.82	46.83	46.83	6 / 4						
reaction time		interval		5.13	5.20	5.54	5.70	5.86	6.24	7.01		# of strides	11.28	10.74	11.56	13.25	22.02	24.81	2.79
		velocity	8.13	9.75	9.62	9.03	8.77	8.53	8.01	7.13	8.54	194.0	8.87	9.31	8.65	7.55	9.08	8.06	

Azuma, Kaiki (JPN) (1993)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2018 Japanese Corporate Championships (Osaka, JPN)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

date	23-Sep-18	time	6.39	11.74	17.22	22.79	28.38	34.06	39.99	46.83	46.83	7 / 3						
reaction time	0.141	interval		5.35	5.48	5.57	5.59	5.68	5.93	6.84		# of strides	11.74	11.05	11.27	12.77	22.79	24.04	1.25
		velocity	7.82	9.35	9.12	8.98	8.94	8.80	8.43	7.31	8.54		8.52	9.05	8.87	7.83	8.78	8.32	

Xie Yuqiang (CHN) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 1 - 2023 Chinese National Championships (Quzhou, CHN)

Shandong Athletics Sport Science (2023)

date	21-Jul-23	time		11.31		22.13		33.92	40.18	46.83	46.83	3 / 5						
reaction time	0.178	interval				10.82		11.79	6.26	6.65		# of strides	11.31	10.82	11.79	12.91	22.13	24.70	2.57
		velocity		8.84		9.24		8.48	7.99	7.52	8.54	176.2	8.84	9.24	8.48	7.75	9.04	8.10	

Brand, Dany (SUI) (1996)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2023 Weltklasse (Zürich, SUI)

Omega Timing (2023) - diamond league race analysis

date	31-Aug-23	time	6.33	11.36	16.66	22.21	27.93	33.92	40.23	46.83	46.83	1 / 8						
reaction time	0.160	interval		5.03	5.30	5.55	5.72	5.99	6.31	6.60	PB	# of strides	11.36	10.85	11.71	12.91	22.21	24.62	2.41
		velocity	7.90	9.94	9.43	9.01	8.74	8.35	7.92	7.58	8.54		8.80	9.22	8.54	7.75	9.00	8.12	

Long, Maxwell (USA) (1878)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1900 Exhibition Handicap (Guttenberg, NY) (440y Straightaway)

Hymans (2015) - progression of IAAF world records - 2015 edition

date	10-Apr-00	time				22.4				46.7	46.7	/ 1						
reaction time		interval								24.3		# of strides					22.40	24.30	1.90
		velocity				8.93				8.23	8.57	*(47.0/440y)*					8.93	8.23	

Harbig, Rudolf (GER) (1913)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1939 Italy vs. Germany (Milan, ITA) (500m track)

Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)

date	16-Jul-39	time				22.8				46.7	46.7	/ 1						
reaction time		interval								23.9	=AR	# of strides					22.80	23.90	1.10
		velocity				8.77				8.37	8.57						8.77	8.37	

Lanzi, Mario (ITA) (1914)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1939 Italy vs. Germany (Milan, ITA) (500m track)

Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)

date	16-Jul-39	time				22.2				46.7	46.7	/ 2						
reaction time		interval								24.5	=AR	# of strides					22.20	24.50	2.30
		velocity				9.01				8.16	8.57						9.01	8.16	

Jenkins, Charlie (USA) (1934)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1956 Olympic Games (Melbourne, AUS)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

date	29-Nov-56	time				22.2		33.9		46.7	46.7	4 / 1						
reaction time		interval						11.7		12.8	*(46.86)*	# of strides			11.70	12.80	22.20	24.50	2.30
		velocity				9.01		8.55		7.81	8.57	183.7			8.55	7.81	9.01	8.16	

Miller, Tony (USA) (1971)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)

USATF Women's Sprint Development (1996)

date	17-Jun-96	time		11.72		22.29		34.01	40.04	46.84	46.84	7 / 8						
reaction time		interval				10.57		11.72	6.03	6.80		# of strides	11.72	10.57	11.72	12.83	22.29	24.55	2.26
		velocity		8.53		9.46		8.53	8.29	7.35	8.54		8.53	9.46	8.53	7.79	8.97	8.15	

Obuchi, Mizuki (JPN) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2020 All Japan Corporate Championships (Kumagaya, JPN)

Yamanaka (2020) - 400m race analysis of men and women during 2020 season

date	19-Sep-20	time	6.32	11.38	16.73	22.32	28.02	33.90	40.06	46.84	46.84	6 / 2						
reaction time	0.207	interval		5.06	5.35	5.59	5.70	5.88	6.16	6.78		# of strides	11.38	10.94	11.58	12.94	22.32	24.52	2.20
		velocity	7.91	9.88	9.35	8.94	8.77	8.50	8.12	7.37	8.54	193.0	8.79	9.14	8.64	7.73	8.96	8.16	

Carvell, Charlie (GBR) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 European Athletics U20 Championships (Tallin, EST)																	*European Athletics (2021) - european athletics U20 championships results book*
date 16-Jul-21	time	11.56		22.61		34.47		46.84	46.84	5 / 4							
reaction time 0.218	interval			11.05		11.86		12.37		# of strides	11.56	11.05	11.86	12.37	22.61	24.23	1.62
	velocity	8.65		9.05		8.43		8.08	8.54		8.65	9.05	8.43	8.08	8.85	8.25	

Lepage, Pierce (CAN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 23-Jul-22	time	11.44		22.60		34.36		46.84	46.84	4 / 2							
reaction time 0.194	interval			11.16		11.76		12.48	PB	# of strides	11.44	11.16	11.76	12.48	22.60	24.24	1.64
	velocity	8.74		8.96		8.50		8.01	8.54	159.0	8.74	8.96	8.50	8.01	8.85	8.25	

Sun Jiahao (CHN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Grand Prix 4 (Chongqing, CHN)																	*Shandong Athletics Sport Science (2023)*
date 02-Jun-23	time	11.52		22.23		33.70	39.94	46.84	46.84	6 / 4							
reaction time 0.213	interval			10.71		11.47	6.24	6.90	PB	# of strides	11.52	10.71	11.47	13.14	22.23	24.61	2.38
	velocity	8.68		9.34		8.72	8.01	7.25	8.54	181.0	8.68	9.34	8.72	7.61	9.00	8.13	

Kijanović, Boško (SRB) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22	time	11.87		22.49		34.03		46.85	46.85	6 / 7							
reaction time 0.131	interval			10.62		11.54		12.82		# of strides	11.87	10.62	11.54	12.82	22.49	24.36	1.87
	velocity	8.42		9.42		8.67		7.80	8.54	171.5	8.42	9.42	8.67	7.80	8.89	8.21	

Brand, Dany (SUI) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Weltklasse (Zürich, SUI)																	*Omega Timing (2022) - diamond league race analysis*
date 08-Sep-22	time	6.23	11.23	16.45	21.87	27.51	33.56	40.01	46.85	46.85	1 / 8							
reaction time 0.165	interval		5.00	5.22	5.42	5.64	6.05	6.45	6.84	PB	# of strides	11.23	10.64	11.69	13.29	21.87	24.98	3.11
	velocity	8.03	10.00	9.58	9.23	8.87	8.26	7.75	7.31	8.54		8.90	9.40	8.55	7.52	9.14	8.01	

Ju Tianqi (CHN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Grand Prix 3 (Taizhou, CHN)																	*Shandong Athletics Sport Science (2023)*
date 26-May-23	time	11.42		22.24		34.15	40.24	46.85	46.85	5 / 2							
reaction time 0.220	interval			10.82		11.91	6.09	6.61		# of strides	11.42	10.82	11.91	12.70	22.24	24.61	2.37
	velocity	8.76		9.24		8.40	8.21	7.56	8.54	178.0	8.76	9.24	8.40	7.87	8.99	8.13	

Sato, Keitaro (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 Japanese National High School Championships (Kumagaya, JPN)																	*Abe (2008) - 61st high school championships: JAF scientific committee - biomechanics data*
date 29-Jul-08	time	6.57	11.95	17.40	23.03	28.81	34.53	40.43	46.86	46.86	/ 1							
reaction time	interval		5.38	5.45	5.63	5.78	5.72	5.90	6.43		# of strides	11.95	11.08	11.50	12.33	23.03	23.83	0.80
	velocity	7.61	9.29	9.17	8.88	8.65	8.74	8.47	7.78	8.54		8.37	9.03	8.70	8.11	8.68	8.39	

Mihara, Taiki (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Japanese National Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/07/08/post-965/*
date 24-Jun-17	time	11.52		22.19		33.69		46.86	46.86	8 / 6							
reaction time 0.219	interval			10.67		11.50		13.17		# of strides	11.52	10.67	11.50	13.17	22.19	24.67	2.48
	velocity	8.68		9.37		8.70		7.59	8.54	180.5	8.68	9.37	8.70	7.59	9.01	8.11	

Suzuki, Taichi (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2019 Japanese National Championships (Fukuoka, JPN)																	*Yamanaka (2019) - race analysis of men and women 400m competition*
date 27-Jun-19	time	6.20	11.37	16.82	22.54	28.42	34.36	40.38	46.86	46.86	3 / 2							
reaction time 0.176	interval		5.17	5.45	5.72	5.88	5.94	6.02	6.48		# of strides	11.37	11.17	11.82	12.50	22.54	24.32	1.78
	velocity	8.06	9.67	9.17	8.74	8.50	8.42	8.31	7.72	8.54		8.80	8.95	8.46	8.00	8.87	8.22	

Sato, Fuga (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2020 Japanese National Championships (Niigata, JPN)																	*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*
date 01-Oct-20	time	6.48	11.75	17.08	22.63	28.29	34.15	40.27	46.86	46.86	4 / 2							
reaction time 0.180	interval		5.27	5.33	5.55	5.66	5.86	6.12	6.59		# of strides	11.75	10.88	11.52	12.71	22.63	24.23	1.60
	velocity	7.72	9.49	9.38	9.01	8.83	8.53	8.17	7.59	8.54		8.51	9.19	8.68	7.87	8.84	8.25	

Sun Jiahao (CHN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2023)*
date 21-Jul-23	time	11.40		23.00		34.60	40.54	46.86	46.86	5 / 3							
reaction time 0.203	interval			11.60		11.60	5.94	6.32		# of strides	11.40	11.60	11.60	12.26	23.00	23.86	0.86
	velocity	8.77		8.62		8.62	8.42	7.91	8.54	177.0	8.77	8.62	8.62	8.16	8.70	8.38	

Rigau, Miguel (GER) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2009 ISTAF (Berlin, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 14-Jun-09	time	11.38		22.11		33.83		46.87	46.87	/ 2							
reaction time 0.255	interval			10.73		11.72		13.04	PB	# of strides	11.38	10.73	11.72	13.04	22.11	24.76	2.65
	velocity	8.79		9.32		8.53		7.67	8.53		8.79	9.32	8.53	7.67	9.05	8.08	

Kobayashi, Naoki (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 National Sports Festival (Wakayama, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 04-Oct-15	time	6.33	11.61	17.15	22.93	28.72	34.53	40.54	46.87	46.87	/ 1							
reaction time	interval		5.28	5.54	5.78	5.79	5.81	6.01	6.33		# of strides	11.61	11.32	11.60	12.34	22.93	23.94	1.01
	velocity	7.90	9.47	9.03	8.65	8.64	8.61	8.32	7.90	8.53		8.61	8.83	8.62	8.10	8.72	8.35	

Kobayashi, Naoki (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2016 Japanese National Championships (Nagoya, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 24-Jun-16	time	6.43	11.55	16.80	22.14	27.65	33.55	39.89	46.87	46.87	3 / 3							
reaction time 0.153	interval		5.12	5.25	5.34	5.51	5.90	6.34	6.98		# of strides	11.55	10.59	11.41	13.32	22.14	24.73	2.59
	velocity	7.78	9.77	9.52	9.36	9.07	8.47	7.89	7.16	8.53		8.66	9.44	8.76	7.51	9.03	8.09	

Kimura, Kazushi (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 National Sports Festival (Matsuyama, JPN)																	*Yamanaka (2017) - male and female 400m analysis in the 2017 season*

date	08-Oct-17	time	6.20	11.41	16.90	22.50	28.25	34.14	40.24	46.87	46.87	7 / 3						
reaction time	0.202	interval		5.21	5.49	5.60	5.75	5.89	6.10	6.63		# of strides	11.41	11.09	11.64	12.73	22.50	24.37	1.87
		velocity	8.06	9.60	9.11	8.93	8.70	8.49	8.20	7.54	8.53	187.0	8.76	9.02	8.59	7.86	8.89	8.21	

Taplin, Bralon (GRN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2019) - diamond league race analysis*
date 30-May-19	time		11.4		22.1		33.5		46.87	46.87	2 / 7							
reaction time 0.152	interval				10.7		11.4		13.4		# of strides	11.40	10.70	11.40	13.37	22.10	24.77	2.67
	velocity		8.77		9.35		8.77		7.48	8.53		8.77	9.35	8.77	7.48	9.05	8.07	

Yoshikawa, Ryo (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)																	*Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection*
date 04-Aug-19	time	6.61	11.92	17.19	22.57	28.25	34.21	40.35	46.87	46.87	7 / 2							
reaction time	interval		5.31	5.27	5.38	5.68	5.96	6.14	6.52	PB	# of strides	11.92	10.65	11.64	12.66	22.57	24.30	1.73
	velocity	7.56	9.42	9.49	9.29	8.80	8.39	8.14	7.67	8.53		8.39	9.39	8.59	7.90	8.86	8.23	

Ogando, Alexander (DOM) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2021) - diamond league race analysis*
date 04-Jul-21	time	6.4	11.6	17.0	22.4	28.1	34.0	40.2	46.87	46.87	2 / 7							
reaction time 0.137	interval		5.20	5.40	5.40	5.70	5.90	6.20	6.67		# of strides	11.60	10.80	11.60	12.87	22.40	24.47	2.07
	velocity	7.81	9.62	9.26	9.26	8.77	8.47	8.06	7.50	8.53		8.62	9.26	8.62	7.77	8.93	8.17	

Obuchi, Mizuki (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2021 All Japan Corporate Championships (Osaka, JPN)																	*@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633*
date 25-Sep-21	time		11.36		22.14		33.75		46.85	46.87	7 / 1							
reaction time 0.183	interval				10.78		11.61		13.10		# of strides	11.36	10.78	11.61	13.10	22.14	24.71	2.57
	velocity		8.80		9.28		8.61		7.63	8.53		8.80	9.28	8.61	7.63	9.03	8.09	

Solomon, Steven (AUS) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22	time		11.71		22.50		33.65		46.87	46.87	5 / 6							
reaction time 0.152	interval				10.79		11.15		13.22		# of strides	11.71	10.79	11.15	13.22	22.50	24.37	1.87
	velocity		8.54		9.27		8.97		7.56	8.53		8.54	9.27	8.97	7.56	8.89	8.21	

Ding Wenhao (CHN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2023)*
date 22-Jul-23	time		11.16		21.95		33.62	39.86	46.87	46.87	2 / 5							
reaction time 0.216	interval				10.79		11.67	6.24	7.01		# of strides	11.16	10.79	11.67	13.25	21.95	24.92	2.97
	velocity		8.96		9.27		8.57	8.01	7.13	8.53	176.0	8.96	9.27	8.57	7.55	9.11	8.03	

Tamer, Sami Khaled (QAT) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Invitational FINAL - 2025 Jetour Doha Meeting (Doha, QAT)																	*Omega Timing (2025) - diamond league race analysis*
date 16-May-25	time	6.48	11.77	17.41	23.14	28.82	34.60	40.46	46.87	46.87	5 / 3							
reaction time 0.217	interval		5.29	5.64	5.73	5.68	5.78	5.86	6.41	PB	# of strides	11.77	11.37	11.46	12.27	23.14	23.73	0.59
	velocity	7.72	9.45	8.87	8.73	8.80	8.65	8.53	7.80	8.53		8.50	8.80	8.73	8.15	8.64	8.43	

Batman, Daniel (AUS) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)																	*Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m*
date 24-Sep-06	time	6.1	11.0	16.2	21.8	27.3	33.2	39.8	46.88	46.88	6 / 8							
reaction time	interval		4.90	5.20	5.60	5.50	5.90	6.60	7.08		# of strides	11.00	10.80	11.40	13.68	21.80	25.08	3.28
	velocity	8.20	10.20	9.62	8.93	9.09	8.47	7.58	7.06	8.53		9.09	9.26	8.77	7.31	9.17	7.97	

Faller, Ruwen (GER) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2009 ISTAF (Berlin, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 14-Jun-09	time		11.73		22.72		34.20		46.88	46.88	/ 3							
reaction time 0.346	interval				10.99		11.48		12.68		# of strides	11.73	10.99	11.48	12.68	22.72	24.16	1.44
	velocity		8.53		9.10		8.71		7.89	8.53		8.53	9.10	8.71	7.89	8.80	8.28	

Fujiyoshi, Shunta (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)																	*Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection*
date 04-Aug-19	time	6.54	11.65	16.77	22.01	27.62	33.62	39.98	46.88	46.88	6 / 3							
reaction time	interval		5.11	5.12	5.24	5.61	6.00	6.36	6.90	PB	# of strides	11.65	10.36	11.61	13.26	22.01	24.87	2.86
	velocity	7.65	9.78	9.77	9.54	8.91	8.33	7.86	7.25	8.53		8.58	9.65	8.61	7.54	9.09	8.04	

Moloney, Ashley (AUS) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 23-Jul-22	time		11.02		21.75		33.77		46.88	46.88	3 / 3							
reaction time 0.142	interval				10.73		12.02		13.11		# of strides	11.02	10.73	12.02	13.11	21.75	25.13	3.38
	velocity		9.07		9.32		8.32		7.63	8.53	169.0	9.07	9.32	8.32	7.63	9.20	7.96	

Ju Tianqi (CHN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2023 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2023)*
date 21-Jul-23	time		11.42		22.19		34.03	40.23	46.88	46.88	6 / 2							
reaction time 0.213	interval				10.77		11.84	6.20	6.65		# of strides	11.42	10.77	11.84	12.85	22.19	24.69	2.50
	velocity		8.76		9.29		8.45	8.06	7.52	8.53	179.5	8.76	9.29	8.45	7.78	9.01	8.10	

Xie Yuqiang (CHN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2023 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2023)*
date 21-Jul-23	time		11.29		22.21		34.06	40.29	46.88	46.88	5 / 3							
reaction time 0.173	interval				10.92		11.85	6.23	6.59		# of strides	11.29	10.92	11.85	12.82	22.21	24.67	2.46
	velocity		8.86		9.16		8.44	8.03	7.59	8.53	174.5	8.86	9.16	8.44	7.80	9.00	8.11	

Grimerud, Andreas (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 13-Jul-23	time		11.87		22.74		34.66		46.88	46.88	8 / 6							
reaction time 0.232	interval				10.87		11.92		12.22		# of strides	11.87	10.87	11.92	12.22	22.74	24.14	1.40
	velocity		8.42		9.20		8.39		8.18	8.53		8.42	9.20	8.39	8.18	8.80	8.29	

Motoshio, Ryo (JPN) (1990)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Japanese National Championships (Osaka, JPN)																			*Maho (2013) - race analysis of the men's 400m run in competition*
date	09-Jun-12	time	6.13	11.30	16.62	22.26	28.14	34.12	40.29	46.89	46.89	2 / 5							
reaction time		interval		5.17	5.32	5.64	5.88	5.98	6.17	6.60		# of strides	11.30	10.96	11.86	12.77	22.26	24.63	2.37
		velocity	8.16	9.67	9.40	8.87	8.50	8.36	8.10	7.58	8.53	174.5	8.85	9.12	8.43	7.83	8.98	8.12	

Yagisawa, Junki (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Kokutai National Sport Festival (Gifu, JPN)																			*Maho (2013) - race analysis of the men's 400m run in competition*
date	08-Oct-12	time	6.33	11.61	16.92	22.39	28.14	34.11	40.32	46.89	46.89	/ 5							
reaction time		interval		5.28	5.31	5.47	5.75	5.97	6.21	6.57	PB	# of strides	11.61	10.78	11.72	12.78	22.39	24.50	2.11
		velocity	7.90	9.47	9.42	9.14	8.70	8.38	8.05	7.61	8.53		8.61	9.28	8.53	7.82	8.93	8.16	

Janežič, Luka (SLO) (1995)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 The Match - Europe v USA (Minsk, BLR)																			*Omega Timing (2019) - diamond league race analysis*
date	09-Sep-19	time		11.61		22.39		34.09		46.89	46.89	8 / 7							
reaction time	0.205	interval				10.78		11.70		12.80		# of strides	11.61	10.78	11.70	12.80	22.39	24.50	2.11
		velocity		8.61		9.28		8.55		7.81	8.53	167.5	8.61	9.28	8.55	7.81	8.93	8.16	

London, Wil (USA) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)																			*Omega Timing (2022) - diamond league race analysis*
date	21-May-22	time	6.27	11.39	16.77	22.27	27.95	33.90	40.11	46.89	46.89	1 / 8							
reaction time	0.168	interval		5.12	5.38	5.50	5.68	5.95	6.21	6.78		# of strides	11.39	10.88	11.63	12.99	22.27	24.62	2.35
		velocity	7.97	9.77	9.29	9.09	8.80	8.40	8.05	7.37	8.53		8.78	9.19	8.60	7.70	8.98	8.12	

Kersulis, Tomas (LTU) (2001)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 European Athletics U23 Championships (Espoo, FIN)																			*European Athletics (2023) - european athletics U23 championships results book*
date	14-Jul-23	time		11.46		22.19		34.03		46.89	46.89	1 / 8							
reaction time	0.170	interval				10.73		11.84		12.86		# of strides	11.46	10.73	11.84	12.86	22.19	24.70	2.51
		velocity		8.73		9.32		8.45		7.78	8.53	172.2	8.73	9.32	8.45	7.78	9.01	8.10	

Bair, Peyton (USA) (2001)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2024 USA Olympic Trials (Eugene, OR)																			*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	21-Jun-24	time		11.12		21.58		33.35		46.89	46.89	4 / 2							
reaction time		interval				10.46		11.77		13.54	PB	# of strides	11.12	10.46	11.77	13.54	21.58	25.31	3.73
		velocity		8.99		9.56		8.50		7.39	8.53		8.99	9.56	8.50	7.39	9.27	7.90	

Takahaski, Yumi (JPN) (1995)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)																			*(2017) - tfdata-store.com/2017/05/13/post-441/*
date	11-May-17	time		11.39		22.09		33.60		46.90	46.90	7 / 2							
reaction time		interval				10.70		11.51		13.30		# of strides	11.39	10.70	11.51	13.30	22.09	24.81	2.72
		velocity		8.78		9.35		8.69		7.52	8.53	180.7	8.78	9.35	8.69	7.52	9.05	8.06	

Nadj, Levente (HUN) (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2021 European Athletics U20 Championships (Tallin, EST)																			*European Athletics (2021) - european athletics U20 championships results book*
date	15-Jul-21	time		11.93		23.20		34.65		46.90	46.90	3 / 4							
reaction time	0.169	interval				11.27		11.45		12.25	PB	# of strides	11.93	11.27	11.45	12.25	23.20	23.70	0.50
		velocity		8.38		8.87		8.73		8.16	8.53		8.38	8.87	8.73	8.16	8.62	8.44	

Wu Yuang (CHN) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Grand Prix 3 (Taizhou, CHN)																			*Shandong Athletics Sport Science (2023)*
date	26-May-23	time		11.40		22.07		34.17	40.31	46.90	46.90	2 / 3							
reaction time	0.185	interval				10.67		12.10	6.14	6.59		# of strides	11.40	10.67	12.10	12.73	22.07	24.83	2.76
		velocity		8.77		9.37		8.26	8.14	7.59	8.53	182.5	8.77	9.37	8.26	7.86	9.06	8.05	

Inoue, Daichi (JPN) (1999)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)																			*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date	29-Jul-16	time	6.54	11.88	17.30	22.88	28.51	34.36	40.43	46.91	46.91	6 / 2							
reaction time	0.217	interval		5.34	5.42	5.58	5.63	5.85	6.07	6.48	PB	# of strides	11.88	11.00	11.48	12.55	22.88	24.03	1.15
		velocity	7.65	9.36	9.23	8.96	8.88	8.55	8.24	7.72	8.53		8.42	9.09	8.71	7.97	8.74	8.32	

Kimura, Jun (JPN) (1991)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2018 Japanese National Championships (Yamaguchi, JPN)																			*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*
date	22-Jun-18	time	6.28	11.46	16.82	22.45	28.32	34.30	40.36	46.91	46.91	9 / 1							
reaction time	0.153	interval		5.18	5.36	5.63	5.87	5.98	6.06	6.55		# of strides	11.46	10.99	11.85	12.61	22.45	24.46	2.01
		velocity	7.96	9.65	9.33	8.88	8.52	8.36	8.25	7.63	8.53		8.73	9.10	8.44	7.93	8.91	8.18	

Inoue, Daichi (JPN) (1999)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2020 Japanese National Championships (Niigata, JPN)																			*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*
date	01-Oct-20	time	6.38	11.51	16.97	22.67	28.49	34.37	40.37	46.91	46.91	6 / 3							
reaction time	0.188	interval		5.13	5.46	5.70	5.82	5.88	6.00	6.54		# of strides	11.51	11.16	11.70	12.54	22.67	24.24	1.57
		velocity	7.84	9.75	9.16	8.77	8.59	8.50	8.33	7.65	8.53		8.69	8.96	8.55	7.97	8.82	8.25	

Ohioze, Michael (GBR) (1995)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)																			*Omega Timing (2021) - diamond league race analysis*
date	13-Jul-21	time	6.3	11.4	16.8	22.4	28.2	34.1	40.3	46.91	46.91	5 / 5							
reaction time	0.170	interval		5.10	5.40	5.60	5.80	5.90	6.20	6.61		# of strides	11.40	11.00	11.70	12.81	22.40	24.51	2.11
		velocity	7.94	9.80	9.26	8.93	8.62	8.47	8.06	7.56	8.53		8.77	9.09	8.55	7.81	8.93	8.16	

West, Austin (USA) (2000)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2024 USA Olympic Trials (Eugene, OR)																			*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	21-Jun-24	time		11.37		21.91		33.79		46.91	46.91	8 / 3							
reaction time		interval				10.54		11.88		13.12		# of strides	11.37	10.54	11.88	13.12	21.91	25.00	3.09
		velocity		8.80		9.49		8.42		7.62	8.53		8.80	9.49	8.42	7.62	9.13	8.00	

Tamura, Tomoya (JPN) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 National Sports Festival (Wakayama, JPN)																			*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

date	04-Oct-15	time	6.23	11.41	16.98	22.88	28.60	34.33	40.37	46.92	46.92	/ 2						
reaction time		interval		5.18	5.57	5.90	5.72	5.73	6.04	6.55		# of strides	11.41	11.47	11.45	12.59	22.88	24.04	1.16
		velocity	8.03	9.65	8.98	8.47	8.74	8.73	8.28	7.63	8.53		8.76	8.72	8.73	7.94	8.74	8.32	

Yamaki, Kakeru (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/01/post-786/*
date 26-May-17	time		11.33		22.16		33.79		46.92	46.92	6 / 3							
reaction time	interval				10.83		11.63		13.13		# of strides	11.33	10.83	11.63	13.13	22.16	24.76	2.60
	velocity		8.83		9.23		8.60		7.62	8.53	204.2	8.83	9.23	8.60	7.62	9.03	8.08	

Sato, Kentaro (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Seiko Golden Grand Prix (Osaka, JPN)																	*Hirokawa (2019) - research on athlete performance and technique- 2019 data book*
date 19-May-19	time	6.27	11.35	16.54	21.92	27.51	33.64	40.06	46.92	46.92	3 / 4							
reaction time 0.167	interval		5.08	5.19	5.38	5.59	6.13	6.42	6.86		# of strides	11.35	10.57	11.72	13.28	21.92	25.00	3.08
	velocity	7.97	9.84	9.63	9.29	8.94	8.16	7.79	7.29	8.53	181.0	8.81	9.46	8.53	7.53	9.12	8.00	

Horii, Kosuke (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2019 Japanese National Championships (Fukuoka, JPN)																	*Yamanaka (2019) - race analysis of men and women 400m competition*
date 27-Jun-19	time	6.21	11.33	16.63	22.24	28.04	34.09	40.35	46.92	46.92	8 / 4							
reaction time 0.163	interval		5.12	5.30	5.61	5.80	6.05	6.26	6.57		# of strides	11.33	10.91	11.85	12.83	22.24	24.68	2.44
	velocity	8.05	9.77	9.43	8.91	8.62	8.26	7.99	7.61	8.53		8.83	9.17	8.44	7.79	8.99	8.10	

Xie Yuqiang (CHN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2023 Chinese National Grand Prix 3 (Taizhou, CHN)																	*Shandong Athletics Sport Science (2023)*
date 26-May-23	time		11.18		22.00		33.88	40.21	46.92	46.92	7 / 1							
reaction time 0.163	interval				10.82		11.88	6.33	6.71		# of strides	11.18	10.82	11.88	13.04	22.00	24.92	2.92
	velocity		8.94		9.24		8.42	7.90	7.45	8.53	177.2	8.94	9.24	8.42	7.67	9.09	8.03	

Yang Wang (CHN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese World Championship & Asian Games Trials (Shenyang, CHN)																	*Shandong Athletics Sport Science (2023)*
date 28-Jun-23	time		11.43		22.00		33.77	40.06	46.92	46.92	3 / 4							
reaction time 0.210	interval				10.57		11.77	6.29	6.86		# of strides	11.43	10.57	11.77	13.15	22.00	24.92	2.92
	velocity		8.75		9.46		8.50	7.95	7.29	8.53	187.0	8.75	9.46	8.50	7.60	9.09	8.03	

Fernandez, Markel (ESP) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 13-Jul-23	time		11.38		22.13		34.39		46.92	46.92	1 / 7							
reaction time 0.180	interval				10.75		12.26		12.53		# of strides	11.38	10.75	12.26	12.53	22.13	24.79	2.66
	velocity		8.79		9.30		8.16		7.98	8.53		8.79	9.30	8.16	7.98	9.04	8.07	

Steigerwald, Ernö (HUN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 13-Jul-23	time		11.81		22.91		35.04		46.92	46.92	3 / 7							
reaction time 0.241	interval				11.10		12.13		11.88		# of strides	11.81	11.10	12.13	11.88	22.91	24.01	1.10
	velocity		8.47		9.01		8.24		8.42	8.53		8.47	9.01	8.24	8.42	8.73	8.33	

Mihara, Taiki (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Nanbu Memorial Meeting (Sapporo, JPN)																	*(2017) - tfdata-store.com/2017/07/11/post-1010/*
date 09-Jul-17	time		11.98		23.26		34.98		46.93	46.93	3 / 3							
reaction time	interval				11.28		11.72		11.95		# of strides	11.98	11.28	11.72	11.95	23.26	23.67	0.41
	velocity		8.35		8.87		8.53		8.37	8.52	183.7	8.35	8.87	8.53	8.37	8.60	8.45	

Yamada, Atsushi (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/10/05/post-1097/*
date 24-Sep-17	time		11.28		22.06		33.73		46.93	46.93	4 / 2							
reaction time 0.145	interval				10.78		11.67		13.20	**=PB**	# of strides	11.28	10.78	11.67	13.20	22.06	24.87	2.81
	velocity		8.87		9.28		8.57		7.58	8.52	188.0	8.87	9.28	8.57	7.58	9.07	8.04	

Smith, Owen (GBR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2018 Müller Anniversary Games (London, GBR)																	*Omega Timing (2018) - diamond league race analysis*
date 21-Jul-18	time		11.8		22.5		34.1		46.93	46.93	4 / 4							
reaction time 0.138	interval				10.7		11.6		12.8		# of strides	11.80	10.70	11.60	12.83	22.50	24.43	1.93
	velocity		8.47		9.35		8.62		7.79	8.52		8.47	9.35	8.62	7.79	8.89	8.19	

Devantay, Charles (SUI) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Athletissima (Lausanne, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 26-Aug-21	time	6.3	11.4	16.7	22.3	28.0	34.0	40.2	46.93	46.93	1 / 8							
reaction time 0.132	interval		5.10	5.30	5.60	5.70	6.00	6.20	6.73		# of strides	11.40	10.90	11.70	12.93	22.30	24.63	2.33
	velocity	7.94	9.80	9.43	8.93	8.77	8.33	8.06	7.43	8.52		8.77	9.17	8.55	7.73	8.97	8.12	

Kikuta, Kyo (JPN) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)																	*Takashima (2024) - national high school sports festival - biomechanics data*
date 28-Jul-24	time		11.53		22.12		33.85		46.93	46.93	6 / 1							
reaction time 0.180	interval				10.59		11.73		13.08		# of strides	11.53	10.59	11.73	13.08	22.12	24.81	2.69
	velocity		8.67		9.44		8.53		7.65	8.52		8.67	9.44	8.53	7.65	9.04	8.06	

LuValle, James (USA) (1912)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1936 Olympic Games (Berlin, GER)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 07-Aug-36	time				22.1				46.80	46.8	2 / 3	(46.84)						
reaction time	interval								24.7		# of strides					22.10	24.70	2.60
	velocity				9.05				8.10	8.55						9.05	8.10	

Haas, Karl-Friedrich (FRG) (1931)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1956 Olympic Games (Melbourne, AUS)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 29-Nov-56	time				22.7		34.3		46.8	46.8	5 / 2							
reaction time	interval						11.6		12.5	*(47.12)*	# of strides			11.60	12.50	22.70	24.10	1.40
	velocity				8.81		8.62		8.00	8.55	183.2			8.62	8.00	8.81	8.30	

Skinner, Edwin (TTO) (1940)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1964 Olympic Games (Tokyo, JPN)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 19-Sep-64	time			22.2		34.1		46.8	46.8	4 / 8							
reaction time	interval					11.90		12.70		# of strides			11.90	12.70	22.20	24.60	2.40
	velocity			9.01		8.40		7.87	8.55				8.40	7.87	9.01	8.13	

Volmar, Maurice (FRA) (1951)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 1978 European Championships (Prague, TCH)										*Lamare (1978) - championnats d'Europa 1978*							
date 30-Aug-78	time			22.55				46.94	46.94	/ 4							
reaction time	interval							24.39		# of strides					22.55	24.39	1.84
	velocity			8.87				8.20	8.52						8.87	8.20	

Tamura, Tomoya (JPN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2018 Japanese National Championships (Yamaguchi, JPN)										*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
date 22-Jun-18	time	6.26	11.35	16.63	22.11	27.91	33.94	40.18	46.94	46.94	6 / 2						
reaction time 0.170	interval		5.09	5.28	5.48	5.80	6.03	6.24	6.76		# of strides	11.35	10.76	11.83	13.00	22.11	24.83	2.72
	velocity	7.99	9.82	9.47	9.12	8.62	8.29	8.01	7.40	8.52		8.81	9.29	8.45	7.69	9.05	8.05	

Cowan, Dwayne (GBR) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Müller Grand Prix (Birmingham, GBR)										*Omega Timing (2018) - diamond league race analysis*							
date 18-Aug-18	time		11.3		22.1		33.8		46.94	46.94	8 / 8							
reaction time 0.144	interval				10.8		11.7		13.1		# of strides	11.30	10.80	11.70	13.14	22.10	24.84	2.74
	velocity		8.85		9.26		8.55		7.61	8.52		8.85	9.26	8.55	7.61	9.05	8.05	

Ikeda, Kohsuke (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2021 All Japan Corporate Championships (Osaka, JPN)										*@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633*							
date 25-Sep-21	time		11.55		22.37		33.93		46.81	46.94	2 / 1							
reaction time 0.216	interval				10.82		11.56		12.88		# of strides	11.55	10.82	11.56	12.88	22.37	24.44	2.07
	velocity		8.66		9.24		8.65		7.76	8.52		8.66	9.24	8.65	7.76	8.94	8.18	

Kimura, Jun (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2019 Japanese National Championships (Fukuoka, JPN)										*Yamanaka (2019) - race analysis of men and women 400m competition*							
date 27-Jun-19	time	6.19	11.24	16.45	22.00	27.81	33.81	40.08	46.95	46.95	5 / 5						
reaction time 0.157	interval		5.05	5.21	5.55	5.81	6.00	6.27	6.87		# of strides	11.24	10.76	11.81	13.14	22.00	24.95	2.95
	velocity	8.08	9.90	9.60	9.01	8.61	8.33	7.97	7.28	8.52		8.90	9.29	8.47	7.61	9.09	8.02	

Sato, Kentaro (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN)										*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*							
date 23-Aug-20	time	6.05	11.02	16.13	21.56	27.24	33.41	39.94	46.95	46.95	6 / 4						
reaction time 0.150	interval		4.97	5.11	5.43	5.68	6.17	6.53	7.01		# of strides	11.02	10.54	11.85	13.54	21.56	25.39	3.83
	velocity	8.26	10.06	9.78	9.21	8.80	8.10	7.66	7.13	8.52		9.07	9.49	8.44	7.39	9.28	7.88	

Ikeda, Kohsuke (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Final - 2021 Japanese National Championships (Osaka, JPN)										*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*							
date 25-Jun-21	time	6.38	11.53	16.85	22.45	28.26	34.22	40.35	46.95	46.95	8 / 6						
reaction time 0.181	interval		5.15	5.32	5.60	5.81	5.96	6.13	6.60		# of strides	11.53	10.92	11.77	12.73	22.45	24.50	2.05
	velocity	7.84	9.71	9.40	8.93	8.61	8.39	8.16	7.58	8.52		8.67	9.16	8.50	7.86	8.91	8.16	

Russell, Alonzo (BAH) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 20-Aug-23	time		11.29		21.63		33.31		46.95	46.95	5 / ~~7~~ 6							
reaction time 0.188	interval				10.34		11.68		13.64		# of strides	11.29	10.34	11.68	13.64	21.63	25.32	3.69
	velocity		8.86		9.67		8.56		7.33	8.52	179.7	8.86	9.67	8.56	7.33	9.25	7.90	

Miller, Evan (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)										*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date 23-Jun-24	time		11.00		21.86		34.10		46.95	46.95	8 / 8							
reaction time	interval				10.86		12.24		12.85		# of strides	11.00	10.86	12.24	12.85	21.86	25.09	3.23
	velocity		9.09		9.21		8.17		7.78	8.52		9.09	9.21	8.17	7.78	9.15	7.97	

Allen, CJ (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Kingston (Kingston, JAM)										*Grand Slam Track (2025) - results and splits by race*							
date 06-Apr-25	time		11.40		21.82		33.23		46.95	46.95	8 / 7							
reaction time 0.210	interval				10.42		11.41		13.72		# of strides	11.40	10.42	11.41	13.72	21.82	25.13	3.31
	velocity		8.77		9.60		8.76		7.29	8.52	168.5	8.77	9.60	8.76	7.29	9.17	7.96	

Azuma, Kaiki (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 National Sports Festival (Fukui, JPN)										*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
date 08-Oct-18	time	6.23	11.33	16.73	22.29	27.96	33.78	40.02	46.96	46.96	8 / 5						
reaction time 0.125	interval		5.10	5.40	5.56	5.67	5.82	6.24	6.94		# of strides	11.33	10.96	11.49	13.18	22.29	24.67	2.38
	velocity	8.03	9.80	9.26	8.99	8.82	8.59	8.01	7.20	8.52		8.83	9.12	8.70	7.59	8.97	8.11	

Kimura, Kazushi (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 National Sports Festival (Fukui, JPN)										*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
date 08-Oct-18	time	6.25	11.47	16.98	22.62	28.38	34.20	40.25	46.96	46.96	5 / 6						
reaction time 0.172	interval		5.22	5.51	5.64	5.76	5.82	6.05	6.71		# of strides	11.47	11.15	11.58	12.76	22.62	24.34	1.72
	velocity	8.00	9.58	9.07	8.87	8.68	8.59	8.26	7.45	8.52		8.72	8.97	8.64	7.84	8.84	8.22	

Kitadani, Naoki (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Shizuoka International Athletics Meeting (Fukuroi, JPN)										*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*							
date 03-May-21	time	6.31	11.37	16.50	21.94	27.67	33.62	39.88	46.96	46.96	8 / 5						
reaction time 0.166	interval		5.06	5.13	5.44	5.73	5.95	6.26	7.08		# of strides	11.37	10.57	11.68	13.34	21.94	25.02	3.08
	velocity	7.92	9.88	9.75	9.19	8.73	8.40	7.99	7.06	8.52		8.80	9.46	8.56	7.50	9.12	7.99	

Itahana, Kohei (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 All Japan Corporate Championships (Osaka, JPN)										*@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633*							

date	25-Sep-21	time	11.54		22.41		34.02		46.86	46.96	2 / 5						
reaction time	0.216	interval			10.87		11.61		12.84		# of strides	11.54	10.87	11.61	12.84	22.41	24.45	2.04
		velocity	8.67		9.20		8.61		7.79	8.52		8.67	9.20	8.61	7.79	8.92	8.18	

Nakagawa, Shigeki (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 Japanese National High School Championships (Oita, JPN)										*Matsuo (2013) - 66th high school championships: JAF scientific committee - biomechanics data*							
date 30-Jul-13	time	11.62		22.37		33.92		46.97	46.97	8 / 3							
reaction time	interval			10.75		11.55		13.05	PB	# of strides	11.62	10.75	11.55	13.05	22.37	24.60	2.23
	velocity	8.61		9.30		8.66		7.66	8.52		8.61	9.30	8.66	7.66	8.94	8.13	

Kimura, Jun (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese Corporate Championships (Osaka, JPN)										*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
date 23-Sep-18	time	6.28	11.55	16.92	22.48	28.25	34.10	40.16	46.97	46.97	4 / 4						
reaction time 0.116	interval		5.27	5.37	5.56	5.77	5.85	6.06	6.81		# of strides	11.55	10.93	11.62	12.87	22.48	24.49	2.01
	velocity	7.96	9.49	9.31	8.99	8.67	8.55	8.25	7.34	8.52		8.66	9.15	8.61	7.77	8.90	8.17	

Song Jiahui (CHN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 7 - 2023 Chinese National Grand Prix 4 (Chongqing, CHN)										*Shandong Athletics Sport Science (2023)*							
date 02-Jun-23	time		11.63		22.37		34.05	40.21	46.97	46.97	7 / 1						
reaction time	interval				10.74		11.68	6.16	6.76		# of strides	11.63	10.74	11.68	12.92	22.37	24.60	2.23
	velocity		8.60		9.31		8.56	8.12	7.40	8.52	165.2	8.60	9.31	8.56	7.74	8.94	8.13	

Trulsson, William (SWE) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)										*Omega Timing (2024) - diamond league race analysis*							
date 02-Jun-24	time	6.24	11.46	16.76	22.18	27.83	33.87	40.19	46.97	46.97	4 / 5						
reaction time 0.148	interval		5.22	5.30	5.42	5.65	6.04	6.32	6.78	PB	# of strides	11.46	10.72	11.69	13.10	22.18	24.79	2.61
	velocity	8.01	9.58	9.43	9.23	8.85	8.28	7.91	7.37	8.52		8.73	9.33	8.55	7.63	9.02	8.07	

Yaseen, Taha Hussein (IRQ) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
West Asian GP - 2025 Jetour Doha Meeting (Doha, QAT)										*Omega Timing (2025) - diamond league race analysis*							
date 16-May-25	time	6.17	11.44	16.78	22.48	28.35	34.39	40.41	46.97	46.97	7 / 2						
reaction time 0.222	interval		5.27	5.34	5.70	5.87	6.04	6.02	6.56		# of strides	11.44	11.04	11.91	12.58	22.48	24.49	2.01
	velocity	8.10	9.49	9.36	8.77	8.52	8.28	8.31	7.62	8.52		8.74	9.06	8.40	7.95	8.90	8.17	

Nadj, Levente (HUN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 European Athletics U20 Championships (Tallin, EST)										*European Athletics (2021) - european athletics U20 championships results book*							
date 16-Jul-21	time		11.54		22.39		34.18		46.98	46.98	1 / 5						
reaction time 0.163	interval				10.85		11.79		12.80		# of strides	11.54	10.85	11.79	12.80	22.39	24.59	2.20
	velocity		8.67		9.22		8.48		7.81	8.51		8.67	9.22	8.48	7.81	8.93	8.13	

Yang Lei (CHN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Grand Prix 4 (Chongqing, CHN)										*Shandong Athletics Sport Science (2023)*							
date 02-Jun-23	time		11.51		22.05		33.80	40.01	46.98	46.98	5 / 5						
reaction time 0.206	interval				10.54		11.75	6.21	6.97		# of strides	11.51	10.54	11.75	13.18	22.05	24.93	2.88
	velocity		8.69		9.49		8.51	8.05	7.17	8.51	179.0	8.69	9.49	8.51	7.59	9.07	8.02	

Tamura, Tomoya (JPN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Nanbu Memorial Meeting (Sapporo, JPN)										*(2017) - tfdata-store.com/2017/07/11/post-1010/*							
date 09-Jul-17	time		11.32		22.12		33.80		46.99	46.99	4 / 4						
reaction time	interval				10.80		11.68		13.19		# of strides	11.32	10.80	11.68	13.19	22.12	24.87	2.75
	velocity		8.83		9.26		8.56		7.58	8.51	190.0	8.83	9.26	8.56	7.58	9.04	8.04	

Inoue, Daichi (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 21-Oct-16	time	6.60	11.88	17.28	22.99	28.74	34.54	40.60	46.99	46.99	4 / 1						
reaction time	interval		5.28	5.40	5.71	5.75	5.80	6.06	6.39		# of strides	11.88	11.11	11.55	12.45	22.99	24.00	1.01
	velocity	7.58	9.47	9.26	8.76	8.70	8.62	8.25	7.82	8.51		8.42	9.00	8.66	8.03	8.70	8.33	

Schlegel, Marvin (GER) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Bauhaus Galan (Stockholm, SWE)										*Omega Timing (2020) - diamond league race analysis*							
date 23-Aug-20	time	6.3	11.5	16.9	22.2	27.8	33.7	40.1	46.99	46.99	7 / 5						
reaction time 0.195	interval		5.20	5.40	5.30	5.60	5.90	6.40	6.89		# of strides	11.50	10.70	11.50	13.29	22.20	24.79	2.59
	velocity	7.94	9.62	9.26	9.43	8.93	8.47	7.81	7.26	8.51	167.7	8.70	9.35	8.70	7.52	9.01	8.07	

Imoto, Yoshinobu (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2020 Japanese National Championships (Niigata, JPN)										*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*							
date 01-Oct-20	time	6.17	11.26	16.57	22.20	27.96	33.98	40.25	46.99	46.99	3 / 4						
reaction time 0.176	interval		5.09	5.31	5.63	5.76	6.02	6.27	6.74		# of strides	11.26	10.94	11.78	13.01	22.20	24.79	2.59
	velocity	8.10	9.82	9.42	8.88	8.68	8.31	7.97	7.42	8.51		8.88	9.14	8.49	7.69	9.01	8.07	

Sato, Fuga (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2021 Shizuoka International Athletics Meeting (Fukuroi, JPN)										*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*							
date 03-May-21	time	6.20	11.32	16.53	21.97	27.64	33.55	39.90	46.99	46.99	6 / 5						
reaction time 0.184	interval		5.12	5.21	5.44	5.67	5.91	6.35	7.09		# of strides	11.32	10.65	11.58	13.44	21.97	25.02	3.05
	velocity	8.06	9.77	9.60	9.19	8.82	8.46	7.87	7.05	8.51		8.83	9.39	8.64	7.44	9.10	7.99	

Kobayashi, Naoki (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Shizuoka International Athletics Meeting (Fukuroi, JPN)										*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*							
date 03-May-21	time	6.32	11.49	16.77	22.20	27.86	33.85	40.09	46.99	46.99	6 / 6						
reaction time 0.174	interval		5.17	5.28	5.43	5.66	5.99	6.24	6.90		# of strides	11.49	10.71	11.65	13.14	22.20	24.79	2.59
	velocity	7.91	9.67	9.47	9.21	8.83	8.35	8.01	7.25	8.51	178.0	8.70	9.34	8.58	7.61	9.01	8.07	

Yoshizu, Takuho (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2021 All Japan Corporate Championships (Osaka, JPN)										*@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633*							
date 25-Sep-21	time		11.28		22.31		34.13		46.84	46.99	8 / 2						
reaction time 0.200	interval				11.03		11.82		12.71		# of strides	11.28	11.03	11.82	12.71	22.31	24.53	2.22
	velocity		8.87		9.07		8.46		7.87	8.51		8.87	9.07	8.46	7.87	8.96	8.15	

Rosser, Khallifah (USA) (1995)
Long Hurdles - 2025 Grand Slam Track Miami (Miramar, FL)
Grand Slam Track (2025) - results and splits by race

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-May-25	time		11.45		22.39		34.07		46.99	46.99	3 / 6							
reaction time	0.210	interval				10.94		11.68		12.92		# of strides	11.45	10.94	11.68	12.92	22.39	24.60	2.21
		velocity		8.73		9.14		8.56		7.74	8.51		8.73	9.14	8.56	7.74	8.93	8.13	

Reid, Terrence (USA) (1986)
FINAL - 2005 USATF National Junior Championships (Carson, CA)
USATF Women's Sprint Development (2005)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-05	time		11.83	17.32			34.55	40.63	47.00	47.00	1 / 4							
reaction time		interval			5.49			17.23	6.08	6.37		# of strides	11.83			12.45			
		velocity		8.45	9.11			8.71	8.22	7.85	8.51		8.45			8.03			

Matsubara, Shuichiro (JPN) (1997)
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Oct-15	time	6.38	11.63	16.97	22.71	28.63	34.61	40.69	47.00	47.00	/ 2							
reaction time		interval		5.25	5.34	5.74	5.92	5.98	6.08	6.31		# of strides	11.63	11.08	11.90	12.39	22.71	24.29	1.58
		velocity	7.84	9.52	9.36	8.71	8.45	8.36	8.22	7.92	8.51		8.60	9.03	8.40	8.07	8.81	8.23	

Azuma, Kaiki (JPN) (1993)
Race C - 2016 Shizuoka International Meeting (Fukuroi, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-16	time	6.41	11.70	17.15	22.60	28.07	33.90	40.17	47.00	47.00	/ 1							
reaction time		interval		5.29	5.45	5.45	5.47	5.83	6.27	6.83		# of strides	11.70	10.90	11.30	13.10	22.60	24.40	1.80
		velocity	7.80	9.45	9.17	9.17	9.14	8.58	7.97	7.32	8.51		8.55	9.17	8.85	7.63	8.85	8.20	

Obuchi, Mizuki (JPN) (1997)
Race B - 2016 Shizuoka International Meeting (Fukuroi, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-16	time	6.42	11.68	17.03	22.37	28.03	34.13	40.31	47.00	47.00	/ 2							
reaction time		interval		5.26	5.35	5.34	5.66	6.10	6.18	6.69		# of strides	11.68	10.69	11.76	12.87	22.37	24.63	2.26
		velocity	7.79	9.51	9.35	9.36	8.83	8.20	8.09	7.47	8.51		8.56	9.35	8.50	7.77	8.94	8.12	

Re, Davide (ITA) (1993)
FINAL - 2020 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2020) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Aug-20	time	6.5	11.7	17.2	22.6	28.4	34.2	40.3	47.00	47.00	5 / 6							
reaction time	0.157	interval		5.20	5.50	5.40	5.80	5.80	6.10	6.70		# of strides	11.70	10.90	11.60	12.80	22.60	24.40	1.80
		velocity	7.69	9.62	9.09	9.26	8.62	8.62	8.20	7.46	8.51		8.55	9.17	8.62	7.81	8.85	8.20	

Nathaniel, Samson O. (NGR) (1997)
Semi-Final 3 - 2022 Commonwealth Games (Birmingham, GBR)
Longines Timing (2022) - commonwealth games race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-22	time	6.1	11.1	16.4	22.0	27.8	34.1	40.3	47.00	47.00	4 / 6							
reaction time	0.169	interval		5.00	5.30	5.60	5.80	6.30	6.20	6.70		# of strides	11.10	10.90	12.10	12.90	22.00	25.00	3.00
		velocity	8.20	10.00	9.43	8.93	8.62	7.94	8.06	7.46	8.51	184.0	9.01	9.17	8.26	7.75	9.09	8.00	

Kumarage, H.K. Kalinga (SRI) (1992)
Semi-Final 3 - 2022 Commonwealth Games (Birmingham, GBR)
Longines Timing (2022) - commonwealth games race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-22	time	6.2	11.2	16.4	21.9	27.7	33.9	40.2	47.00	47.00	2 / 7							
reaction time	0.152	interval		5.00	5.20	5.50	5.80	6.20	6.30	6.80		# of strides	11.20	10.70	12.00	13.10	21.90	25.10	3.20
		velocity	8.06	10.00	9.62	9.09	8.62	8.06	7.94	7.35	8.51	194.0	8.93	9.35	8.33	7.63	9.13	7.97	

Ju Tianqi (CHN) (2002)
Heat 3 - 2023 Chinese National Grand Prix 3 (Taizhou, CHN)
Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-23	time		11.58		22.35		33.97	40.19	47.00	47.00	4 / 2							
reaction time	0.230	interval				10.77		11.62	6.22	6.81		# of strides	11.58	10.77	11.62	13.03	22.35	24.65	2.30
		velocity		8.64		9.29		8.61	8.04	7.34	8.51	179.0	8.64	9.29	8.61	7.67	8.95	8.11	

Plenderleith, Grant (GBR) (1991)
National FINAL - 2018 Müller Anniversary Games (London, GBR)
Omega Timing (2018) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-18	time		11.5		22.2		33.7		47.01	47.01	7 / 5							
reaction time	0.163	interval				10.7		11.5		13.3		# of strides	11.50	10.70	11.50	13.31	22.20	24.81	2.61
		velocity		8.70		9.35		8.70		7.51	8.51		8.70	9.35	8.70	7.51	9.01	8.06	

Tominaga, Yuhei (JPN) (2004)
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)
Kishima (2022) - national high school championships biomechanics data collection

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Aug-22	time		11.68		22.90		34.60		47.01	47.01	6 / 1							
reaction time	0.185	interval				11.22		11.70		12.41	PB	# of strides	11.68	11.22	11.70	12.41	22.90	24.11	1.21
		velocity		8.56		8.91		8.55		8.06	8.51	188.0	8.56	8.91	8.55	8.06	8.73	8.30	

Momiki, Shogo (JPN) (1992)
FINAL - 2012 Kokutai National Sport Festival (Gifu, JPN)
Maho (2013) - race analysis of the men's 400m run in competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-12	time	6.12	11.28	16.55	22.04	27.81	33.81	40.09	47.02	47.02	/ 6							
reaction time		interval		5.16	5.27	5.49	5.77	6.00	6.28	6.93		# of strides	11.28	10.76	11.77	13.21	22.04	24.98	2.94
		velocity	8.17	9.69	9.49	9.11	8.67	8.33	7.96	7.22	8.51		8.87	9.29	8.50	7.57	9.07	8.01	

Uike, Yuji (JPN) (1998)
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/01/post-786/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.68		22.74		34.54		47.02	47.02	4 / 4							
reaction time		interval				11.06		11.80		12.48		# of strides	11.68	11.06	11.80	12.48	22.74	24.28	1.54
		velocity		8.56		9.04		8.47		8.01	8.51	189.7	8.56	9.04	8.47	8.01	8.80	8.24	

Kitakani, Naoki (JPN) (1998)
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/01/post-786/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.65		22.89		34.67		47.02	47.02	3 / 5							
reaction time		interval				11.24		11.78		12.35		# of strides	11.65	11.24	11.78	12.35	22.89	24.13	1.24
		velocity		8.58		8.90		8.49		8.10	8.51	175.5	8.58	8.90	8.49	8.10	8.74	8.29	

Kanemaru, Yuzo (JPN) (1987)
Heat 1 - 2018 Japanese National Championships (Yamaguchi, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	22-Jun-18	time	6.14	11.22	16.50	22.07	27.95	34.04	40.35	47.02	47.02	4 / 3						
reaction time	0.156	interval		5.08	5.28	5.57	5.88	6.09	6.31	6.67		# of strides	11.22	10.85	11.97	12.98	22.07	24.95	2.88
		velocity	8.14	9.84	9.47	8.98	8.50	8.21	7.92	7.50	8.51	179.7	8.91	9.22	8.35	7.70	9.06	8.02	

Haddaoui, Aymane (MAR) (2000)

National FINAL - 2022 Meeting International Mohammed VI d'Athlétime (Rabat, MAR) — *Omega Timing (2022) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 05-Jun-22	time	6.24	11.39	16.76	22.32	28.13	34.13	40.28	47.02	47.02	5 / 2							
reaction time 0.194	interval		5.15	5.37	5.56	5.81	6.00	6.15	6.74	PB	# of strides	11.39	10.93	11.81	12.89	22.32	24.70	2.38
	velocity	8.01	9.71	9.31	8.99	8.61	8.33	8.13	7.42	8.51		8.78	9.15	8.47	7.76	8.96	8.10	

Erm, Johannes (EST) (1998)

Decathlon - Heat 3 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 23-Jul-22	time		11.26		21.94		33.84		47.02	47.02	8 / 4							
reaction time 0.169	interval				10.68		11.90		13.18	PB	# of strides	11.26	10.68	11.90	13.18	21.94	25.08	3.14
	velocity		8.88		9.36		8.40		7.59	8.51		8.88	9.36	8.40	7.59	9.12	7.97	

Skotheim, Sander (NOR) (2002)

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 02-Aug-24	time	6.42	11.54	16.79	22.23	27.91	33.90	40.21	47.02	47.02	2 / 1							
reaction time 0.175	interval		5.12	5.25	5.44	5.68	5.99	6.31	6.81	PB	# of strides	11.54	10.69	11.67	13.12	22.23	24.79	2.56
	velocity	7.79	9.77	9.52	9.19	8.80	8.35	7.92	7.34	8.51	183.0	8.67	9.35	8.57	7.62	9.00	8.07	

Uike, Yuji (JPN) (1998)

FINAL - 2016 Japanese National High School Championships (Okayama, JPN) — *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 29-Jul-16	time	6.49	11.91	17.38	23.04	28.86	34.75	40.74	47.03	47.03	4 / 3							
reaction time 0.150	interval		5.42	5.47	5.66	5.82	5.89	5.99	6.29	PB	# of strides	11.91	11.13	11.71	12.28	23.04	23.99	0.95
	velocity	7.70	9.23	9.14	8.83	8.59	8.49	8.35	7.95	8.51		8.40	8.98	8.54	8.14	8.68	8.34	

Sato, Hiroki (JPN) (1995)

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 11-May-17	time		11.46				33.84		47.03	47.03	9 / 3							
reaction time	interval						22.38		13.19		# of strides	11.46			13.19			
	velocity		8.73				8.94		7.58	8.51	186.7	8.73			7.58			

Itahana, Kohei (JPN) (1994)

FINAL - 2017 All Japan Corporate Championships (Osaka, JPN) — *(2017) - tfdata-store.com/2017/10/05/post-1097/*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 24-Sep-17	time		11.29		22.17		33.98		47.03	47.03	8 / 3							
reaction time 0.163	interval				10.88		11.81		13.05		# of strides	11.29	10.88	11.81	13.05	22.17	24.86	2.69
	velocity		8.86		9.19		8.47		7.66	8.51	176.5	8.86	9.19	8.47	7.66	9.02	8.05	

Misener-Daley, Myles (CAN) (2001)

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 13-Jul-18	time	6.23	11.29	16.68	22.28	28.06	34.07	40.37	47.03	47.03	1 / 7							
reaction time 0.153	interval		5.06	5.39	5.60	5.78	6.01	6.30	6.66		# of strides	11.29	10.99	11.79	12.96	22.28	24.75	2.47
	velocity	8.03	9.88	9.28	8.93	8.65	8.32	7.94	7.51	8.51		8.86	9.10	8.48	7.72	8.98	8.08	

Balti, Rami (TUN) (2001)

B FINAL - 2021 Doha Diamond League (Doha, QAT) — *Omega Timing (2021) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 28-May-21	time	6.4	11.5	16.9	22.5	28.4	34.4	40.6	47.03	47.03	5 / 3							
reaction time 0.220	interval		5.10	5.40	5.60	5.90	6.00	6.20	6.43		# of strides	11.50	11.00	11.90	12.63	22.50	24.53	2.03
	velocity	7.81	9.80	9.26	8.93	8.47	8.33	8.06	7.78	8.51		8.70	9.09	8.40	7.92	8.89	8.15	

Joseph, Michael (LCA) (2002)

Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR) — *Longines Timing (2022) - commonwealth games race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 05-Aug-22	time	6.1	11.1	16.3	21.8	27.6	33.7	40.0	47.03	47.03	3 / 6							
reaction time 0.156	interval		5.00	5.20	5.50	5.80	6.10	6.30	7.03		# of strides	11.10	10.70	11.90	13.33	21.80	25.23	3.43
	velocity	8.20	10.00	9.62	9.09	8.62	8.20	7.94	7.11	8.51	182.0	9.01	9.35	8.40	7.50	9.17	7.93	

Iwaki, Takuma (JPN) (1996)

FINAL - 2013 Japanese National High School Championships (Oita, JPN) — *Matsuo (2013) - 66th high school championships: JAF scientific committee - biomechanics data*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 30-Jul-13	time		11.67		22.67		34.43		47.04	47.04	5 / 4							
reaction time	interval				11.00		11.76		12.61		# of strides	11.67	11.00	11.76	12.61	22.67	24.37	1.70
	velocity		8.57		9.09		8.50		7.93	8.50		8.57	9.09	8.50	7.93	8.82	8.21	

Kobayashi, Naoki (JPN) (1990)

FINAL - 2017 All Japan Corporate Championships (Osaka, JPN) — *(2017) - tfdata-store.com/2017/10/05/post-1097/*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 24-Sep-17	time		11.42		22.29		34.10		47.04	47.04	6 / 4							
reaction time 0.161	interval				10.87		11.81		12.94		# of strides	11.42	10.87	11.81	12.94	22.29	24.75	2.46
	velocity		8.76		9.20		8.47		7.73	8.50	183.0	8.76	9.20	8.47	7.73	8.97	8.08	

Strother, Nathan (USA) (1995)

FINAL - 2019 Memorial van Damme (Brussels, BEL) — *Omega Timing (2019) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 06-Sep-19	time	6.4	11.4	16.5	21.8	27.3	33.1	39.4	47.04	47.04	4 / 9							
reaction time 0.187	interval		5.0	5.1	5.3	5.5	5.8	6.3	13.9		# of strides	11.40	10.40	11.30	13.94	21.80	25.24	3.44
	velocity	7.81	10.00	9.80	9.43	9.09	8.62	7.94	7.17	8.50		8.77	9.62	8.85	7.17	9.17	7.92	

Carvell, Charlie (GBR) (2004)

Semi-Final 2 - 2021 European Athletics U20 Championships (Tallin, EST) — *European Athletics (2021) - european athletics U20 championships results book*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 15-Jul-21	time		11.92		23.33		35.32		47.04	47.04	6 / 1							
reaction time 0.169	interval				11.41		11.99		11.72		# of strides	11.92	11.41	11.99	11.72	23.33	23.71	0.38
	velocity		8.39		8.76		8.34		8.53	8.50		8.39	8.76	8.34	8.53	8.57	8.44	

Tkahashi, Yuma (JPN) (1995)

Heat 3 - 2021 All Japan Corporate Championships (Osaka, JPN) — *@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 25-Sep-21	time		11.56		22.79		34.22		46.88	47.04	7 / 3							
reaction time 0.166	interval				11.23		11.43		12.66		# of strides	11.56	11.23	11.43	12.66	22.79	24.09	1.30
	velocity		8.65		8.90		8.75		7.90	8.50		8.65	8.90	8.75	7.90	8.78	8.30	

Goúsis, Anastásios (GRE) (1979)

FINAL - 2001 European Cup (Bremen, GER)

Graubner (2007) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-01	time		11.50		22.18		33.88		47.05	47.05	/ 8							
reaction time		interval				10.68		11.70		13.17		# of strides	11.50	10.68	11.70	13.17	22.18	24.87	2.69
		velocity		8.70		9.36		8.55		7.59	8.50		8.70	9.36	8.55	7.59	9.02	8.04	

Rachkovsky, Oleksiy (UKR) (1984)

FINAL - 2007 European Cup (Munich, GER)

Graubner (2007) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-07	time		11.66		22.45		34.17		47.05	47.05	/ 8							
reaction time	0.240	interval				10.79		11.72		12.88		# of strides	11.66	10.79	11.72	12.88	22.45	24.60	2.15
		velocity		8.58		9.27		8.53		7.76	8.50		8.58	9.27	8.53	7.76	8.91	8.13	

Watanabe, Kazuya (JPN) (1988)

FINAL - 2012 Japanese National Championships (Osaka, JPN)

Maho (2013) - race analysis of the men's 400m run in competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-12	time	6.24	11.51	16.88	22.49	28.25	34.23	40.45	47.05	47.05	9 / 6							
reaction time		interval		5.27	5.37	5.61	5.76	5.98	6.22	6.60		# of strides	11.51	10.98	11.74	12.82	22.49	24.56	2.07
		velocity	8.01	9.49	9.31	8.91	8.68	8.36	8.04	7.58	8.50	186.0	8.69	9.11	8.52	7.80	8.89	8.14	

Wakabayashi, Kota (JPN) (1997)

FINAL - 2017 National Sports Festival (Matsuyama, JPN)

Yamanaka (2017) - male and female 400m analysis in the 2017 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time	6.21	11.40	16.77	22.30	28.15	34.20	40.39	47.05	47.05	5 / 4							
reaction time	0.190	interval		5.19	5.37	5.53	5.85	6.05	6.19	6.66		# of strides	11.40	10.90	11.90	12.85	22.30	24.75	2.45
		velocity	8.05	9.63	9.31	9.04	8.55	8.26	8.08	7.51	8.50	175.0	8.77	9.17	8.40	7.78	8.97	8.08	

Tomita, Daichi (JPN) (2001)

FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)

Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-19	time	6.42	11.61	16.85	22.23	27.86	33.88	40.25	47.05	47.05	4 / 4							
reaction time		interval		5.19	5.24	5.38	5.63	6.02	6.37	6.80		# of strides	11.61	10.62	11.65	13.17	22.23	24.82	2.59
		velocity	7.79	9.63	9.54	9.29	8.88	8.31	7.85	7.35	8.50		8.61	9.42	8.58	7.59	9.00	8.06	

Kawauchi, Mitsuki (JPN) (1997)

Heat 2 - 2021 All Japan Corporate Championships (Osaka, JPN)

@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Sep-21	time		1.34		21.99		33.82		47.01	47.05	8 / 2							
reaction time	0.183	interval				20.65		11.83		13.19		# of strides	1.34	20.65	11.83	13.19	21.99	25.02	3.03
		velocity		74.63		4.84		8.45		7.58	8.50		74.63	4.84	8.45	7.58	9.10	7.99	

Tao Zhongqi (CHN) (2000)

Heat 3 - 2023 Chinese National Grand Prix 5 (Huangshi, CHN)

Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-23	time		11.41		22.26		34.17	40.39	47.05	47.05	5 / 1							
reaction time	0.225	interval				10.85		11.91	6.22	6.66		# of strides	11.41	10.85	11.91	12.88	22.26	24.79	2.53
		velocity		8.76		9.22		8.40	8.04	7.51	8.50	177.2	8.76	9.22	8.40	7.76	8.98	8.07	

Erm, Johannes (EST) (1998)

Decathlon - Heat 3 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Aug-23	time		11.76		22.54		34.37		47.05	47.05	5 / 3							
reaction time	0.199	interval				10.78		11.83		12.68		# of strides	11.76	10.78	11.83	12.68	22.54	24.51	1.97
		velocity		8.50		9.28		8.45		7.89	8.50	170.0	8.50	9.28	8.45	7.89	8.87	8.16	

Coleman, Elzie (USA) (1985)

FINAL - 2003 USATF National Junior Championships (Palo Alto, CA)

USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-03	time				22.79		34.58	40.47	47.06	47.06	7 / 3							
reaction time		interval						11.79	5.89	6.59		# of strides			11.79	12.48	22.79	24.27	1.48
		velocity				8.78		8.48	8.49	7.59	8.50				8.48	8.01	8.78	8.24	

Funato, Daisuke (JPN) (1997)

FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-15	time	6.50	11.56	16.80	22.29	28.12	34.14	40.41	47.06	47.06	/ 1							
reaction time		interval		5.06	5.24	5.49	5.83	6.02	6.27	6.65	PB	# of strides	11.56	10.73	11.85	12.92	22.29	24.77	2.48
		velocity	7.69	9.88	9.54	9.11	8.58	8.31	7.97	7.52	8.50		8.65	9.32	8.44	7.74	8.97	8.07	

Kanemaru, Yuzo (JPN) (1987)

FINAL - 2017 Japanese National Championships (Osaka, JPN)

Yamanaka (2017) - male and female 400m analysis in the 2017 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-17	time	6.20	11.26	16.53	22.04	27.81	33.87	40.29	47.06	47.06	9 / 7							
reaction time	0.154	interval		5.06	5.27	5.51	5.77	6.06	6.42	6.77		# of strides	11.26	10.78	11.83	13.19	22.04	25.02	2.98
		velocity	8.06	9.88	9.49	9.07	8.67	8.25	7.79	7.39	8.50	177.0	8.88	9.28	8.45	7.58	9.07	7.99	

Hosoi, Brian (JPN) (1999)

U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)

(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.63		22.29		34.05		47.06	47.06	6 / 1							
reaction time	0.179	interval				10.66		11.76		13.01		# of strides	11.63	10.66	11.76	13.01	22.29	24.77	2.48
		velocity		8.60		9.38		8.50		7.69	8.50	195.0	8.60	9.38	8.50	7.69	8.97	8.07	

Itahana, Kohei (JPN) (1994)

Heat 3 - 2021 All Japan Corporate Championships (Osaka, JPN)

@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Sep-21	time		11.41		22.49		34.33		46.89	47.06	9 / 4							
reaction time	0.194	interval				11.08		11.84		12.56		# of strides	11.41	11.08	11.84	12.56	22.49	24.40	1.91
		velocity		8.76		9.03		8.45		7.96	8.50		8.76	9.03	8.45	7.96	8.89	8.20	

Ngozi, Zibani (BOT) (1992)

Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)

Longines Timing (2022) - commonwealth games race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-22	time	6.1	11.1	16.5	22.1	28.0	34.0	40.1	47.06	47.06	5 / 5							
reaction time	0.194	interval		5.00	5.40	5.60	5.90	6.00	6.10	6.96		# of strides	11.10	11.00	11.90	13.06	22.10	24.96	2.86
		velocity	8.20	10.00	9.26	8.93	8.47	8.33	8.20	7.18	8.50	177.2	9.01	9.09	8.40	7.66	9.05	8.01	

Dringo, Mihai Sorin (ROU) (2001)

Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

date	16-Aug-22	time	11.70	22.27	33.84	47.06	47.06	5 / 7									
reaction time	0.188	interval		10.57	11.57	13.22		# of strides	11.70	10.57	11.57	13.22	22.27	24.79	2.52		
		velocity	8.55	9.46	8.64	7.56	8.50	178.5	8.55	9.46	8.64	7.56	8.98	8.07			

Qiao Zhiyang (CHN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Championships (Quzhou, CHN)																*Shandong Athletics Sport Science (2023)*	
date 22-Jul-23	time	11.58		22.96		34.78	40.81	47.06	47.06	7 / 6							
reaction time 0.209	interval			11.38		11.82	6.03	6.25		# of strides	11.58	11.38	11.82	12.28	22.96	24.10	1.14
	velocity	8.64		8.79		8.46	8.29	8.00	8.50	175.2	8.64	8.79	8.46	8.14	8.71	8.30	

Yui, Kaisei (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)																*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*	
date 03-May-16	time	6.35	11.54	17.00	22.57	28.27	34.16	40.41	47.07	47.07	/ 3						
reaction time	interval		5.19	5.46	5.57	5.70	5.89	6.25	6.66	# of strides	11.54	11.03	11.59	12.91	22.57	24.50	1.93
	velocity	7.87	9.63	9.16	8.98	8.77	8.49	8.00	7.51	8.50	8.67	9.07	8.63	7.75	8.86	8.16	

Park Bong-Ko (KOR) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)																*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*	
date 03-May-16	time	6.23	11.50	16.98	22.53	28.22	34.07	40.26	47.07	47.07	/ 4						
reaction time	interval		5.27	5.48	5.55	5.69	5.85	6.19	6.81	# of strides	11.50	11.03	11.54	13.00	22.53	24.54	2.01
	velocity	8.03	9.49	9.12	9.01	8.79	8.55	8.08	7.34	8.50	8.70	9.07	8.67	7.69	8.88	8.15	

Kimura, Kazushi (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)																*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*	
date 03-May-16	time	6.28	11.62	17.13	22.74	28.43	34.31	40.44	47.07	47.07	/ 5						
reaction time	interval		5.34	5.51	5.61	5.69	5.88	6.13	6.63	# of strides	11.62	11.12	11.57	12.76	22.74	24.33	1.59
	velocity	7.96	9.36	9.07	8.91	8.79	8.50	8.16	7.54	8.50	8.61	8.99	8.64	7.84	8.80	8.22	

Kimura, Jun (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)																*(2017) - tfdata-store.com/2017/10/05/post-1097/*	
date 24-Sep-17	time		11.43		22.43		34.09		47.07	47.07	9 / 5						
reaction time 0.136	interval				11.00		11.66		12.98		# of strides	11.43	11.00	11.66	12.98	22.43	24.64	2.21
	velocity		8.75		9.09		8.58		7.70	8.50	181.0	8.75	9.09	8.58	7.70	8.92	8.12	

Kitakani, Naoki (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2020 Japanese National Championships (Niigata, JPN)																*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*	
date 01-Oct-20	time	6.24	11.34	16.55	21.97	27.68	33.72	40.06	47.07	47.07	4 / 2						
reaction time 0.167	interval		5.10	5.21	5.42	5.71	6.04	6.34	7.01	# of strides	11.34	10.63	11.75	13.35	21.97	25.10	3.13
	velocity	8.01	9.80	9.60	9.23	8.76	8.28	7.89	7.13	8.50	8.82	9.41	8.51	7.49	9.10	7.97	

Hu Hongbo (CHN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Chinese National Championships (Quzhou, CHN)																*Shandong Athletics Sport Science (2024)*	
date 16-Sep-24	time		11.52		22.29		34.17	40.44	47.07	47.07	1 / 6						
reaction time 0.161	interval				10.77		11.88	6.27	6.63		# of strides	11.52	10.77	11.88	12.90	22.29	24.78	2.49
	velocity		8.68		9.29		8.42	7.97	7.54	8.50	183.0	8.68	9.29	8.42	7.75	8.97	8.07	

Yui, Kaisei (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 IAAF World Junior Championships (Eugene, OR)																*Maho (2014) - race analysis of men's 400m run in the 2014 season*	
date 24-Jul-14	time	6.33	11.54	16.85	22.48	28.34	34.29	40.44	47.08	47.08	2 / 7						
reaction time 0.150	interval		5.21	5.31	5.63	5.86	5.95	6.15	6.64		# of strides	11.54	10.94	11.81	12.79	22.48	24.60	2.12
	velocity	7.90	9.60	9.42	8.88	8.53	8.40	8.13	7.53	8.50	8.67	9.14	8.47	7.82	8.90	8.13		

Watanabe, Kazuya (JPN) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)																*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*	
date 03-May-16	time	6.24	11.45	16.72	22.18	27.87	33.91	40.33	47.08	47.08	/ 6						
reaction time	interval		5.21	5.27	5.46	5.69	6.04	6.42	6.75	# of strides	11.45	10.73	11.73	13.17	22.18	24.90	2.72
	velocity	8.01	9.60	9.49	9.16	8.79	8.28	7.79	7.41	8.50	8.73	9.32	8.53	7.59	9.02	8.03	

Kanemaru, Yuzo (JPN) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)																*Yamanaka (2017) - male and female 400m analysis in the 2017 season*	
date 03-May-17	time	6.21	11.31	16.62	22.17	27.98	34.04	40.42	47.08	47.08	/ 3						
reaction time	interval		5.10	5.31	5.55	5.81	6.06	6.38	6.66	# of strides	11.31	10.86	11.87	13.04	22.17	24.91	2.74
	velocity	8.05	9.80	9.42	9.01	8.61	8.25	7.84	7.51	8.50	8.84	9.21	8.42	7.67	9.02	8.03	

Sato, Fuga (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 2 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																*(2017) - tfdata-store.com/2017/06/02/post-835/*	
date 26-May-17	time		11.45		22.10		33.57		47.08	47.08	7 / 1						
reaction time	interval				10.65		11.47		13.51		# of strides	11.45	10.65	11.47	13.51	22.10	24.98	2.88
	velocity		8.73		9.39		8.72		7.40	8.50	179.0	8.73	9.39	8.72	7.40	9.05	8.01	

Xie Yuqiang (CHN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2023 Chinese World Championship & Asian Games Trials (Shenyang, CHN)																*Shandong Athletics Sport Science (2023)*	
date 27-Jun-23	time		11.24		22.14		33.97	40.28	47.08	47.08	4 / 2						
reaction time 0.174	interval				10.90		11.83	6.31	6.80		# of strides	11.24	10.90	11.83	13.11	22.14	24.94	2.80
	velocity		8.90		9.17		8.45	7.92	7.35	8.50	175.5	8.90	9.17	8.45	7.63	9.03	8.02	

Niculita, Remus Andrei (ROU) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 European Athletics U20 Championships (Tallin, EST)																*European Athletics (2021) - european athletics U20 championships results book*	
date 16-Jul-21	time		11.43		22.24		34.00		47.09	47.09	6 / 6						
reaction time 0.166	interval				10.81		11.76		13.09	PB	# of strides	11.43	10.81	11.76	13.09	22.24	24.85	2.61
	velocity		8.75		9.25		8.50		7.64	8.49		8.75	9.25	8.50	7.64	8.99	8.05	

Dair, Hamza (MAR) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)																*Omega Timing (2023) - diamond league race analysis*	
date 28-May-23	time	6.31	11.44	16.80	22.46	28.18	34.14	40.36	47.09	47.09	1 / 7						
reaction time 0.180	interval		5.13	5.36	5.66	5.72	5.96	6.22	6.73		# of strides	11.44	11.02	11.68	12.95	22.46	24.63	2.17
	velocity	7.92	9.75	9.33	8.83	8.74	8.39	8.04	7.43	8.49		8.74	9.07	8.56	7.72	8.90	8.12	

Isaacs, Gardeo (RSA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2023 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2023) - diamond league race analysis*
date 02-Jul-23 time	6.24	11.27	16.54	22.09	27.94	33.94	40.12	47.09	47.09	6 / 2							
reaction time 0.150 interval		5.03	5.27	5.55	5.85	6.00	6.18	6.97		# of strides	11.27	10.82	11.85	13.15	22.09	25.00	2.91
velocity	8.01	9.94	9.49	9.01	8.55	8.33	8.09	7.17	8.49		8.87	9.24	8.44	7.60	9.05	8.00	

Grzegorzewic, Patryk (POL) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 European Athletics U20 Championships (Tallin, EST)																	*European Athletics (2021) - european athletics U20 championships results book*
date 16-Jul-21 time		11.55		22.32		34.06		47.10	47.10	7 / 7							
reaction time 0.244 interval				10.77		11.74		13.04		# of strides	11.55	10.77	11.74	13.04	22.32	24.78	2.46
velocity		8.66		9.29		8.52		7.67	8.49		8.66	9.29	8.52	7.67	8.96	8.07	

Erta, Bernat (ESP) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 13-Jul-23 time		11.60		22.91		35.13		47.10	47.10	1 / 8							
reaction time 0.226 interval				11.31		12.22		11.97		# of strides	11.60	11.31	12.22	11.97	22.91	24.19	1.28
velocity		8.62		8.84		8.18		8.35	8.49		8.62	8.84	8.18	8.35	8.73	8.27	

Kimura, Jun (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 Shizuoka International Athletics Meeting (Fukuori, JPN)																	*Maho (2014) - race analysis of men's 400m run in the 2014 season*
date 03-May-14 time	6.31	11.35	16.52	22.02	27.77	33.72	40.09	47.11	47.11	/ 8							
reaction time interval		5.04	5.17	5.50	5.75	5.95	6.37	7.02		# of strides	11.35	10.67	11.70	13.39	22.02	25.09	3.07
velocity	7.92	9.92	9.67	9.09	8.70	8.40	7.85	7.12	8.49		8.81	9.37	8.55	7.47	9.08	7.97	

Kobayashi, Naoki (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Championships (Niigata, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 28-Jun-15 time	6.31	11.33	16.52	21.95	27.59	33.58	40.14	47.11	47.11	5 / 6							
reaction time 0.169 interval		5.02	5.19	5.43	5.64	5.99	6.56	6.97		# of strides	11.33	10.62	11.63	13.53	21.95	25.16	3.21
velocity	7.92	9.96	9.63	9.21	8.87	8.35	7.62	7.17	8.49	185.5	8.83	9.42	8.60	7.39	9.11	7.95	

Kimura, Kenta (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 National Sports Festival (Wakayama, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 04-Oct-15 time	6.39	11.52	16.92	22.63	28.43	34.30	40.44	47.11	47.11	/ 3							
reaction time interval		5.13	5.40	5.71	5.80	5.87	6.14	6.67		# of strides	11.52	11.11	11.67	12.81	22.63	24.48	1.85
velocity	7.82	9.75	9.26	8.76	8.62	8.52	8.14	7.50	8.49		8.68	9.00	8.57	7.81	8.84	8.17	

Horii, Kosuke (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)																	*Kobayashi (2019) - research on athlete performance and technique- 2019 data book*
date 03-May-19 time	6.26	11.36	16.62	22.14	27.96	34.07	40.43	47.11	47.11	3 / 6							
reaction time interval		5.10	5.26	5.52	5.82	6.11	6.36	6.68		# of strides	11.36	10.78	11.93	13.04	22.14	24.97	2.83
velocity	7.99	9.80	9.51	9.06	8.59	8.18	7.86	7.49	8.49		8.80	9.28	8.38	7.67	9.03	8.01	

Smith, Owen (GBR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)																	*Omega Timing (2021) - diamond league race analysis*
date 13-Jul-21 time	6.5	11.8	17.4	23.0	28.8	34.7	40.7	47.11	47.11	1 / 6							
reaction time 0.146 interval		5.30	5.60	5.60	5.80	5.90	6.00	6.41		# of strides	11.80	11.20	11.70	12.41	23.00	24.11	1.11
velocity	7.69	9.43	8.93	8.93	8.62	8.47	8.33	7.80	8.49		8.47	8.93	8.55	8.06	8.70	8.30	

Xie Yuqiang (CHN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2023)*
date 22-Jul-23 time		11.19		22.15		34.13	40.36	47.91	47.11	1 / 7							
reaction time 0.124 interval				10.96		11.98	6.23	7.55		# of strides	11.19	10.96	11.98	13.78	22.15	25.76	3.61
velocity		8.94		9.12		8.35	8.03	6.62	8.49	177.0	8.94	9.12	8.35	7.26	9.03	7.76	

Urano, Akihiro (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 Japanese National High School Championships (Kumagaya, JPN)																	*Abe (2008) - 61st high school championships: JAF scientific committee - biomechanics data*
date 29-Jul-08 time	6.47	11.82	17.22	22.69	28.46	34.27	40.39	47.12	47.12	/ 2							
reaction time interval		5.35	5.40	5.47	5.77	5.81	6.12	6.73		# of strides	11.82	10.87	11.58	12.85	22.69	24.43	1.74
velocity	7.73	9.35	9.26	9.14	8.67	8.61	8.17	7.43	8.49		8.46	9.20	8.64	7.78	8.81	8.19	

Suzuki, Taichi (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese National Championships (Fukuoka, JPN)																	*Yamanaka (2019) - research on athlete performance and technique- 2019 data book*
date 28-Jun-19 time	6.11	11.16	16.40	21.92	27.59	33.55	39.92	47.12	47.12	8 / 8							
reaction time 0.159 interval		5.05	5.24	5.52	5.67	5.96	6.37	7.20		# of strides	11.16	10.76	11.63	13.57	21.92	25.20	3.28
velocity	8.18	9.90	9.54	9.06	8.82	8.39	7.85	6.94	8.49		8.96	9.29	8.60	7.37	9.12	7.94	

Tatsunami, Clay Aaron (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN)																	*Kijima (2019) - research on athlete performance and technique- 2019 data book*
date 18-Oct-19 time	6.54	11.89	17.30	22.89	28.63	34.52	40.62	47.12	47.12	4 / 2							
reaction time 0.165 interval		5.35	5.41	5.59	5.74	5.89	6.10	6.50		# of strides	11.89	11.00	11.63	12.60	22.89	24.23	1.34
velocity	7.65	9.35	9.24	8.94	8.71	8.49	8.20	7.69	8.49	189.7	8.41	9.09	8.60	7.94	8.74	8.25	

Zheng Chiyu (CHN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Grand Prix 1 (Rizhao, CHN)																	*Shandong Athletics Sport Science (2023)*
date 26-Apr-23 time		11.68		22.39		34.47	40.58	47.12	47.12	5 / 1							
reaction time 0.149 interval				10.71		12.08	6.11	6.54		# of strides	11.68	10.71	12.08	12.65	22.39	24.73	2.34
velocity		8.56		9.34		8.28	8.18	7.65	8.49	183.0	8.56	9.34	8.28	7.91	8.93	8.09	

Taam, Rik (NED) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 25-Aug-23 time		11.67		22.53		34.07		47.12	47.12	9 / 4							
reaction time 0.191 interval				10.86		11.54		13.05	PB	# of strides	11.67	10.86	11.54	13.05	22.53	24.59	2.06
velocity		8.57		9.21		8.67		7.66	8.49	178.0	8.57	9.21	8.67	7.66	8.88	8.13	

Yasui, Kazuki (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Japanese National Championships (Osaka, JPN)																	*Maho (2013) - race analysis of the men's 400m run in competition*

date	09-Jun-12	time	6.47	11.74	17.08	22.67	28.30	34.20	40.42	47.13	47.13	3 / 7						
reaction time		interval		5.27	5.34	5.59	5.63	5.90	6.22	6.71		# of strides	11.74	10.93	11.53	12.93	22.67	24.46	1.79
		velocity	7.73	9.49	9.36	8.94	8.88	8.47	8.04	7.45	8.49	173.0	8.52	9.15	8.67	7.73	8.82	8.18	

Kitagawa, Takamasa (JPN) (1996) — **Division 1 Semi-Final 2** - 2017 Kanto Collegiate Championships (Yokohama, JPN) — *(2017) - tfdata-store.com/2017/06/02/post-835/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.72		22.64		34.51		47.13	47.13	6 / 1							
reaction time		interval				10.92		11.87		12.62		# of strides	11.72	10.92	11.87	12.62	22.64	24.49	1.85
		velocity		8.53		9.16		8.42		7.92	8.49	180.2	8.53	9.16	8.42	7.92	8.83	8.17	

Suzaki, Mitsuhiro (JPN) (1995) — **Heat 2** - 2017 Japanese National Championships (Osaka, JPN) — *(2017) - tfdata-store.com/2017/07/08/post-965/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-17	time		11.47		21.93		33.40		47.13	47.13	8 / 6							
reaction time	0.158	interval				10.46		11.47		13.73		# of strides	11.47	10.46	11.47	13.73	21.93	25.20	3.27
		velocity		8.72		9.56		8.72		7.28	8.49	189.5	8.72	9.56	8.72	7.28	9.12	7.94	

Wu Yuang (CHN) (1998) — **FINAL** - 2019 Shanghai (Shanghai, CHN) — *Omega Timing (2019) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-May-19	time		11.1		21.9		34.2		47.13	47.13	2 / 6							
reaction time	0.196	interval				10.8		12.3		12.9		# of strides	11.10	10.80	12.30	12.93	21.90	25.23	3.33
		velocity		9.01		9.26		8.13		7.73	8.49		9.01	9.26	8.13	7.73	9.13	7.93	

Xie Yuqiang (CHN) (1997) — **FINAL** - 2023 Chinese World Championship & Asian Games Trials (Shenyang, CHN) — *Shandong Athletics Sport Science (2023)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jun-23	time		11.33		22.07		33.88	40.19	47.13	47.13	6 / 5							
reaction time	0.218	interval				10.74		11.81	6.31	6.94		# of strides	11.33	10.74	11.81	13.25	22.07	25.06	2.99
		velocity		8.83		9.31		8.47	7.92	7.20	8.49	177.0	8.83	9.31	8.47	7.55	9.06	7.98	

Spencer, Emerson (USA) (1906) — **FINAL** - 1928 Pacific AAU Championships (Palo Alto, CA) — *Parienté (1978) - la fabuleuse histoire de l'athlétisme*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-May-28	time				21.8				47.0	47.0	/ 1							
reaction time		interval								25.2	**WR**	# of strides					21.80	25.20	3.40
		velocity				9.17				7.94	8.51						9.17	7.94	

Wint, Arthur (JAM) (1920) — **FINAL** - 1952 Olympic Games (Helsinki, FIN) — *Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jul-52	time				21.7				47.0	47.0	2 / 5							
reaction time		interval								25.3		# of strides					21.70	25.30	3.60
		velocity				9.22				7.91	8.51	*(47.24)*					9.22	7.91	

Hellstén, Voitto (FIN) (1932) — **FINAL** - 1956 Olympic Games (Melbourne, AUS) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Nov-56	time				22.3		33.6		47.0	47.0	3 / 3							
reaction time		interval						11.3		13.4	*(47.15)*	# of strides		22.30	11.30	13.40	22.30	24.70	2.40
		velocity				8.97		8.85		7.46	8.57	195.0		8.97	8.85	7.46	8.97	8.10	

Ignatyev, Ardalion (URS) (1930) — **FINAL** - 1956 Olympic Games (Melbourne, AUS) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Nov-56	time				22.0		33.5		47.0	47.0	2 / 3							
reaction time		interval						11.5		13.5	*(47.15)*	# of strides		22.00	11.50	13.50	22.00	25.00	3.00
		velocity				9.09		8.70		7.41	8.57	183.5		9.09	8.70	7.41	9.09	8.00	

Haas, Karl-Friedrich (FRG) (1931) — **FINAL** - 1958 European Championships (Stockholm, SWE) — *(1959) - der 400-m-hürdenlauf in stockholm*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Aug-58	time				22.5				47.0	47.0	/ 3							
reaction time		interval								24.5		# of strides					22.50	24.50	2.00
		velocity				8.89				8.16	8.51						8.89	8.16	

Tamura, Tomoya (JPN) (1992) — **FINAL** - 2017 Japanese National Championships (Osaka, JPN) — *Yamanaka (2017) - male and female 400m analysis in the 2017 season*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-17	time	6.05	10.94	15.94	21.17	26.72	32.69	39.32	47.14	47.14	6 / 8							
reaction time	0.168	interval		4.89	5.00	5.23	5.55	5.97	6.63	7.82		# of strides	10.94	10.23	11.52	14.45	21.17	25.97	4.80
		velocity	8.26	10.22	10.00	9.56	9.01	8.38	7.54	6.39	8.49	191.0	9.14	9.78	8.68	6.92	9.45	7.70	

Mori, Shushi (JPN) — **FINAL** - 2018 Japanese National High School Championships (Nagoya, JPN) — *Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-18	time	6.45	11.69	17.00	22.35	27.90	33.90	40.29	47.14	47.14	6 / 1							
reaction time		interval		5.24	5.31	5.35	5.55	6.00	6.39	6.85	**PB**	# of strides	11.69	10.66	11.55	13.24	22.35	24.79	2.44
		velocity	7.75	9.54	9.42	9.35	9.01	8.33	7.82	7.30	8.49		8.55	9.38	8.66	7.55	8.95	8.07	

Niculita, Remus Andrei (ROU) (2003) — **Semi-Final 2** - 2021 European Athletics U20 Championships (Tallin, EST) — *European Athletics (2021) - european athletics U20 championships results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Jul-21	time		11.84		22.92		34.78		47.14	47.14	3 / 2							
reaction time	0.155	interval				11.08		11.86		12.36	**PB**	# of strides	11.84	11.08	11.86	12.36	22.92	24.22	1.30
		velocity		8.45		9.03		8.43		8.09	8.49		8.45	9.03	8.43	8.09	8.73	8.26	

Hibio, Kikuta (JPN) — **FINAL** - 2023 Japanese National High School Championsips (Sapporo, JPN) — *Takashima (2023) - national high school sports festival - biomechanics data*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-23	time		11.46		22.47		34.27		47.14	47.14	7 / 2							
reaction time	0.256	interval				11.01		11.80		12.87		# of strides	11.46	11.01	11.80	12.87	22.47	24.67	2.20
		velocity		8.73		9.08		8.47		7.77	8.49		8.73	9.08	8.47	7.77	8.90	8.11	

Kitakani, Naoki (JPN) (1998) — **FINAL** - 2016 IAAF World Junior Championships (Bydgoszcz, POL) — *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jul-16	time	6.29	11.47	16.78	22.31	28.15	34.23	40.43	47.15	47.15	3 / 8							
reaction time	0.143	interval		5.18	5.31	5.53	5.84	6.08	6.20	6.72		# of strides	11.47	10.84	11.92	12.92	22.31	24.84	2.53
		velocity	7.95	9.65	9.42	9.04	8.56	8.22	8.06	7.44	8.48		8.72	9.23	8.39	7.74	8.96	8.05	

Snaith, Ben (GBR) (1995)
National FINAL - 2018 Müller Anniversary Games (London, GBR)
Omega Timing (2018) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-18	time		11.7		22.3		33.9		47.15	47.15	8 / 6							
reaction time	0.162	interval				10.6		11.6		13.3		# of strides	11.70	10.60	11.60	13.25	22.30	24.85	2.55
		velocity		8.55		9.43		8.62		7.55	8.48		8.55	9.43	8.62	7.55	8.97	8.05	

Strother, Nathan (USA) (1995)
FINAL - 2019 The Match - Europe v USA (Minsk, BLR)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Sep-19	time		11.46		22.15		33.64		47.15	47.15	7 / 8							
reaction time	0.215	interval				10.69		11.49		13.51		# of strides	11.46	10.69	11.49	13.51	22.15	25.00	2.85
		velocity		8.73		9.35		8.70		7.40	8.48	184.0	8.73	9.35	8.70	7.40	9.03	8.00	

Kimura, Kazushi (JPN) (1993)
B FINAL - 2017 Nanbu Memorial Meeting (Sapporo, JPN)
(2017) - tfdata-store.com/2017/07/11/post-1010/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jul-17	time		11.99		23.40		34.83		47.16	47.16	5 / 1							
reaction time		interval				11.41		11.43		12.33		# of strides	11.99	11.41	11.43	12.33	23.40	23.76	0.36
		velocity		8.34		8.76		8.75		8.11	8.48	186.0	8.34	8.76	8.75	8.11	8.55	8.42	

Inagawa, Keisuke (JPN) (2002)
A FINAL - 2020 Japanese High School National Championships (Hiroshima, JPN)
Kobayashi (2020) - national high school and U20 national championhsips

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Oct-20	time	6.45	11.78	17.27	22.94	28.70	34.60	40.70	47.16	47.16	6 / 2							
reaction time	0.188	interval		5.33	5.49	5.67	5.76	5.90	6.10	6.46		# of strides	11.78	11.16	11.66	12.56	22.94	24.22	1.28
		velocity	7.75	9.38	9.11	8.82	8.68	8.47	8.20	7.74	8.48	185.8	8.49	8.96	8.58	7.96	8.72	8.26	

Dobber, Jochem (NED) (1997)
FINAL - 2022 FBK Games (Hengelo, NED)
Omega Timing (2022) - continental tour race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Jun-22	time	6.3	11.4	16.6	22.0	27.7	33.8	40.2	47.16	47.16	8 / 7							
reaction time	0.167	interval		5.10	5.20	5.40	5.70	6.10	6.40	6.96		# of strides	11.40	10.60	11.80	13.36	22.00	25.16	3.16
		velocity	7.94	9.80	9.62	9.26	8.77	8.20	7.81	7.18	8.48		8.77	9.43	8.47	7.49	9.09	7.95	

Feng Zhiqiang (CHN) (1998)
FINAL - 2023 Chinese National Grand Prix 3 (Taizhou, CHN)
Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-23	time		11.23		22.19		34.30	40.48	47.16	47.16	4 / 4							
reaction time	0.240	interval				10.96		12.11	6.18	6.68		# of strides	11.23	10.96	12.11	12.86	22.19	24.97	2.78
		velocity		8.90		9.12		8.26	8.09	7.49	8.48	168.7	8.90	9.12	8.26	7.78	9.01	8.01	

Nakamura, Akihiko (JPN) (1990)
Decathlon - Heat 2 - 2012 Japanese Multi-Event National Championships (Nagano, JPN)
Takeo (2014) - decathletes sprint ability & relationship of individual event performance

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Jun-12	time	6.34	11.53	16.87	22.46	28.26	34.27	40.48	47.17	47.17	4 / 1							
reaction time		interval		5.19	5.34	5.59	5.80	6.01	6.21	6.69	PB	# of strides	11.53	10.93	11.81	12.90	22.46	24.71	2.25
		velocity	7.89	9.63	9.36	8.94	8.62	8.32	8.05	7.47	8.48		8.67	9.15	8.47	7.75	8.90	8.09	

Watanabe, Kazuya (JPN) (1988)
FINAL - 2015 National Sports Festival (Wakayama, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Oct-15	time	6.27	11.49	17.00	22.82	28.66	34.61	40.76	47.17	47.17	/ 4							
reaction time		interval		5.22	5.51	5.82	5.84	5.95	6.15	6.41		# of strides	11.49	11.33	11.79	12.56	22.82	24.35	1.53
		velocity	7.97	9.58	9.07	8.59	8.56	8.40	8.13	7.80	8.48		8.70	8.83	8.48	7.96	8.76	8.21	

Grzegorzewic, Patryk (POL) (2002)
Semi-Final 2 - 2021 European Athletics U20 Championships (Tallin, EST)
European Athletics (2021) - european athletics U20 championships results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Jul-21	time		11.87		22.92		34.75		47.17	47.17	5 / 3							
reaction time	0.201	interval				11.05		11.83		12.42		# of strides	11.87	11.05	11.83	12.42	22.92	24.25	1.33
		velocity		8.42		9.05		8.45		8.05	8.48		8.42	9.05	8.45	8.05	8.73	8.25	

Ooishi, Ryouta (JPN) (2006)
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)
Takashima (2024) - national high school sports festival - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jul-24	time		11.73		22.47		34.27		47.17	47.17	5 / 2							
reaction time	0.185	interval				10.74		11.80		12.90		# of strides	11.73	10.74	11.80	12.90	22.47	24.70	2.23
		velocity		8.53		9.31		8.47		7.75	8.48		8.53	9.31	8.47	7.75	8.90	8.10	

Yamaki, Kakeru (JPN) (1996)
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/02/post-835/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.45		22.22		33.96		47.18	47.18	7 / 1							
reaction time		interval				10.77		11.74		13.22		# of strides	11.45	10.77	11.74	13.22	22.22	24.96	2.74
		velocity		8.73		9.29		8.52		7.56	8.48	204.5	8.73	9.29	8.52	7.56	9.00	8.01	

Kitakani, Naoki (JPN) (1998)
Heat 1 - 2019 Japanese National Championships (Fukuoka, JPN)
Yamanaka (2019) - race analysis of men and women 400m competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-19	time	6.28	11.42	16.77	22.37	28.19	34.27	40.56	47.18	47.18	4 / 4							
reaction time	0.159	interval		5.14	5.35	5.60	5.82	6.08	6.29	6.62		# of strides	11.42	10.95	11.90	12.91	22.37	24.81	2.44
		velocity	7.96	9.73	9.35	8.93	8.59	8.22	7.95	7.55	8.48		8.76	9.13	8.40	7.75	8.94	8.06	

Song Jiahui (CHN) (2002)
Heat 3 - 2023 Chinese National Grand Prix 3 (Taizhou, CHN)
Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-23	time		11.58		22.33		34.06	40.33	47.18	47.18	5 / 3							
reaction time	0.168	interval				10.75		11.73	6.27	6.85		# of strides	11.58	10.75	11.73	13.12	22.33	24.85	2.52
		velocity		8.64		9.30		8.53	7.97	7.30	8.48	169.0	8.64	9.30	8.53	7.62	8.96	8.05	

Borlée, Kevin (BEL) (1988)
Invitational - 2024 Memorial van damme (Brussels, BEL)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Sep-24	time	6.40	11.67	16.98	22.41	28.09	33.98	40.19	47.18	47.18	6 / 6							
reaction time	0.138	interval		5.27	5.31	5.43	5.68	5.89	6.21	6.99		# of strides	11.67	10.74	11.57	13.20	22.41	24.77	2.36
		velocity	7.81	9.49	9.42	9.21	8.80	8.49	8.05	7.15	8.48		8.57	9.31	8.64	7.58	8.92	8.07	

Kimura, Jun (JPN) (1991)
FINAL - 2018 National Sports Festival (Fukui, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

date	08-Oct-18	time	6.28	11.46	16.85	22.55	28.45	34.47	40.60	47.19	47.19	1 / 7						
reaction time	0.146	interval		5.18	5.39	5.70	5.90	6.02	6.13	6.59		# of strides	11.46	11.09	11.92	12.72	22.55	24.64	2.09
		velocity	7.96	9.65	9.28	8.77	8.47	8.31	8.16	7.59	8.48		8.73	9.02	8.39	7.86	8.87	8.12	

Katayama, Yuto (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2021 All Japan Corporate Championships (Osaka, JPN)																	
date	25-Sep-21	time		11.33		22.24		33.91		47.06	47.19	3 / 2							
reaction time	0.172	interval				10.91		11.67		13.15		# of strides	11.33	10.91	11.67	13.15	22.24	24.82	2.58
		velocity		8.83		9.17		8.57		7.60	8.48		8.83	9.17	8.57	7.60	8.99	8.06	

@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633

Boers, Isayah (NED) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 FBK Games (Hengelo, NED)																	
date	04-Jun-23	time	6.05	10.94	16.03	21.40	27.08	33.14	39.84	47.19	47.19	3 / 8							
reaction time	0.161	interval		4.89	5.09	5.37	5.68	6.06	6.70	7.35		# of strides	10.94	10.46	11.74	14.05	21.40	25.79	4.39
		velocity	8.26	10.22	9.82	9.31	8.80	8.25	7.46	6.80	8.48	174.5	9.14	9.56	8.52	7.12	9.35	7.75	

Omega Timing (2023) - continental tour race analysis

Erm, Johannes (EST) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2024 Olympic Games (Paris, FRA)																	
date	02-Aug-24	time	6.37	11.56	16.95	22.52	28.29	34.40	40.71	47.19	47.19	3 / 4							
reaction time	0.212	interval		5.19	5.39	5.57	5.77	6.11	6.31	6.48		# of strides	11.56	10.96	11.88	12.79	22.52	24.67	2.15
		velocity	7.85	9.63	9.28	8.98	8.67	8.18	7.92	7.72	8.48	167.0	8.65	9.12	8.42	7.82	8.88	8.11	

Paris 2024 Olympic Games - Results Book (2024)

Urano, Akihiro (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Kokutai National Sport Festival (Gifu, JPN)																	
date	08-Oct-12	time	6.35	11.48	16.85	22.33	27.98	33.94	40.23	47.20	47.20	/ 7							
reaction time		interval		5.13	5.37	5.48	5.65	5.96	6.29	6.97		# of strides	11.48	10.85	11.61	13.26	22.33	24.87	2.54
		velocity	7.87	9.75	9.31	9.12	8.85	8.39	7.95	7.17	8.47		8.71	9.22	8.61	7.54	8.96	8.04	

Maho (2013) - race analysis of the men's 400m run in competition

Yoshimura, Kento (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)																	
date	11-May-17	time		11.49				33.73		47.20	47.20	8 / 4							
reaction time		interval						22.24		13.47		# of strides	11.49			13.47			
		velocity		8.70				8.99		7.42	8.47	189.2	8.70			7.42			

(2017) - tfdata-store.com/2017/05/13/post-441/

Tamura, Tomoya (JPN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2019 Japanese National Championships (Fukuoka, JPN)																	
date	27-Jun-19	time	6.26	11.37	16.62	22.11	27.82	33.79	40.18	47.20	47.20	2 / 5							
reaction time	0.171	interval		5.11	5.25	5.49	5.71	5.97	6.39	7.02		# of strides	11.37	10.74	11.68	13.41	22.11	25.09	2.98
		velocity	7.99	9.78	9.52	9.11	8.76	8.38	7.82	7.12	8.47		8.80	9.31	8.56	7.46	9.05	7.97	

Yamanaka (2019) - race analysis of men and women 400m competition

Mori, Zhou (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)																	
date	08-Oct-17	time		11.68		22.34		34.20		47.21	47.21	2 / 2							
reaction time	0.191	interval				10.66		11.86		13.01		# of strides	11.68	10.66	11.86	13.01	22.34	24.87	2.53
		velocity		8.56		9.38		8.43		7.69	8.47	185.0	8.56	9.38	8.43	7.69	8.95	8.04	

(2017) - tfdata-store.com/2017/10/12/post-1100/

Agard, Terrence (NED) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 FBK Games (Hengelo, NED)																	
date	06-Jun-22	time	6.3	11.3	16.5	21.9	27.5	33.5	40.0	47.21	47.21	3 / 8							
reaction time	0.195	interval		5.00	5.20	5.40	5.60	6.00	6.50	7.21		# of strides	11.30	10.60	11.60	13.71	21.90	25.31	3.41
		velocity	7.94	10.00	9.62	9.26	8.93	8.33	7.69	6.93	8.47		8.85	9.43	8.62	7.29	9.13	7.90	

Omega Timing (2022) - continental tour race analysis

Lepage, Pierce (CAN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2023 World Athletics Championships (Budapest, HUN)																	
date	25-Aug-23	time		11.43		22.84		34.63		47.21	47.21	7 / 1							
reaction time	0.189	interval				11.41		11.79		12.58		# of strides	11.43	11.41	11.79	12.58	22.84	24.37	1.53
		velocity		8.75		8.76		8.48		7.95	8.47	160.7	8.75	8.76	8.48	7.95	8.76	8.21	

Seiko Timing (2023) - world championship race analysis

Talbot, Ryan (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2024 USA Olympic Trials (Eugene, OR)																	
date	21-Jun-24	time		11.76		22.42		34.30		47.21	47.21	5 / 4							
reaction time		interval				10.66		11.88		12.91	PB	# of strides	11.76	10.66	11.88	12.91	22.42	24.79	2.37
		velocity		8.50		9.38		8.42		7.75	8.47		8.50	9.38	8.42	7.75	8.92	8.07	

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

Kitagawa, Takamasa (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 National Sports Festival (Kitakami, JPN)																	
date	09-Oct-16	time	6.47	11.79	17.23	22.90	28.76	34.68	40.77	47.22	47.22	7 / 1							
reaction time	0.191	interval		5.32	5.44	5.67	5.86	5.92	6.09	6.45		# of strides	11.79	11.11	11.78	12.54	22.90	24.32	1.42
		velocity	7.73	9.40	9.19	8.82	8.53	8.45	8.21	7.75	8.47		8.48	9.00	8.49	7.97	8.73	8.22	

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

Kimura, Kazushi (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)																	
date	08-Oct-17	time		11.44		22.38		34.25		47.22	47.22	5 / 1							
reaction time	0.191	interval				10.94		11.87		12.97		# of strides	11.44	10.94	11.87	12.97	22.38	24.84	2.46
		velocity		8.74		9.14		8.42		7.71	8.47	186.7	8.74	9.14	8.42	7.71	8.94	8.05	

(2017) - tfdata-store.com/2017/10/12/post-1100/

Kosuke, Soji (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)																	
date	02-Aug-18	time	6.49	11.68	16.98	22.46	28.27	34.38	40.62	47.22	47.22	9 / 2							
reaction time		interval		5.19	5.30	5.48	5.81	6.11	6.24	6.60	PB	# of strides	11.68	10.78	11.92	12.84	22.46	24.76	2.30
		velocity	7.70	9.63	9.43	9.12	8.61	8.18	8.01	7.58	8.47		8.56	9.28	8.39	7.79	8.90	8.08	

Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection

Plaček, Tadeáš (CZE) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2021 European Athletics U20 Championships (Tallin, EST)																	
date	15-Jul-21	time		12.09		23.31		35.03		47.22	47.22	5 / 5							
reaction time	0.199	interval				11.22		11.72		12.19	PB	# of strides	12.09	11.22	11.72	12.19	23.31	23.91	0.60
		velocity		8.27		8.91		8.53		8.20	8.47		8.27	8.91	8.53	8.20	8.58	8.36	

European Athletics (2021) - european athletics U20 championships results book

Katayama, Yuto (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 All Japan Corporate Championships (Osaka, JPN)																	
date 25-Sep-21	time	11.64		22.67		34.30		47.01	47.22	9 / 6							
reaction time 0.191	interval			11.03		11.63		12.71		# of strides	11.64	11.03	11.63	12.71	22.67	24.34	1.67
	velocity	8.59		9.07		8.60		7.87	8.47		8.59	9.07	8.60	7.87	8.82	8.22	

@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633

Luchembe, Kennedy (ZAM) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 Commonwealth Games (Birmingham, GBR)																	
date 05-Aug-22	time	6.1	11.1	16.4	22.0	27.9	34.0	40.3	47.22	47.22	3 / 8							
reaction time 0.147	interval		5.00	5.30	5.60	5.90	6.10	6.30	6.92		# of strides	11.10	10.90	12.00	13.22	22.00	25.22	3.22
	velocity	8.20	10.00	9.43	8.93	8.47	8.20	7.94	7.23	8.47	176.2	9.01	9.17	8.33	7.56	9.09	7.93	

Longines Timing (2022) - commonwealth games race analysis

Vaillant, Ludvy (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Miami (Miramar, FL)																	
date 04-May-25	time		11.49		22.34		34.03		47.22	47.22	8 / 7						
reaction time 0.190	interval				10.85		11.69		13.19		# of strides	11.49	10.85	11.69	13.19	22.34	24.88	2.54
	velocity		8.70		9.22		8.55		7.58	8.47		8.70	9.22	8.55	7.58	8.95	8.04	

Grand Slam Track (2025) - results and splits by race

Urano, Akihiro (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 Japanese National High School Championships (Nara, JPN)																	
date 29-Jul-09	time		11.61		22.80		34.52		47.23	47.23	4 / 2						
reaction time	interval				11.19		11.72		12.71		# of strides	11.61	11.19	11.72	12.71	22.80	24.43	1.63
	velocity		8.61		8.94		8.53		7.87	8.47		8.61	8.94	8.53	7.87	8.77	8.19	

Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data

Kato, Nobuya (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)																	
date 03-May-17	time	6.47	11.69	17.08	22.64	28.32	34.20	40.42	47.23	47.23	/ 4						
reaction time	interval		5.22	5.39	5.56	5.68	5.88	6.22	6.81		# of strides	11.69	10.95	11.56	13.03	22.64	24.59	1.95
	velocity	7.73	9.58	9.28	8.99	8.80	8.50	8.04	7.34	8.47		8.55	9.13	8.65	7.67	8.83	8.13	

Yamanaka (2017) - male and female 400m analysis in the 2017 season

Mori, Zhou (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)																	
date 09-Oct-17	time		11.68		22.62		34.33		47.23	47.23	7 / 2						
reaction time 0.171	interval				10.94		11.71		12.90		# of strides	11.68	10.94	11.71	12.90	22.62	24.61	1.99
	velocity		8.56		9.14		8.54		7.75	8.47	187.0	8.56	9.14	8.54	7.75	8.84	8.13	

(2017) - tfdata-store.com/2017/10/12/post-1100/

Mhamdi, Rachid (MAR) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Meeting International Mohammed VI d'Athlétime (Rabat, MAR)																	
date 05-Jun-22	time	6.57	12.01	17.68	22.41	29.25	35.05	40.93	47.23	47.23	3 / 3						
reaction time 0.179	interval		5.44	5.67	4.73	6.84	5.80	5.88	6.30	PB	# of strides	12.01	10.40	12.64	12.18	22.41	24.82	2.41
	velocity	7.61	9.19	8.82	10.57	7.31	8.62	8.50	7.94	8.47		8.33	9.62	7.91	8.21	8.92	8.06	

Omega Timing (2022) - diamond league race analysis

Hayashi, Shinya (JPN) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)																	
date 03-Aug-22	time		11.78		22.73		34.55		47.23	47.23	4 / 2						
reaction time 0.187	interval				10.95		11.82		12.68	PB	# of strides	11.78	10.95	11.82	12.68	22.73	24.50	1.77
	velocity		8.49		9.13		8.46		7.89	8.47	182.5	8.49	9.13	8.46	7.89	8.80	8.16	

Kishima (2022) - national high school championships biomechanics data collection

Kouma, Masano (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN)																	
date 02-Aug-23	time		11.61		22.52		34.58		47.23	47.23	9 / 3						
reaction time 0.244	interval				10.91		12.06		12.65		# of strides	11.61	10.91	12.06	12.65	22.52	24.71	2.19
	velocity		8.61		9.17		8.29		7.91	8.47		8.61	9.17	8.29	7.91	8.88	8.09	

Takashima (2023) - national high school sports festival - biomechanics data

Kishimoto, Kyota (JPN) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)																	
date 28-Jul-24	time		11.41		22.52		34.58		47.23	47.23	9 / 3						
reaction time 0.202	interval				11.11		12.06		12.65		# of strides	11.41	11.11	12.06	12.65	22.52	24.71	2.19
	velocity		8.76		9.00		8.29		7.91	8.47		8.76	9.00	8.29	7.91	8.88	8.09	

Takashima (2024) - national high school sports festival - biomechanics data

Downs, William (USA) ???

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1890 ??? Beacon Park (Boston, MA) (440y Straightaway)																	
date 09-Jul-90	time				23.1				47.1	47.1	/ 1						
reaction time	interval								24.0		# of strides					23.10	24.00	
	velocity				8.66				8.33	8.49	*(47 2/5 /440y)*					8.66	8.33	

Quercentani (2000) - athletics: a history of modern track and field athletics (1860-2000)

Eastman, Benjamin (USA) (1911)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1932 USA Olympic Trials (Palo Alto, CA)																	
date 16-Jul-32	time				22.2				47.1	47.1	/ 2						
reaction time	interval								24.9		# of strides					22.20	24.90	2.70
	velocity				9.01				8.03	8.49						9.01	8.03	

Hymans (2008) - history of the US olympic trials - track and field

Matsuo, Shuhei (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)																	
date 08-Oct-17	time		11.55		22.43		34.37		47.24	47.24	4 / 2						
reaction time 0.156	interval				10.88		11.94		12.87		# of strides	11.55	10.88	11.94	12.87	22.43	24.81	2.38
	velocity		8.66		9.19		8.38		7.77	8.47	180.5	8.66	9.19	8.38	7.77	8.92	8.06	

(2017) - tfdata-store.com/2017/10/12/post-1100/

Kinoshita, Yuichi (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2020 Japanese High School National Championships (Hiroshima, JPN)																	
date 23-Oct-20	time	6.33	11.54	16.92	22.46	28.24	34.27	40.55	47.24	47.24	5 / 3						
reaction time 0.179	interval		5.21	5.38	5.54	5.78	6.03	6.28	6.69		# of strides	11.54	10.92	11.81	12.97	22.46	24.78	2.32
	velocity	7.90	9.60	9.29	9.03	8.65	8.29	7.96	7.47	8.47	188.1	8.67	9.16	8.47	7.71	8.90	8.07	

Kobayashi (2020) - national high school and U20 national championhsips

Kobayashi, Naoki (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN)																	

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

date	20-May-18	time	6.32	11.49	16.72	22.12	27.73	33.76	40.23	47.25	47.25	3 / 8						
reaction time	0.181	interval		5.17	5.23	5.40	5.61	6.03	6.47	7.02		# of strides	11.49	10.63	11.64	13.49	22.12	25.13	3.01
		velocity	7.91	9.67	9.56	9.26	8.91	8.29	7.73	7.12	8.47	179.7	8.70	9.41	8.59	7.41	9.04	7.96	

Wakabayashi, Kota (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)											*Kobayashi (2019) - research on athlete performance and technique- 2019 data book*						
date 03-May-19	time	6.18	11.15	16.27	21.68	27.40	33.52	40.00	47.25	47.25	7 / 7						
reaction time	interval		4.97	5.12	5.41	5.72	6.12	6.48	7.25		# of strides	11.15	10.53	11.84	13.73	21.68	25.57	3.89
	velocity	8.09	10.06	9.77	9.24	8.74	8.17	7.72	6.90	8.47	175.5	8.97	9.50	8.45	7.28	9.23	7.82	

Kobayashi, Masahito (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 Japanese National High School Championships (Nara, JPN)											*Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data*						
date 29-Jul-09	time		11.48		22.38		34.28		47.26	47.26	3 / 3						
reaction time	interval				10.90		11.90		12.98		# of strides	11.48	10.90	11.90	12.98	22.38	24.88	2.50
	velocity		8.71		9.17		8.40		7.70	8.46		8.71	9.17	8.40	7.70	8.94	8.04	

Fujiwara, Takeshi (JPN) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)											*Yamanaka (2017) - male and female 400m analysis in the 2017 season*						
date 03-May-17	time	6.36	11.68	17.25	23.00	28.60	34.35	40.52	47.26	47.26	/ 5						
reaction time	interval		5.32	5.57	5.75	5.60	5.75	6.17	6.74		# of strides	11.68	11.32	11.35	12.91	23.00	24.26	1.26
	velocity	7.86	9.40	8.98	8.70	8.93	8.70	8.10	7.42	8.46		8.56	8.83	8.81	7.75	8.70	8.24	

Suzuki, Daisuke (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2020 Japanese High School National Championships (Hiroshima, JPN)											*Kobayashi (2020) - national high school and U20 national championhsips*						
date 23-Oct-20	time	6.24	11.44	16.80	22.48	28.40	34.55	40.85	47.26	47.26	4 / 4						
reaction time 0.174	interval		5.20	5.36	5.68	5.92	6.15	6.30	6.41		# of strides	11.44	11.04	12.07	12.71	22.48	24.78	2.30
	velocity	8.01	9.62	9.33	8.80	8.45	8.13	7.94	7.80	8.46	187.2	8.74	9.06	8.29	7.87	8.90	8.07	

Kitakani, Naoki (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Japanese National Championships (Niigata, JPN)											*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*						
date 02-Oct-20	time	6.19	11.23	16.50	22.00	27.78	33.83	40.17	47.26	47.26	8 / 8						
reaction time 0.139	interval		5.04	5.27	5.50	5.78	6.05	6.34	7.09		# of strides	11.23	10.77	11.83	13.43	22.00	25.26	3.26
	velocity	8.08	9.92	9.49	9.09	8.65	8.26	7.89	7.05	8.46	179.2	8.90	9.29	8.45	7.45	9.09	7.92	

Meldrum, Alan (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)											*(2017) - tfdata-store.com/2017/10/12/post-1100/*						
date 08-Oct-17	time		11.76		22.66		34.55		47.27	47.27	4 / 3						
reaction time 0.178	interval				10.90		11.89		12.72		# of strides	11.76	10.90	11.89	12.72	22.66	24.61	1.95
	velocity		8.50		9.17		8.41		7.86	8.46	182.0	8.50	9.17	8.41	7.86	8.83	8.13	

Inagawa, Keisuke (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2020 Japanese High School National Championships (Hiroshima, JPN)											*Kobayashi (2020) - national high school and U20 national championhsips*						
date 23-Oct-20	time	6.32	11.66	17.16	22.84	28.65	34.52	40.62	47.27	47.27	6 / 1						
reaction time 0.170	interval		5.34	5.50	5.68	5.81	5.87	6.10	6.65		# of strides	11.66	11.18	11.68	12.75	22.84	24.43	1.59
	velocity	7.91	9.36	9.09	8.80	8.61	8.52	8.20	7.52	8.46	185.3	8.58	8.94	8.56	7.84	8.76	8.19	

Kato, Nobuya (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 National Sports Festival (Wakayama, JPN)											*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*						
date 04-Oct-15	time	6.63	12.10	17.73	23.64	29.57	35.38	41.21	47.28	47.28	/ 5						
reaction time	interval		5.47	5.63	5.91	5.93	5.81	5.83	6.07		# of strides	12.10	11.54	11.74	11.90	23.64	23.64	0.00
	velocity	7.54	9.14	8.88	8.46	8.43	8.61	8.58	8.24	8.46		8.26	8.67	8.52	8.40	8.46	8.46	

Imoto, Yoshinobu (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)											*(2017) - tfdata-store.com/2017/10/12/post-1100/*						
date 08-Oct-17	time		11.09		21.96		33.73		47.28	47.28	6 / 1						
reaction time 0.158	interval				10.87		11.77		13.55		# of strides	11.09	10.87	11.77	13.55	21.96	25.32	3.36
	velocity		9.02		9.20		8.50		7.38	8.46	196.5	9.02	9.20	8.50	7.38	9.11	7.90	

Asano, Kurodo (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)											*(2017) - tfdata-store.com/2017/10/12/post-1100/*						
date 08-Oct-17	time		11.63		22.59		34.36		47.28	47.28	9 / 4						
reaction time 0.169	interval				10.96		11.77		12.92		# of strides	11.63	10.96	11.77	12.92	22.59	24.69	2.10
	velocity		8.60		9.12		8.50		7.74	8.46	191.7	8.60	9.12	8.50	7.74	8.85	8.10	

Horii, Kosuke (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2018 Japanese National Championships (Yamaguchi, JPN)											*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*						
date 22-Jun-18	time	6.61	11.82	17.35	23.10	29.00	34.94	40.95	47.28	47.28	4 / 5						
reaction time 0.150	interval		5.21	5.53	5.75	5.90	5.94	6.01	6.33		# of strides	11.82	11.28	11.84	12.34	23.10	24.18	1.08
	velocity	7.56	9.60	9.04	8.70	8.47	8.42	8.32	7.90	8.46		8.46	8.87	8.45	8.10	8.66	8.27	

Kimura, Kazushi (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN)											*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*						
date 23-Aug-20	time	6.19	11.24	16.37	21.76	27.42	33.46	39.93	47.28	47.28	3 / 5						
reaction time 0.176	interval		5.05	5.13	5.39	5.66	6.04	6.47	7.35		# of strides	11.24	10.52	11.70	13.82	21.76	25.52	3.76
	velocity	8.08	9.90	9.75	9.28	8.83	8.28	7.73	6.80	8.46		8.90	9.51	8.55	7.24	9.19	7.84	

Molnár, Attila (HUN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2021 European Athletics U20 Championships (Tallin, EST)											*European Athletics (2021) - european athletics U20 championships results book*						
date 15-Jul-21	time		11.94		22.93		34.91		47.28	47.28	8 / 4						
reaction time 0.185	interval				10.99		11.98		12.37		# of strides	11.94	10.99	11.98	12.37	22.93	24.35	1.42
	velocity		8.38		9.10		8.35		8.08	8.46		8.38	9.10	8.35	8.08	8.72	8.21	

Rhoden-Stevens, Jamal (GBR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)											*Omega Timing (2022) - diamond league race analysis*						
date 21-May-22	time	6.1	11.1	16.5	22.0	27.8	33.9	40.1	47.28	47.28	7 / ~~6~~						
reaction time 0.152	interval		5.04	5.40	5.50	5.80	6.10	6.20	7.18	DQ	# of strides	11.10	10.90	11.90	13.38	22.00	25.28	3.28
	velocity	8.25	9.92	9.26	9.09	8.62	8.20	8.06	6.96	8.46	186.7	9.01	9.17	8.40	7.47	9.09	7.91	

Sun Jiahao (CHN) (2002)
FINAL - 2023 Chinese National Championships (Quzhou, CHN)
Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jul-23	time		11.83		23.31		35.02	40.94	47.28	47.28	8 / 8							
reaction time	0.206	interval				11.48		11.71	5.92	6.34		# of strides	11.83	11.48	11.71	12.26	23.31	23.97	0.66
		velocity		8.45		8.71		8.54	8.45	7.89	8.46	177.2	8.45	8.71	8.54	8.16	8.58	8.34	

Lowe, Sean (USA) (1986)
FINAL - 2005 USATF National Junior Championships (Carson, CA)
USATF Women's Sprint Development (2005)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-05	time		11.95	17.43	23.14	28.97	34.54	40.73	47.29	47.29	6 / 5							
reaction time		interval			5.48	5.71	5.83	5.57	6.19	6.56		# of strides	11.95	11.19	11.40	12.75	23.14	24.15	1.01
		velocity		8.37	9.12	8.76	8.58	8.98	8.08	7.62	8.46		8.37	8.94	8.77	7.84	8.64	8.28	

Naoki, Masafumi (JPN) (1993)
Heat 2 - 2017 National Sports Festival (Matsuyama, JPN)
(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.46		22.16		33.73		47.29	47.29	2 / 4							
reaction time	0.164	interval				10.70		11.57		13.56		# of strides	11.46	10.70	11.57	13.56	22.16	25.13	2.97
		velocity		8.73		9.35		8.64		7.37	8.46	181.0	8.73	9.35	8.64	7.37	9.03	7.96	

Noda, Taiga (JPN) (1999)
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)
(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.57		22.39		34.35		47.29	47.29	7 / 3							
reaction time	0.171	interval				10.82		11.96		12.94		# of strides	11.57	10.82	11.96	12.94	22.39	24.90	2.51
		velocity		8.64		9.24		8.36		7.73	8.46	178.0	8.64	9.24	8.36	7.73	8.93	8.03	

Kawauchi, Mitsuki (JPN) (1997)
FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN)
Yamanaka (2020) - 400m race analysis of men and women during 2020 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Aug-20	time	6.34	11.59	16.97	22.51	28.32	34.35	40.63	47.29	47.29	8 / 6							
reaction time	0.135	interval		5.25	5.38	5.54	5.81	6.03	6.28	6.66		# of strides	11.59	10.92	11.84	12.94	22.51	24.78	2.27
		velocity	7.89	9.52	9.29	9.03	8.61	8.29	7.96	7.51	8.46		8.63	9.16	8.45	7.73	8.88	8.07	

Kneppers, Daan (NED) (2003)
National FINAL - 2024 FBK Games (Hengelo, NED)
Omega Timing (2024) - continental tour gold race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Jul-24	time	6.52	11.60	16.86	22.33	28.12	34.16	40.48	47.29	47.29	2 / 6							
reaction time	0.172	interval		5.08	5.26	5.47	5.79	6.04	6.32	6.81	PB	# of strides	11.60	10.73	11.83	13.13	22.33	24.96	2.63
		velocity	7.67	9.84	9.51	9.14	8.64	8.28	7.91	7.34	8.46		8.62	9.32	8.45	7.62	8.96	8.01	

Ishitsuka, Yusuke (JPN) (1987)
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-16	time	6.17	11.40	16.77	22.32	28.05	34.08	40.45	47.30	47.30	/ 7							
reaction time		interval		5.23	5.37	5.55	5.73	6.03	6.37	6.85		# of strides	11.40	10.92	11.76	13.22	22.32	24.98	2.66
		velocity	8.10	9.56	9.31	9.01	8.73	8.29	7.85	7.30	8.46		8.77	9.16	8.50	7.56	8.96	8.01	

Kato, Nobuya (JPN) (1995)
FINAL - 2016 National Sports Festival (Kitakami, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Oct-16	time	6.63	12.01	17.43	23.18	29.16	35.08	41.03	47.30	47.30	9 / 2							
reaction time	0.189	interval		5.38	5.42	5.75	5.98	5.92	5.95	6.27		# of strides	12.01	11.17	11.90	12.22	23.18	24.12	0.94
		velocity	7.54	9.29	9.23	8.70	8.36	8.45	8.40	7.97	8.46		8.33	8.95	8.40	8.18	8.63	8.29	

Salem, Abdulaziz (QAT)
National FINAL - 2019 Doha (Doha, QAT)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-19	time		11.4		22.0		33.7		47.30	47.30	3 / 3							
reaction time	0.176	interval				10.6		11.7		13.6	PB	# of strides	11.40	10.60	11.70	13.60	22.00	25.30	3.30
		velocity		8.77		9.43		8.55		7.35	8.46		8.77	9.43	8.55	7.35	9.09	7.91	

Osman, Ashraf (QAT) (2001)
FINAL - 2023 Doha Diamond League (Doha, QAT)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-May-23	time	6.39	11.53	16.92	22.59	28.42	34.43	40.56	47.30	47.30	4 / 1							
reaction time	0.213	interval		5.14	5.39	5.67	5.83	6.01	6.13	6.74		# of strides	11.53	11.06	11.84	12.87	22.59	24.71	2.12
		velocity	7.82	9.73	9.28	8.82	8.58	8.32	8.16	7.42	8.46		8.67	9.04	8.45	7.77	8.85	8.09	

Hirose, Hideyuki (JPN) (1989)
FINAL - 2014 Shizuoka International Athletics Meeting (Fukuori, JPN)
Maho (2014) - race analysis of men's 400m run in the 2014 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-14	time	6.32	11.47	16.60	22.05	27.71	33.69	40.15	47.31	47.31	/ 9							
reaction time		interval		5.15	5.13	5.45	5.66	5.98	6.46	7.16		# of strides	11.47	10.58	11.64	13.62	22.05	25.26	3.21
		velocity	7.91	9.71	9.75	9.17	8.83	8.36	7.74	6.98	8.45		8.72	9.45	8.59	7.34	9.07	7.92	

Kotake, Rion (JPN) (1999)
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)
(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.71		22.66		34.44		47.31	47.31	5 / 4							
reaction time	0.163	interval				10.95		11.78		12.87		# of strides	11.71	10.95	11.78	12.87	22.66	24.65	1.99
		velocity		8.54		9.13		8.49		7.77	8.45	184.0	8.54	9.13	8.49	7.77	8.83	8.11	

Westman, Ryan (USA) (1984)
FINAL - 2003 USATF National Junior Championships (Palo Alto, CA)
USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-03	time				22.97		34.89	40.87	47.32	47.32	3 / 4							
reaction time		interval						11.92	5.98	6.45	PB	# of strides			11.92	12.43	22.97	24.35	1.38
		velocity				8.71		8.39	8.36	7.75	8.45				8.39	8.05	8.71	8.21	

Nakamura, Akihiko (JPN) (1990)
Decathlon - Heat 3 - 2013 Japanese Multi-Event National Championship (Nagano, JPN)
Takeo (2014) - decathletes sprint ability & relationship of individual event performance

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Jun-13	time	6.34	11.66	17.15	22.85	28.80	34.71	40.84	47.32	47.32	6 / 1							
reaction time		interval		5.32	5.49	5.70	5.95	5.91	6.13	6.48		# of strides	11.66	11.19	11.86	12.61	22.85	24.47	1.62
		velocity	7.89	9.40	9.11	8.77	8.40	8.46	8.16	7.72	8.45		8.58	8.94	8.43	7.93	8.75	8.17	

Tsujiyoko, Shotaro (JPN) (1997)
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	29-Jul-15	time	6.59	11.81	17.18	22.81	28.63	34.75	40.96	47.32	47.32	/ 2						
reaction time		interval		5.22	5.37	5.63	5.82	6.12	6.21	6.36		# of strides	11.81	11.00	11.94	12.57	22.81	24.51	1.70
		velocity	7.59	9.58	9.31	8.88	8.59	8.17	8.05	7.86	8.45		8.47	9.09	8.38	7.96	8.77	8.16	

Obuchi, Mizuki (JPN) (1997)

Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)

(2017) - tfdata-store.com/2017/06/02/post-835/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.53		22.49		34.47		47.32	47.32	4 / 2							
reaction time		interval				10.96		11.98		12.85		# of strides	11.53	10.96	11.98	12.85	22.49	24.83	2.34
		velocity		8.67		9.12		8.35		7.78	8.45	190.0	8.67	9.12	8.35	7.78	8.89	8.05	

Kitakani, Naoki (JPN) (1998)

Heat 3 - 2016 IAAF World Junior Championships (Bydgoszcz, POL)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-16	time	6.47	11.68	17.01	22.52	28.36	34.37	40.63	47.32	47.32	7 / 3							
reaction time	0.212	interval		5.21	5.33	5.51	5.84	6.01	6.26	6.69		# of strides	11.68	10.84	11.85	12.95	22.52	24.80	2.28
		velocity	7.73	9.60	9.38	9.07	8.56	8.32	7.99	7.47	8.45		8.56	9.23	8.44	7.72	8.88	8.06	

Tornée, Marcus (SWE) (1998)

FINAL - 2024 Bauhaus Galan (Stockholm, SWE)

Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Jun-24	time	6.24	11.30	16.51	21.99	27.96	34.16	40.55	47.32	47.32	8 / 6							
reaction time	0.160	interval		5.06	5.21	5.48	5.97	6.20	6.39	6.77		# of strides	11.30	10.69	12.17	13.16	21.99	25.33	3.34
		velocity	8.01	9.88	9.60	9.12	8.38	8.06	7.82	7.39	8.45		8.85	9.35	8.22	7.60	9.10	7.90	

Xie Yuqiang (CHN) (1997)

FINAL - 2024 Chinese National Championships (Quzhou, CHN)

Shandong Athletics Sport Science (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Sep-24	time		11.19		22.07		34.12	40.49	47.32	47.32	8 / 7							
reaction time	0.175	interval				10.88		12.05	6.37	6.83		# of strides	11.19	10.88	12.05	13.20	22.07	25.25	3.18
		velocity		8.94		9.19		8.30	7.85	7.32	8.45	177.2	8.94	9.19	8.30	7.58	9.06	7.92	

Inoue, Daichi (JPN) (1999)

U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Oct-16	time	6.73	12.35	18.03	23.88	29.70	35.46	41.23	47.33	47.33	7 / 1							
reaction time	0.227	interval		5.62	5.68	5.85	5.82	5.76	5.77	6.10		# of strides	12.35	11.53	11.58	11.87	23.88	23.45	-0.43
		velocity	7.43	8.90	8.80	8.55	8.59	8.68	8.67	8.20	8.45		8.10	8.67	8.64	8.42	8.38	8.53	

Horii, Kosuke (JPN) (1994)

FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)

Yamanaka (2017) - male and female 400m analysis in the 2017 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-17	time	6.33	11.53	16.88	22.45	28.29	34.34	40.66	47.33	47.33	/ 6							
reaction time		interval		5.20	5.35	5.57	5.84	6.05	6.32	6.67		# of strides	11.53	10.92	11.89	12.99	22.45	24.88	2.43
		velocity	7.90	9.62	9.35	8.98	8.56	8.26	7.91	7.50	8.45		8.67	9.16	8.41	7.70	8.91	8.04	

Suzuki, Osuke (JPN) (2003)

FINAL - 2021 Japanese High School National Championships (Fukui, JPN)

Shibayama (2021) - national high school and U20 national championhsips

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jul-21	time	6.38	11.80	17.40	23.10	28.85	34.75	40.87	47.33	47.33	5 / 1							
reaction time	0.167	interval		5.42	5.60	5.70	5.75	5.90	6.12	6.46		# of strides	11.80	11.30	11.65	12.58	23.10	24.23	1.13
		velocity	7.84	9.23	8.93	8.77	8.70	8.47	8.17	7.74	8.45		8.47	8.85	8.58	7.95	8.66	8.25	

Daisho, Shogo (JPN)

FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN)

Takashima (2023) - national high school sports festival - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-23	time		11.61		22.74		34.38		47.33	47.33	4 / 4							
reaction time	0.209	interval				11.13		11.64		12.95		# of strides	11.61	11.13	11.64	12.95	22.74	24.59	1.85
		velocity		8.61		8.98		8.59		7.72	8.45		8.61	8.98	8.59	7.72	8.80	8.13	

Lanzi, Mario (ITA) (1914)

FINAL - 1939 Internationale Leichtathletik Wettkampf (Frankfurt-am-Main, GER) (*500m track*)

Quercetani (2005) - a world history of the one-lap race: 1850-2004

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Aug-39	time		11.2		21.7		33.5		47.2	47.2	6 / 2							
reaction time		interval				10.50		11.80		13.70		# of strides	11.20	10.50	11.80	13.70	21.70	25.50	3.80
		velocity		8.93		9.52		8.47		7.30	8.47		8.93	9.52	8.47	7.30	9.22	7.84	

Cunningham, Desean (USA) (1985)

FINAL - 2003 USATF National Junior Championships (Palo Alto, CA)

USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-03	time				22.99		34.90	40.98	47.34	47.34	2 / 5							
reaction time		interval						11.91	6.08	6.36		# of strides			11.91	12.44	22.99	24.35	1.36
		velocity				8.70		8.40	8.22	7.86	8.45				8.40	8.04	8.70	8.21	

Kitakani, Naoki (JPN) (1998)

FINAL - 2019 Seiko Golden Grand Prix (Osaka, JPN)

Hirokawa (2019) - research on athlete performance and technique- 2019 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-May-19	time	6.24	11.30	16.53	22.06	27.84	33.97	40.31	47.34	47.34	9 / 7							
reaction time	0.164	interval		5.06	5.23	5.53	5.78	6.13	6.34	7.03		# of strides	11.30	10.76	11.91	13.37	22.06	25.28	3.22
		velocity	8.01	9.88	9.56	9.04	8.65	8.16	7.89	7.11	8.45	179.0	8.85	9.29	8.40	7.48	9.07	7.91	

Warner, Damian (CAN) (1989)

Decathlon - Heat 3 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-24	time	6.21	11.26	16.49	21.94	27.64	33.68	40.15	47.34	47.34	4 / 5							
reaction time	0.225	interval		5.05	5.23	5.45	5.70	6.04	6.47	7.19		# of strides	11.26	10.68	11.74	13.66	21.94	25.40	3.46
		velocity	8.05	9.90	9.56	9.17	8.77	8.28	7.73	6.95	8.45	178.2	8.88	9.36	8.52	7.32	9.12	7.87	

Gyger, Nathan (SUI) (1992)

B Race - 2024 Athletissima (Lausanne, SUI)

Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-24	time	6.35	11.46	16.60	22.02	27.73	33.83	40.24	47.34	47.34	7 / 3							
reaction time	0.170	interval		5.11	5.14	5.42	5.71	6.10	6.41	7.10		# of strides	11.46	10.56	11.81	13.51	22.02	25.32	3.30
		velocity	7.87	9.78	9.73	9.23	8.76	8.20	7.80	7.04	8.45		8.73	9.47	8.47	7.40	9.08	7.90	

Xie Yuqiang (CHN) (1997)

FINAL - 2023 Chinese National Grand Prix 1 (Rizhao, CHN)

Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Apr-23	time		11.43		22.62		34.47	40.76	47.34	47.34	6 / 2							
reaction time	0.168	interval				11.19		11.85	6.29	6.58		# of strides	11.43	11.19	11.85	12.87	22.62	24.72	2.10
		velocity		8.75		8.94		8.44	7.95	7.60	8.45	176.2	8.75	8.94	8.44	7.77	8.84	8.09	

Kimura, Kazushi (JPN) (1993)
FINAL - 2015 Japanese National Championships (Niigata, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jun-15	time	6.44	11.73	17.05	22.55	28.05	33.81	40.17	47.35	47.35	8 / 7							
reaction time	0.190	interval		5.29	5.32	5.50	5.50	5.76	6.36	7.18		# of strides	11.73	10.82	11.26	13.54	22.55	24.80	2.25
		velocity	7.76	9.45	9.40	9.09	9.09	8.68	7.86	6.96	8.45	189.0	8.53	9.24	8.88	7.39	8.87	8.06	

Claridge, Ben (GBR) (1997)
National FINAL - 2018 Müller Anniversary Games (London, GBR)
Omega Timing (2018) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-18	time		11.6		22.4		34.1		47.35	47.35	1 / 7							
reaction time	0.138	interval				10.8		11.7		13.3		# of strides	11.60	10.80	11.70	13.25	22.40	24.95	2.55
		velocity		8.62		9.26		8.55		7.55	8.45		8.62	9.26	8.55	7.55	8.93	8.02	

Plaček, Tadeáš (CZE) (2003)
FINAL - 2021 European Athletics U20 Championships (Tallin, EST)
European Athletics (2021) - european athletics U20 championships results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Jul-21	time		11.64		22.56		34.26		47.35	47.35	2 / 8							
reaction time	0.216	interval				10.92		11.70		13.09		# of strides	11.64	10.92	11.70	13.09	22.56	24.79	2.23
		velocity		8.59		9.16		8.55		7.64	8.45		8.59	9.16	8.55	7.64	8.87	8.07	

Mhamdi, Rachid (MAR) (2001)
National FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-23	time	6.40	11.57	16.95	22.55	28.17	33.98	40.12	47.35	47.35	4 / 1							
reaction time	0.190	interval		5.17	5.38	5.60	5.62	5.81	6.14	7.23		# of strides	11.57	10.98	11.43	13.37	22.55	24.80	2.25
		velocity	7.81	9.67	9.29	8.93	8.90	8.61	8.14	6.92	8.45		8.64	9.11	8.75	7.48	8.87	8.06	

Deng Hantao (CHN) (2000)
Heat 1 - 2023 Chinese National Championships (Quzhou, CHN)
Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-23	time		11.49		22.36		34.20	40.56	47.35	47.35	2 / 7							
reaction time	0.204	interval				10.87		11.84	6.36	6.79		# of strides	11.49	10.87	11.84	13.15	22.36	24.99	2.63
		velocity		8.70		9.20		8.45	7.86	7.36	8.45	171.2	8.70	9.20	8.45	7.60	8.94	8.00	

Plass, Jonas (GER) (1986)
B FINAL - 2009 ISTAF (Berlin, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Jun-09	time		11.63		22.74		34.66		47.36	47.36	/ 4							
reaction time	0.210	interval				11.11		11.92		12.70		# of strides	11.63	11.11	11.92	12.70	22.74	24.62	1.88
		velocity		8.60		9.00		8.39		7.87	8.45		8.60	9.00	8.39	7.87	8.80	8.12	

Obuchi, Mizuki (JPN) (1997)
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Oct-15	time	6.52	11.85	17.33	23.00	28.78	34.72	40.78	47.36	47.36	/ 3							
reaction time		interval		5.33	5.48	5.67	5.78	5.94	6.06	6.58		# of strides	11.85	11.15	11.72	12.64	23.00	24.36	1.36
		velocity	7.67	9.38	9.12	8.82	8.65	8.42	8.25	7.60	8.45		8.44	8.97	8.53	7.91	8.70	8.21	

Johansson, Emil (SWE) (2002)
FINAL - 2021 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Jul-21	time	6.5	11.7	17.0	22.4	28.2	34.4	40.7	47.36	47.36	1 / 8							
reaction time	0.157	interval		5.20	5.30	5.40	5.80	6.20	6.30	6.66		# of strides	11.70	10.70	12.00	12.96	22.40	24.96	2.56
		velocity	7.69	9.62	9.43	9.26	8.62	8.06	7.94	7.51	8.45		8.55	9.35	8.33	7.72	8.93	8.01	

Pesela, Anthony (BOT) (2002)
Heat 3 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		11.49		22.86		34.51		47.36	47.36	2 / 6							
reaction time	0.135	interval				11.37		11.65		12.85		# of strides	11.49	11.37	11.65	12.85	22.86	24.50	1.64
		velocity		8.70		8.80		8.58		7.78	8.45	187.0	8.70	8.80	8.58	7.78	8.75	8.16	

Sasaki, Manato (JPN) (1998)
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)
Yanagiya (2014) - research on athlete performance and technique- 2014 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jul-14	time	6.30	11.59	16.88	22.35	27.99	34.10	40.54	47.37	47.37	/ 3							
reaction time		interval		5.29	5.29	5.47	5.64	6.11	6.44	6.83		# of strides	11.59	10.76	11.75	13.27	22.35	25.02	2.67
		velocity	7.94	9.45	9.45	9.14	8.87	8.18	7.76	7.32	8.44		8.63	9.29	8.51	7.54	8.95	7.99	

Sato, Fuga (JPN) (1996)
FINAL - 2017 National Sports Festival (Matsuyama, JPN)
(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.55		22.69		34.59		47.37	47.37	2 / 5							
reaction time	0.215	interval				11.14		11.90		12.78		# of strides	11.55	11.14	11.90	12.78	22.69	24.68	1.99
		velocity		8.66		8.98		8.40		7.82	8.44	179.2	8.66	8.98	8.40	7.82	8.81	8.10	

Hazel, Sam (GBR) (1996)
National FINAL - 2018 Müller Anniversary Games (London, GBR)
Omega Timing (2018) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-18	time		11.8		22.6		34.4		47.37	47.37	9 / 8							
reaction time	0.170	interval				10.8		11.8		13.0		# of strides	11.80	10.80	11.80	12.97	22.60	24.77	2.17
		velocity		8.47		9.26		8.47		7.71	8.44		8.47	9.26	8.47	7.71	8.85	8.07	

Conradie, Pieter (RSA) (1994)
FINAL - 2018 Weltklasse (Zürich, SUI)
Omega Timing (2018) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Aug-18	time		11.3		21.9		33.6		47.37	47.37	1 / 7							
reaction time	0.137	interval				10.6		11.7		13.8		# of strides	11.30	10.60	11.70	13.77	21.90	25.47	3.57
		velocity		8.85		9.43		8.55		7.26	8.44		8.85	9.43	8.55	7.26	9.13	7.85	

Wakabayashi, Kota (JPN) (1997)
FINAL - 2019 Seiko Golden Grand Prix (Osaka, JPN)
Hirokawa (2019) - research on athlete performance and technique- 2019 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-May-19	time	6.31	11.39	16.60	22.00	27.75	34.02	40.49	47.37	47.37	1 / 8							
reaction time	0.169	interval		5.08	5.21	5.40	5.75	6.27	6.47	6.88		# of strides	11.39	10.61	12.02	13.35	22.00	25.37	3.37
		velocity	7.92	9.84	9.60	9.26	8.70	7.97	7.73	7.27	8.44	173.5	8.78	9.43	8.32	7.49	9.09	7.88	

Wang Lei (CHN) (2001)
Heat 3 - 2023 Chinese National Grand Prix 5 (Huangshi, CHN)
Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	09-Jun-23	time		11.63		22.69		34.40	40.64	47.37	47.37	6 / 2						
reaction time	0.232	interval				11.06		11.71	6.24	6.73		# of strides	11.63	11.06	11.71	12.97	22.69	24.68	1.99
		velocity		8.60		9.04		8.54	8.01	7.43	8.44	187.0	8.60	9.04	8.54	7.71	8.81	8.10	

Gendre, Vincent (SUI) (2001)

FINAL - 2024 Weltklasse (Zürich, SUI)

Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Sep-24	time	6.37	11.51	16.84	22.41	28.25	34.30	40.63	47.37	47.37	8 / 8							
reaction time	0.164	interval		5.14	5.33	5.57	5.84	6.05	6.33	6.74		# of strides	11.51	10.90	11.89	13.07	22.41	24.96	2.55
		velocity	7.85	9.73	9.38	8.98	8.56	8.26	7.90	7.42	8.44		8.69	9.17	8.41	7.65	8.92	8.01	

Kimura, Kazushi (JPN) (1993)

FINAL - 2012 Kokutai National Sport Festival (Gifu, JPN)

Maho (2013) - race analysis of the men's 400m run in competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-12	time	6.57	11.89	17.38	22.93	28.62	34.50	40.72	47.38	47.38	/ 8							
reaction time		interval		5.32	5.49	5.55	5.69	5.88	6.22	6.66		# of strides	11.89	11.04	11.57	12.88	22.93	24.45	1.52
		velocity	7.61	9.40	9.11	9.01	8.79	8.50	8.04	7.51	8.44		8.41	9.06	8.64	7.76	8.72	8.18	

Watanabe, Kazuya (JPN) (1988)

Heat 2 - 2016 Japanese National Championships (Nagoya, JPN)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-16	time	6.24	11.44	16.65	22.13	27.83	33.87	40.34	47.38	47.38	3 / 4							
reaction time	0.170	interval		5.20	5.21	5.48	5.70	6.04	6.47	7.04		# of strides	11.44	10.69	11.74	13.51	22.13	25.25	3.12
		velocity	8.01	9.62	9.60	9.12	8.77	8.28	7.73	7.10	8.44		8.74	9.35	8.52	7.40	9.04	7.92	

Horii, Kosuke (JPN) (1994)

A FINAL - 2018 Shizuoka International Meeting (Fukuroi, JPN)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-18	time	6.29	11.50	16.77	22.23	27.98	34.02	40.42	47.38	47.38	3 / 4							
reaction time	0.186	interval		5.21	5.27	5.46	5.75	6.04	6.40	6.96		# of strides	11.50	10.73	11.79	13.36	22.23	25.15	2.92
		velocity	7.95	9.60	9.49	9.16	8.70	8.28	7.81	7.18	8.44	189.7	8.70	9.32	8.48	7.49	9.00	7.95	

Omalla, Jaimie (NED) (2000)

National FINAL - 2024 FBK Games (Hengelo, NED)

Omega Timing (2024) - continental tour gold race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Jul-24	time	6.32	11.24	16.33	21.64	27.38	33.59	40.17	47.38	47.38	3 / 7							
reaction time	0.168	interval		4.92	5.09	5.31	5.74	6.21	6.58	7.21		# of strides	11.24	10.40	11.95	13.79	21.64	25.74	4.10
		velocity	7.91	10.16	9.82	9.42	8.71	8.05	7.60	6.93	8.44		8.90	9.62	8.37	7.25	9.24	7.77	

Iakovákis, Periklís (GRE) (1979)

FINAL - 1997 European Cup (Munich, GER)

Jung (2003) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-97	time		11.65		22.70		34.27		47.39	47.39	/ 8							
reaction time		interval				11.05		11.57		13.12		# of strides	11.65	11.05	11.57	13.12	22.70	24.69	1.99
		velocity		8.58		9.05		8.64		7.62	8.44		8.58	9.05	8.64	7.62	8.81	8.10	

Caesar, Lester (USA)

FINAL - 2003 USATF National Junior Championships (Palo Alto, CA)

USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-03	time				22.67		34.72		47.39	47.39	9 / 6							
reaction time		interval						12.05		12.67		# of strides			12.05	12.67	22.67	24.72	2.05
		velocity				8.82		8.30		7.89	8.44				8.30	7.89	8.82	8.09	

Kimura, Kazushi (JPN) (1993)

FINAL - 2016 Seiko Golden Grand Prix (Kawasaki, JPN)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-May-16	time	6.32	11.50	16.83	22.47	28.28	34.21	40.52	47.39	47.39	8 / 8							
reaction time	0.185	interval		5.18	5.33	5.64	5.81	5.93	6.31	6.87		# of strides	11.50	10.97	11.74	13.18	22.47	24.92	2.45
		velocity	7.91	9.65	9.38	8.87	8.61	8.43	7.92	7.28	8.44	187.5	8.70	9.12	8.52	7.59	8.90	8.03	

Tomoda, Masataka (JPN) (2003)

Heat 3 - 2020 Japanese High School National Championships (Hiroshima, JPN)

Kobayashi (2020) - national high school and U20 national championhsips

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Oct-20	time	6.24	11.29	16.58	22.20	28.05	34.11	40.59	47.39	47.39	6 / 1							
reaction time	0.155	interval		5.05	5.29	5.62	5.85	6.06	6.48	6.80		# of strides	11.29	10.91	11.91	13.28	22.20	25.19	2.99
		velocity	8.01	9.90	9.45	8.90	8.55	8.25	7.72	7.35	8.44	173.5	8.86	9.17	8.40	7.53	9.01	7.94	

Fujiyoshi, Shunta (JPN) (2001)

FINAL - 2020 Japanese U20 National Championships (Hiroshima, JPN)

Kobayashi (2020) - national high school and U20 national championhsips

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Oct-20	time	6.69	12.00	17.42	23.06	28.94	34.98	41.10	47.39	47.39	2 / 1							
reaction time	0.224	interval		5.31	5.42	5.64	5.88	6.04	6.12	6.29		# of strides	12.00	11.06	11.92	12.41	23.06	24.33	1.27
		velocity	7.47	9.42	9.23	8.87	8.50	8.28	8.17	7.95	8.44	180.6	8.33	9.04	8.39	8.06	8.67	8.22	

Xie Yuqiang (CHN) (1997)

Heat 4 - 2023 Chinese National Grand Prix 1 (Rizhao, CHN)

Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Apr-23	time		11.13		22.51		34.55	40.76	47.39	47.39	6 / 1							
reaction time	0.216	interval				11.38		12.04	6.21	6.63		# of strides	11.13	11.38	12.04	12.84	22.51	24.88	2.37
		velocity		8.98		8.79		8.31	8.05	7.54	8.44	176.0	8.98	8.79	8.31	7.79	8.88	8.04	

Osakada, Jun (JPN) (1974)

FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)

Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Sep-05	time		11.26		22.17		33.92	40.28	47.40	47.40	1 / 8							
reaction time		interval				10.91		11.75	6.36	7.12		# of strides	11.26	10.91	11.75	13.48	22.17	25.23	3.06
		velocity		8.88		9.17		8.51	7.86	7.02	8.44		8.88	9.17	8.51	7.42	9.02	7.93	

Yukihiro, Koki (JPN)

FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Oct-16	time	6.46	11.84	17.35	22.90	28.62	34.50	40.73	47.40	47.40	5 / 2							
reaction time		interval		5.38	5.51	5.55	5.72	5.88	6.23	6.67		# of strides	11.84	11.06	11.60	12.90	22.90	24.50	1.60
		velocity	7.74	9.29	9.07	9.01	8.74	8.50	8.03	7.50	8.44		8.45	9.04	8.62	7.75	8.73	8.16	

Obuchi, Mizuki (JPN) (1997)

Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)

(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.49		22.64		34.47		47.40	47.40	6 / 2							
reaction time	0.176	interval				11.15		11.83		12.93		# of strides	11.49	11.15	11.83	12.93	22.64	24.76	2.12
		velocity		8.70		8.97		8.45		7.73	8.44	192.0	8.70	8.97	8.45	7.73	8.83	8.08	

Wakabayashi, Kota (JPN) (1997)
FINAL - 2020 World Athletics Trials (Fuji, JPN)
Yamanaka (2020) - 400m race analysis of men and women during 2020 season

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Sep-20	time	6.30	11.47	16.73	22.29	28.14	34.17	40.47	47.40	47.40	5 / 3							
reaction time		interval		5.17	5.26	5.56	5.85	6.03	6.30	6.93		# of strides	11.47	10.82	11.88	13.23	22.29	25.11	2.82
		velocity	7.94	9.67	9.51	8.99	8.55	8.29	7.94	7.22	8.44	172.7	8.72	9.24	8.42	7.56	8.97	7.96	

Johansson, Emil (SWE) (2002)
Semi-Final 2 - 2021 European Athletics U20 Championships (Tallin, EST)
European Athletics (2021) - european athletics U20 championships results book

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Jul-21	time		12.04		23.19		35.07		47.40	47.40	7 / 5							
reaction time	0.245	interval				11.15		11.88		12.33		# of strides	12.04	11.15	11.88	12.33	23.19	24.21	1.02
		velocity		8.31		8.97		8.42		8.11	8.44		8.31	8.97	8.42	8.11	8.62	8.26	

Adeyemi, Sikiru (NGR) (1998)
Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)
Longines Timing (2022) - commonwealth games race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-22	time	6.2	11.2	16.4	22.0	27.7	33.8	40.2	47.40	47.40	2 / 6							
reaction time	0.217	interval		5.00	5.20	5.60	5.70	6.10	6.40	7.20		# of strides	11.20	10.80	11.80	13.60	22.00	25.40	3.40
		velocity	8.06	10.00	9.62	8.93	8.77	8.20	7.81	6.94	8.44	177.0	8.93	9.26	8.47	7.35	9.09	7.87	

Kitakani, Naoki (JPN) (1998)
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-16	time	6.45	11.64	17.00	22.62	28.50	34.63	40.86	47.41	47.41	3 / 4							
reaction time	0.166	interval		5.19	5.36	5.62	5.88	6.13	6.23	6.55		# of strides	11.64	10.98	12.01	12.78	22.62	24.79	2.17
		velocity	7.75	9.63	9.33	8.90	8.50	8.16	8.03	7.63	8.44		8.59	9.11	8.33	7.82	8.84	8.07	

Matsubara, Shuichiro (JPN) (1997)
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Oct-16	time	6.62	12.12	17.58	23.14	28.84	34.77	40.90	47.41	47.41	2 / 2							
reaction time		interval		5.50	5.46	5.56	5.70	5.93	6.13	6.51		# of strides	12.12	11.02	11.63	12.64	23.14	24.27	1.13
		velocity	7.55	9.09	9.16	8.99	8.77	8.43	8.16	7.68	8.44		8.25	9.07	8.60	7.91	8.64	8.24	

Abbas, Abdulrahman Khamis (BRN)
Heat 5 - 2018 Asian Games (Jakarta, INA)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Aug-18	time	6.15	11.26	16.55	22.20	28.19	34.30	40.56	47.41	47.41	6 / 2							
reaction time	0.169	interval		5.11	5.29	5.65	5.99	6.11	6.26	6.85		# of strides	11.26	10.94	12.10	13.11	22.20	25.21	3.01
		velocity	8.13	9.78	9.45	8.85	8.35	8.18	7.99	7.30	8.44		8.88	9.14	8.26	7.63	9.01	7.93	

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

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-May-17	time		11.81		22.64		34.12		47.42	47.42	2 / 5							
reaction time		interval				10.83		11.48		13.30	PB	# of strides	11.81	10.83	11.48	13.30	22.64	24.78	2.14
		velocity		8.47		9.23		8.71		7.52	8.44		8.47	9.23	8.71	7.52	8.83	8.07	

Ekelund-Arenander, Nick (SWE) (198
FINAL - 2020 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2020) - diamond league race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Aug-20	time	6.4	11.6	17.1	22.6	28.4	34.4	40.7	47.42	47.42	3 / 7							
reaction time	0.159	interval		5.20	5.50	5.50	5.80	6.00	6.30	6.72		# of strides	11.60	11.00	11.80	13.02	22.60	24.82	2.22
		velocity	7.81	9.62	9.09	9.09	8.62	8.33	7.94	7.44	8.44		8.62	9.09	8.47	7.68	8.85	8.06	

Yang Wang (CHN) (1996)
Heat 5 - 2023 Chinese National Grand Prix 4 (Chongqing, CHN)
Shandong Athletics Sport Science (2023)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Jun-23	time		11.40		22.17		34.07	40.44	47.42	47.42	4 / 1							
reaction time		interval				10.77		11.90	6.37	6.98		# of strides	11.40	10.77	11.90	13.35	22.17	25.25	3.08
		velocity		8.77		9.29		8.40	7.85	7.16	8.44	188.0	8.77	9.29	8.40	7.49	9.02	7.92	

Ruch, Tilo (GER) (1983)
B FINAL - 2009 ISTAF (Berlin, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Jun-09	time		11.40		22.43		34.21		47.43	47.43	/ 5							
reaction time	0.297	interval				11.03		11.78		13.22		# of strides	11.40	11.03	11.78	13.22	22.43	25.00	2.57
		velocity		8.77		9.07		8.49		7.56	8.43		8.77	9.07	8.49	7.56	8.92	8.00	

Hirose, Hideyuki (JPN) (1989)
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-16	time	6.31	11.55	16.87	22.44	28.25	34.29	40.62	47.43	47.43	/ 8							
reaction time		interval		5.24	5.32	5.57	5.81	6.04	6.33	6.81		# of strides	11.55	10.89	11.85	13.14	22.44	24.99	2.55
		velocity	7.92	9.54	9.40	8.98	8.61	8.28	7.90	7.34	8.43		8.66	9.18	8.44	7.61	8.91	8.00	

Noguchi, Kohei (JPN) (2000)
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)
Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-18	time	6.41	11.64	16.98	22.57	28.39	34.44	40.75	47.43	47.43	4 / 3							
reaction time		interval		5.23	5.34	5.59	5.82	6.05	6.31	6.68	PB	# of strides	11.64	10.93	11.87	12.99	22.57	24.86	2.29
		velocity	7.80	9.56	9.36	8.94	8.59	8.26	7.92	7.49	8.43		8.59	9.15	8.42	7.70	8.86	8.05	

Ryota, Seto (JPN) (1996)
FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN)
(2017) - tfdata-store.com/2017/04/07/post-249/

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Apr-17	time		11.75		22.79		34.60		47.44	47.44	4 / 1							
reaction time		interval				11.04		11.81		12.84	PB	# of strides	11.75	11.04	11.81	12.84	22.79	24.65	1.86
		velocity		8.51		9.06		8.47		7.79	8.43	179.2	8.51	9.06	8.47	7.79	8.78	8.11	

Kawakami, Sota (JPN) (2001)
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)
Ryutaro (2018) - research on athlete performance and technique- 2018 data book

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Oct-18	time	6.40	11.58	16.90	22.41	28.23	34.32	40.67	47.44	47.44	6 / 1							
reaction time	0.189	interval		5.18	5.32	5.51	5.82	6.09	6.35	6.77		# of strides	11.58	10.83	11.91	13.12	22.41	25.03	2.62
		velocity	7.81	9.65	9.40	9.07	8.59	8.21	7.87	7.39	8.43	178.0	8.64	9.23	8.40	7.62	8.92	7.99	

Osman, Ashraf (QAT) (2001)
National FINAL - 2019 Doha (Doha, QAT)
Omega Timing (2019) - diamond league race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	03-May-19	time		11.6		22.3		34.0		47.44	47.44	7 / 4						
reaction time	0.206	interval				10.7		11.7		13.4		# of strides	11.60	10.70	11.70	13.44	22.30	25.14	2.84
		velocity		8.62		9.35		8.55		7.44	8.43		8.62	9.35	8.55	7.44	8.97	7.96	

Kawakami, Sota (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Japanese U20 National Championships (Hiroshima, JPN)																	*Kobayashi (2020) - national high school and U20 national championhsips*
date 23-Oct-20 time	6.40	11.59	16.92	22.49	28.37	34.45	40.78	47.44	47.44	6 / 2							
reaction time 0.176 interval		5.19	5.33	5.57	5.88	6.08	6.33	6.66		# of strides	11.59	10.90	11.96	12.99	22.49	24.95	2.46
velocity	7.81	9.63	9.38	8.98	8.50	8.22	7.90	7.51	8.43	177.0	8.63	9.17	8.36	7.70	8.89	8.02	

Nakagawa, Shigeki (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 2 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/02/post-835/*
date 26-May-17 time		11.40		21.93		33.69		47.45	47.45	6 / 1							
reaction time interval				10.53		11.76		13.76	PB	# of strides	11.40	10.53	11.76	13.76	21.93	25.52	3.59
velocity		8.77		9.50		8.50		7.27	8.43	187.0	8.77	9.50	8.50	7.27	9.12	7.84	

Francois, Michael (GRN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)																	*Longines Timing (2022) - commonwealth games race analysis*
date 05-Aug-22 time	6.5	11.7	17.0	22.5	28.2	34.2	40.6	47.45	47.45	9 / 7							
reaction time 0.180 interval		5.20	5.30	5.50	5.70	6.00	6.40	6.85		# of strides	11.70	10.80	11.70	13.25	22.50	24.95	2.45
velocity	7.69	9.62	9.43	9.09	8.77	8.33	7.81	7.30	8.43	177.0	8.55	9.26	8.55	7.55	8.89	8.02	

Eto, Takuto (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 29-Jul-15 time	6.57	11.95	17.52	23.23	29.06	34.97	41.04	47.46	47.46	/ 3							
reaction time interval		5.38	5.57	5.71	5.83	5.91	6.07	6.42		# of strides	11.95	11.28	11.74	12.49	23.23	24.23	1.00
velocity	7.61	9.29	8.98	8.76	8.58	8.46	8.24	7.79	8.43		8.37	8.87	8.52	8.01	8.61	8.25	

Yamamoto, Yoshihiro (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 16-Oct-15 time	6.38	11.54	16.77	22.36	28.16	34.25	40.63	47.46	47.46	/ 4							
reaction time interval		5.16	5.23	5.59	5.80	6.09	6.38	6.83		# of strides	11.54	10.82	11.89	13.21	22.36	25.10	2.74
velocity	7.84	9.69	9.56	8.94	8.62	8.21	7.84	7.32	8.43		8.67	9.24	8.41	7.57	8.94	7.97	

Matsuo, Shuhei (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 09-Oct-17 time		11.80		23.24		35.17		47.46	47.46	6 / 3							
reaction time 0.179 interval				11.44		11.93		12.29		# of strides	11.80	11.44	11.93	12.29	23.24	24.22	0.98
velocity		8.47		8.74		8.38		8.14	8.43	192.0	8.47	8.74	8.38	8.14	8.61	8.26	

Meldrum, Alan (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 09-Oct-17 time		11.97		23.04		34.87		47.46	47.46	8 / 4							
reaction time 0.203 interval				11.07		11.83		12.59		# of strides	11.97	11.07	11.83	12.59	23.04	24.42	1.38
velocity		8.35		9.03		8.45		7.94	8.43	182.0	8.35	9.03	8.45	7.94	8.68	8.19	

Sanderson, Adian (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 USATF National Junior Championships (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 22-Jun-03 time				22.57		34.48	40.66	47.47	47.47	6 / 7							
reaction time interval						11.91	6.18	6.81		# of strides			11.91	12.99	22.57	24.90	2.33
velocity				8.86		8.40	8.09	7.34	8.43				8.40	7.70	8.86	8.03	

Yui, Kaisei (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2016 Japanese National Championships (Nagoya, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 24-Jun-16 time	6.35	11.48	16.73	22.25	27.95	33.97	40.41	47.47	47.47	5 / 4							
reaction time 0.172 interval		5.13	5.25	5.52	5.70	6.02	6.44	7.06		# of strides	11.48	10.77	11.72	13.50	22.25	25.22	2.97
velocity	7.87	9.75	9.52	9.06	8.77	8.31	7.76	7.08	8.43		8.71	9.29	8.53	7.41	8.99	7.93	

Anderson, Travis (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 USATF National Junior Championships (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 22-Jun-03 time				22.49		34.62		47.48	47.48	8 / 8							
reaction time interval						12.13		12.86		# of strides			12.13	12.86	22.49	24.99	2.50
velocity				8.89		8.24		7.78	8.42				8.24	7.78	8.89	8.00	

Latson, Kolee (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Junior Championships (Carson, CA)																	*USATF Women's Sprint Development (2005)*
date 25-Jun-05 time		11.71	17.02	22.51	28.30	34.14	40.41	47.48	47.48	2 / 6							
reaction time interval			5.31	5.49	5.79	5.84	6.27	7.07		# of strides	11.71	10.80	11.63	13.34	22.51	24.97	2.46
velocity		8.54	9.42	9.11	8.64	8.56	7.97	7.07	8.42		8.54	9.26	8.60	7.50	8.88	8.01	

Yamamoto, Daisuke (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 Japanese National High School Championships (Kitakami, JPN)																	*Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics data*
date 04-Aug-11 time		11.68		22.85		34.45		47.48	47.48	5 / 1							
reaction time interval				11.17		11.60		13.03		# of strides	11.68	11.17	11.60	13.03	22.85	24.63	1.78
velocity		8.56		8.95		8.62		7.67	8.42		8.56	8.95	8.62	7.67	8.75	8.12	

Nakamura, Akihiko (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2014 Japanese Multi-Event Naitonal Championships (Nagano, JPN)																	*Takeo (2014) - decathletes sprint ability & relationship of individual event performance*
date 31-May-14 time	6.40	11.82	17.35	23.09	28.93	34.95	41.05	47.48	47.48	5 / 1							
reaction time interval		5.42	5.53	5.74	5.84	6.02	6.10	6.43		# of strides	11.82	11.27	11.86	12.53	23.09	24.39	1.30
velocity	7.81	9.23	9.04	8.71	8.56	8.31	8.20	7.78	8.42		8.46	8.87	8.43	7.98	8.66	8.20	

Ito, Akio (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 16-Oct-15 time	6.35	11.60	17.00	22.73	28.71	34.81	41.00	47.48	47.48	3 / 1							
reaction time interval		5.25	5.40	5.73	5.98	6.10	6.19	6.48		# of strides	11.60	11.13	12.08	12.67	22.73	24.75	2.02
velocity	7.87	9.52	9.26	8.73	8.36	8.20	8.08	7.72	8.42		8.62	8.98	8.28	7.89	8.80	8.08	

Horii, Kosuke (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 National Sports Festival (Kitakami, JPN)																	
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016																	
date 09-Oct-16 time	6.37	11.71	17.23	23.12	29.17	35.09	41.11	47.48	47.48	8 / 3							
reaction time 0.161 interval		5.34	5.52	5.89	6.05	5.92	6.02	6.37		# of strides	11.71	11.41	11.97	12.39	23.12	24.36	1.24
velocity	7.85	9.36	9.06	8.49	8.26	8.45	8.31	7.85	8.42		8.54	8.76	8.35	8.07	8.65	8.21	

Fujiyoshi, Shunta (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U20 FINAL - 2018 National Sports Festival (Fukui, JPN)																	
Joshi (2018) - research on athlete performance and technique- 2018 data book																	
date 08-Oct-18 time	6.47	11.57	16.93	22.73	28.77	34.92	41.10	47.48	47.48	3 / 1							
reaction time 0.178 interval		5.10	5.36	5.80	6.04	6.15	6.18	6.38		# of strides	11.57	11.16	12.19	12.56	22.73	24.75	2.02
velocity	7.73	9.80	9.33	8.62	8.28	8.13	8.09	7.84	8.42		8.64	8.96	8.20	7.96	8.80	8.08	

Deng Hantao (CHN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Grand Prix 3 (Taizhou, CHN)																	
Shandong Athletics Sport Science (2023)																	
date 26-May-23 time		11.44		22.26		34.26	40.58	47.48	47.48	1 / 5							
reaction time 0.222 interval				10.82		12.00	6.32	6.90		# of strides	11.44	10.82	12.00	13.22	22.26	25.22	2.96
velocity		8.74		9.24		8.33	7.91	7.25	8.42	171.0	8.74	9.24	8.33	7.56	8.98	7.93	

Mouttakil, Kamal (MAR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)																	
Omega Timing (2023) - diamond league race analysis																	
date 28-May-23 time	6.53	11.91	17.52	23.44	29.27	35.19	41.10	47.48	47.48	5 / 2							
reaction time 0.281 interval		5.38	5.61	5.92	5.83	5.92	5.91	6.38		# of strides	11.91	11.53	11.75	12.29	23.44	24.04	0.60
velocity	7.66	9.29	8.91	8.45	8.58	8.45	8.46	7.84	8.42		8.40	8.67	8.51	8.14	8.53	8.32	

Rogers, Denim (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2024 USA Olympic Trials (Eugene, OR)																	
USATF and Karmarush (2024) - USA Olympic trials results and race analysis																	
date 21-Jun-24 time		11.52		22.90		34.95		47.48	47.48	6 / 5							
reaction time interval				11.38		12.05		12.53	PB	# of strides	11.52	11.38	12.05	12.53	22.90	24.58	1.68
velocity		8.68		8.79		8.30		7.98	8.42		8.68	8.79	8.30	7.98	8.73	8.14	

Gletty, Makenson (FRA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2024 Olympic Games (Paris, FRA)																	
Paris 2024 Olympic Games - Results Book (2024)																	
date 02-Aug-24 time	6.45	11.69	17.20	22.89	28.68	34.70	40.86	47.78	47.48	7 / 2							
reaction time 0.191 interval		5.24	5.51	5.69	5.79	6.02	6.16	6.92	PB	# of strides	11.69	11.20	11.81	13.08	22.89	24.89	2.00
velocity	7.75	9.54	9.07	8.79	8.64	8.31	8.12	7.23	8.42	167.5	8.55	8.93	8.47	7.65	8.74	8.04	

Hirose, Hideyuki (JPN) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Championships (Niigata, JPN)																	
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions																	
date 28-Jun-15 time	6.24	11.28	16.43	21.93	27.62	33.66	40.16	47.49	47.49	4 / 8							
reaction time 0.174 interval		5.04	5.15	5.50	5.69	6.04	6.50	7.33		# of strides	11.28	10.65	11.73	13.83	21.93	25.56	3.63
velocity	8.01	9.92	9.71	9.09	8.79	8.28	7.69	6.82	8.42	184.5	8.87	9.39	8.53	7.23	9.12	7.82	

Kinoshita, Yuichi (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2020 Japanese High School National Championships (Hiroshima, JPN)																	
Kobayashi (2020) - national high school and U20 national championhsips																	
date 23-Oct-20 time	6.31	11.52	16.82	22.35	28.03	34.05	40.62	47.49	47.49	3 / 1							
reaction time 0.192 interval		5.21	5.30	5.53	5.68	6.02	6.57	6.87		# of strides	11.52	10.83	11.70	13.44	22.35	25.14	2.79
velocity	7.92	9.60	9.43	9.04	8.80	8.31	7.61	7.28	8.42	189.1	8.68	9.23	8.55	7.44	8.95	7.96	

Itahana, Kohei (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)																	
Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition																	
date 09-May-21 time	6.17	11.23	16.42	21.98	27.75	33.82	40.37	47.49	47.49	8 / 9							
reaction time 0.160 interval		5.06	5.19	5.56	5.77	6.07	6.55	7.12		# of strides	11.23	10.75	11.84	13.67	21.98	25.51	3.53
velocity	8.10	9.88	9.63	8.99	8.67	8.24	7.63	7.02	8.42		8.90	9.30	8.45	7.32	9.10	7.84	

Volmar, Maurice (FRA) (1951)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1978 European Championships (Prague, TCH)																	
Lamare (1978) - championnats d'Europa 1978																	
date 31-Aug-78 time				23.10		34.74		47.50	47.50	/ 8							
reaction time interval						11.64		12.76		# of strides			11.64	12.76	23.10	24.40	1.30
velocity				8.66		8.59		7.84	8.42				8.59	7.84	8.66	8.20	

Nakagawa, Shigeki (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 2 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	
(2017) - tfdata-store.com/2017/06/01/post-786/																	
date 26-May-17 time		11.48		22.10		33.99		47.50	47.50	6 / 3							
reaction time interval				10.62		11.89		13.51		# of strides	11.48	10.62	11.89	13.51	22.10	25.40	3.30
velocity		8.71		9.42		8.41		7.40	8.42	186.5	8.71	9.42	8.41	7.40	9.05	7.87	

Mori, Zhou (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)																	
Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data																	
date 29-Jul-17 time	6.54	11.79	17.15	22.79	28.61	34.71	41.06	47.50	47.50	5 / 1							
reaction time 0.174 interval		5.25	5.36	5.64	5.82	6.10	6.35	6.44		# of strides	11.79	11.00	11.92	12.79	22.79	24.71	1.92
velocity	7.65	9.52	9.33	8.87	8.59	8.20	7.87	7.76	8.42		8.48	9.09	8.39	7.82	8.78	8.09	

Umetani, Hoshia (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)																	
Ryutaro (2018) - research on athlete performance and technique- 2018 data book																	
date 19-Oct-18 time	6.61	11.70	16.97	22.52	28.38	34.51	40.85	47.50	47.50	3 / 2							
reaction time 0.185 interval		5.09	5.27	5.55	5.86	6.13	6.34	6.65		# of strides	11.70	10.82	11.99	12.99	22.52	24.98	2.46
velocity	7.56	9.82	9.49	9.01	8.53	8.16	7.89	7.52	8.42	184.7	8.55	9.24	8.34	7.70	8.88	8.01	

Nose, Hiroki (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Japanese U20 National Championships (Hiroshima, JPN)																	
Kobayashi (2020) - national high school and U20 national championhsips																	
date 23-Oct-20 time	6.42	11.80	17.28	22.92	28.79	34.78	40.94	47.50	47.50	8 / 3							
reaction time 0.176 interval		5.38	5.48	5.64	5.87	5.99	6.16	6.56		# of strides	11.80	11.12	11.86	12.72	22.92	24.58	1.66
velocity	7.79	9.29	9.12	8.87	8.52	8.35	8.12	7.62	8.42	184.8	8.47	8.99	8.43	7.86	8.73	8.14	

Brier, Joseph (GBR) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)																	
Longines Timing (2022) - commonwealth games race analysis																	

date	05-Aug-22	time	6.1	11.1	16.4	22.0	27.7	33.9	40.2	47.50	47.50	3 / 8						
reaction time	0.180	interval		5.00	5.30	5.60	5.70	6.20	6.30	7.30		# of strides	11.10	10.90	11.90	13.60	22.00	25.50	3.50
		velocity	8.20	10.00	9.43	8.93	8.77	8.06	7.94	6.85	8.42	185.0	9.01	9.17	8.40	7.35	9.09	7.84	

Kobayashi, Hidekazu (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 Japanese National High School Championships (Oita, JPN)										*Matsuo (2013) - 66th high school championships: JAF scientific committee - biomechanics data*							
date 30-Jul-13	time		11.70		22.83		34.60		47.51	47.51	3 / 5							
reaction time	interval				11.13		11.77		12.91		# of strides	11.70	11.13	11.77	12.91	22.83	24.68	1.85
	velocity		8.55		8.98		8.50		7.75	8.42		8.55	8.98	8.50	7.75	8.76	8.10	

Ota, Kazuki (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date 16-Oct-15	time	6.21	11.46	16.82	22.55	28.50	34.63	40.93	47.51	47.51	/ 5							
reaction time	interval		5.25	5.36	5.73	5.95	6.13	6.30	6.58		# of strides	11.46	11.09	12.08	12.88	22.55	24.96	2.41
	velocity	8.05	9.52	9.33	8.73	8.40	8.16	7.94	7.60	8.42		8.73	9.02	8.28	7.76	8.87	8.01	

Kobayashi, Naoki (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 National Sports Festival (Kitakami, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 09-Oct-16	time	6.39	11.58	16.98	22.63	28.35	34.32	40.61	47.51	47.51	3 / 4							
reaction time 0.212	interval		5.19	5.40	5.65	5.72	5.97	6.29	6.90		# of strides	11.58	11.05	11.69	13.19	22.63	24.88	2.25
	velocity	7.82	9.63	9.26	8.85	8.74	8.38	7.95	7.25	8.42		8.64	9.05	8.55	7.58	8.84	8.04	

Ito, Rikiya (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 21-Oct-16	time	6.50	11.92	17.28	22.96	28.85	34.81	40.95	47.51	47.51	4 / 3							
reaction time	interval		5.42	5.36	5.68	5.89	5.96	6.14	6.56		# of strides	11.92	11.04	11.85	12.70	22.96	24.55	1.59
	velocity	7.69	9.23	9.33	8.80	8.49	8.39	8.14	7.62	8.42		8.39	9.06	8.44	7.87	8.71	8.15	

Suzuki, Daisuke (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2020 Japanese High School National Championships (Hiroshima, JPN)										*Kobayashi (2020) - national high school and U20 national championhsips*							
date 23-Oct-20	time	6.14	11.19	16.42	21.95	27.78	33.91	40.44	47.51	47.51	7 / 1							
reaction time 0.164	interval		5.05	5.23	5.53	5.83	6.13	6.53	7.07		# of strides	11.19	10.76	11.96	13.60	21.95	25.56	3.61
	velocity	8.14	9.90	9.56	9.04	8.58	8.16	7.66	7.07	8.42	192.4	8.94	9.29	8.36	7.35	9.11	7.82	

Saito, Ryohei (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)										*(2017) - tfdata-store.com/2017/10/12/post-1100/*							
date 08-Oct-17	time		11.68		22.72		34.44		47.52	47.52	6 / 5							
reaction time 0.198	interval				11.04		11.72		13.08		# of strides	11.68	11.04	11.72	13.08	22.72	24.80	2.08
	velocity		8.56		9.06		8.53		7.65	8.42	181.0	8.56	9.06	8.53	7.65	8.80	8.06	

Imaizumi, Takaki (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)										*Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection*							
date 04-Aug-19	time	6.60	11.94	17.27	22.76	28.47	34.47	40.84	47.52	47.52	8 / 5							
reaction time	interval		5.34	5.33	5.49	5.71	6.00	6.37	6.68		# of strides	11.94	10.82	11.71	13.05	22.76	24.76	2.00
	velocity	7.58	9.36	9.38	9.11	8.76	8.33	7.85	7.49	8.42		8.38	9.24	8.54	7.66	8.79	8.08	

Yagai, Hirofumi (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)										*(2017) - tfdata-store.com/2017/10/05/post-1097/*							
date 24-Sep-17	time		12.30		23.84		35.45		47.53	47.53	7 / 6							
reaction time 0.166	interval				11.54		11.61		12.08		# of strides	12.30	11.54	11.61	12.08	23.84	23.69	-0.15
	velocity		8.13		8.67		8.61		8.28	8.42	181.0	8.13	8.67	8.61	8.28	8.39	8.44	

Carvalho, Lucas (BRA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2022 World Athletics Championships (Eugene, OR)										*Timing by Seiko (2022) - world athletics championships race analysis*							
date 17-Jul-22	time		11.59		22.60		34.11		47.53	47.53	7 / 6							
reaction time 0.162	interval				11.01		11.51		13.42		# of strides	11.59	11.01	11.51	13.42	22.60	24.93	2.33
	velocity		8.63		9.08		8.69		7.45	8.42	187.5	8.63	9.08	8.69	7.45	8.85	8.02	

Lu Xhengda (CHN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese World Championship & Asian Games Trials (Shenyang, CHN)										*Shandong Athletics Sport Science (2023)*							
date 28-Jun-23	time		11.83		22.58		34.43	40.66	47.53	47.53	2 / 6							
reaction time 0.188	interval				10.75		11.85	6.23	6.87		# of strides	11.83	10.75	11.85	13.10	22.58	24.95	2.37
	velocity		8.45		9.30		8.44	8.03	7.28	8.42	174.0	8.45	9.30	8.44	7.63	8.86	8.02	

Matsuo, Yuki (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 Japanese National High School Championships (Oita, JPN)										*Matsuo (2013) - 66th high school championships: JAF scientific committee - biomechanics data*							
date 30-Jul-13	time		11.55		22.47		34.45		47.54	47.54	9 / 6							
reaction time	interval				10.92		11.98		13.09	PB	# of strides	11.55	10.92	11.98	13.09	22.47	25.07	2.60
	velocity		8.66		9.16		8.35		7.64	8.41		8.66	9.16	8.35	7.64	8.90	7.98	

Nakatsukue, Haruhiko (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 29-Jul-16	time	6.45	11.67	17.07	22.68	28.58	34.74	40.98	47.54	47.54	2 / 5							
reaction time 0.171	interval		5.22	5.40	5.61	5.90	6.16	6.24	6.56		# of strides	11.67	11.01	12.06	12.80	22.68	24.86	2.18
	velocity	7.75	9.58	9.26	8.91	8.47	8.12	8.01	7.62	8.41		8.57	9.08	8.29	7.81	8.82	8.05	

Nakajima, Yuki Joseph (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2020 Japanese U20 National Championships (Hiroshima, JPN)										*Kobayashi (2020) - national high school and U20 national championhsips*							
date 23-Oct-20	time	6.23	11.56	16.98	22.55	28.39	34.54	40.86	47.54	47.54	1 / 1							
reaction time 0.170	interval		5.33	5.42	5.57	5.84	6.15	6.32	6.68		# of strides	11.56	10.99	11.99	13.00	22.55	24.99	2.44
	velocity	8.03	9.38	9.23	8.98	8.56	8.13	7.91	7.49	8.41	171.1	8.65	9.10	8.34	7.69	8.87	8.00	

Itahana, Kohei (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)										*Yasunori (2012) - 65th high school championships: JAF scientific committee - biomechanics data*							
date 29-Jul-12	time		11.78		23.18		34.81		47.55	47.55	6 / 1							
reaction time	interval				11.40		11.63		12.74		# of strides	11.78	11.40	11.63	12.74	23.18	24.37	1.19
	velocity		8.49		8.77		8.60		7.85	8.41		8.49	8.77	8.60	7.85	8.63	8.21	

Sasaki, Manato (JPN) (1998)
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-15	time	6.40	11.74	17.32	23.19	29.12	35.08	41.18	47.55	47.55	/ 4							
reaction time		interval		5.34	5.58	5.87	5.93	5.96	6.10	6.37		# of strides	11.74	11.45	11.89	12.47	23.19	24.36	1.17
		velocity	7.81	9.36	8.96	8.52	8.43	8.39	8.20	7.85	8.41		8.52	8.73	8.41	8.02	8.62	8.21	

Jordier, Thomas (FRA) (1994)
FINAL - 2022 Memorial van Damme (Brussels, BEL)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Sep-22	time	6.49	11.83	17.15	22.65	28.41	34.44	40.71	47.55	47.55	8 / 8							
reaction time	0.163	interval		5.34	5.32	5.50	5.76	6.03	6.27	6.84		# of strides	11.83	10.82	11.79	13.11	22.65	24.90	2.25
		velocity	7.70	9.36	9.40	9.09	8.68	8.29	7.97	7.31	8.41		8.45	9.24	8.48	7.63	8.83	8.03	

Kawauchi, Mitsuki (JPN) (1997)
FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN)
(2017) - tfdata-store.com/2017/04/07/post-249/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Apr-17	time		11.68		22.36		34.35		47.56	47.56	8 / 2							
reaction time		interval				10.68		11.99		13.21		# of strides	11.68	10.68	11.99	13.21	22.36	25.20	2.84
		velocity		8.56		9.36		8.34		7.57	8.41	188.0	8.56	9.36	8.34	7.57	8.94	7.94	

Shoji, Kosuke (JPN) (2001)
U20 FINAL - 2018 National Sports Festival (Fukui, JPN)
Joshi (2018) - research on athlete performance and technique- 2018 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-18	time	6.38	11.47	16.83	22.47	28.46	34.57	40.83	47.56	47.56	5 / 2							
reaction time	0.187	interval		5.09	5.36	5.64	5.99	6.11	6.26	6.73	PB	# of strides	11.47	11.00	12.10	12.99	22.47	25.09	2.62
		velocity	7.84	9.82	9.33	8.87	8.35	8.18	7.99	7.43	8.41		8.72	9.09	8.26	7.70	8.90	7.97	

Kishimoto, Kodai (JPN) (1995)
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/02/post-835/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.57		22.54		34.91		47.57	47.57	9 / ~~2~~							
reaction time		interval				10.97		12.37		12.66	DQ	# of strides	11.57	10.97	12.37	12.66	22.54	25.03	2.49
		velocity		8.64		9.12		8.08		7.90	8.41	189.7	8.64	9.12	8.08	7.90	8.87	7.99	

Yoshikawa, Ryo (JPN) (2001)
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)
Ryutaro (2018) - research on athlete performance and technique- 2018 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Oct-18	time	6.66	12.01	17.48	23.19	29.08	35.06	41.16	47.59	47.59	7 / 1							
reaction time	0.187	interval		5.35	5.47	5.71	5.89	5.98	6.10	6.43		# of strides	12.01	11.18	11.87	12.53	23.19	24.40	1.21
		velocity	7.51	9.35	9.14	8.76	8.49	8.36	8.20	7.78	8.41	192.0	8.33	8.94	8.42	7.98	8.62	8.20	

El Guebbaz, Said (MAR) (1998)
National FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-23	time	6.38	11.88	17.49	23.29	28.99	34.86	40.90	47.59	47.59	6 / 3							
reaction time	0.188	interval		5.50	5.61	5.80	5.70	5.87	6.04	6.69		# of strides	11.88	11.41	11.57	12.73	23.29	24.30	1.01
		velocity	7.84	9.09	8.91	8.62	8.77	8.52	8.28	7.47	8.41		8.42	8.76	8.64	7.86	8.59	8.23	

Kubo, Takumi (JPN) (2007)
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)
Takashima (2024) - national high school sports festival - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jul-24	time		11.63		22.74		34.38		47.59	47.59	2 / 4							
reaction time	0.179	interval				11.11		11.64		13.21		# of strides	11.63	11.11	11.64	13.21	22.74	24.85	2.11
		velocity		8.60		9.00		8.59		7.57	8.41		8.60	9.00	8.59	7.57	8.80	8.05	

Al-Jabri, Hamza Abdullah (OMA) (200
West Asian GP - 2025 Jetour Doha Meeting (Doha, QAT)
Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-May-25	time	6.15	11.33	16.89	22.53	28.23	34.26	40.61	47.59	47.59	3 / 3							
reaction time	0.193	interval		5.18	5.56	5.64	5.70	6.03	6.35	6.98		# of strides	11.33	11.20	11.73	13.33	22.53	25.06	2.53
		velocity	8.13	9.65	8.99	8.87	8.77	8.29	7.87	7.16	8.41		8.83	8.93	8.53	7.50	8.88	7.98	

Meisolle, Alexander (GER) (1988)
B FINAL - 2009 ISTAF (Berlin, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Jun-09	time		11.48		22.75		34.83		47.60	47.60	/ 6							
reaction time	0.227	interval				11.27		12.08		12.77		# of strides	11.48	11.27	12.08	12.77	22.75	24.85	2.10
		velocity		8.71		8.87		8.28		7.83	8.40		8.71	8.87	8.28	7.83	8.79	8.05	

Yamazaki, Kengo (JPN) (1992)
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)
(2017) - tfdata-store.com/2017/10/05/post-1097/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Sep-17	time		11.78		22.71		34.60		47.60	47.60	2 / 7							
reaction time	0.153	interval				10.93		11.89		13.00		# of strides	11.78	10.93	11.89	13.00	22.71	24.89	2.18
		velocity		8.49		9.15		8.41		7.69	8.40	189.0	8.49	9.15	8.41	7.69	8.81	8.04	

Shibasaki, Yuto (JPN) (1999)
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)
Ryutaro (2018) - research on athlete performance and technique- 2018 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Oct-18	time	6.52	12.00	17.55	23.19	28.91	34.78	40.98	47.60	47.60	5 / 3							
reaction time	0.147	interval		5.48	5.55	5.64	5.72	5.87	6.20	6.62		# of strides	12.00	11.19	11.59	12.82	23.19	24.41	1.22
		velocity	7.67	9.12	9.01	8.87	8.74	8.52	8.06	7.55	8.40	181.0	8.33	8.94	8.63	7.80	8.62	8.19	

Imaizumi, Kenki (JPN) (2001)
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)
Ryutaro (2018) - research on athlete performance and technique- 2018 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Oct-18	time	6.51	11.88	17.32	22.95	28.66	34.58	40.85	47.60	47.60	4 / 2							
reaction time	0.176	interval		5.37	5.44	5.63	5.71	5.92	6.27	6.75		# of strides	11.88	11.07	11.63	13.02	22.95	24.65	1.70
		velocity	7.68	9.31	9.19	8.88	8.76	8.45	7.97	7.41	8.40	180.0	8.42	9.03	8.60	7.68	8.71	8.11	

Deng Hantao (CHN) (2000)
FINAL - 2023 Chinese National Grand Prix 1 (Rizhao, CHN)
Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Apr-23	time		11.48		22.34		34.52	40.88	47.60	47.60	3 / 3							
reaction time	0.172	interval				10.86		12.18	6.36	6.72		# of strides	11.48	10.86	12.18	13.08	22.34	25.26	2.92
		velocity		8.71		9.21		8.21	7.86	7.44	8.40	172.0	8.71	9.21	8.21	7.65	8.95	7.92	

McDonald, Rusheen (JAM) (1992)
FINAL - 2024 Bislett Games (Oslo, NOR)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	30-May-24	time	6.33	11.35	16.56	22.09	27.93	34.03	40.39	47.60	47.60	2 / 8						
reaction time	0.178	interval		5.02	5.21	5.53	5.84	6.10	6.36	7.21		# of strides	11.35	10.74	11.94	13.57	22.09	25.51	3.42
		velocity	7.90	9.96	9.60	9.04	8.56	8.20	7.86	6.93	8.40		8.81	9.31	8.38	7.37	9.05	7.84	

Omolo, Amos (UGA) (1937)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1968 Olympic Games (Mexico City, MEX) (*Altitude*)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 18-Oct-68	time			21.5		33.3		47.6	47.61	8 / 8							
reaction time	interval					11.80		14.30		# of strides			11.80	14.30	21.50	26.10	4.60
	velocity			9.30		8.47		6.99	8.40				8.47	6.99	9.30	7.66	

Kitakani, Naoki (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 10-Oct-16	time	6.41	11.73	17.33	23.22	29.31	35.25	41.28	47.61	47.61	4 / 2							
reaction time 0.205	interval		5.32	5.60	5.89	6.09	5.94	6.03	6.33		# of strides	11.73	11.49	12.03	12.36	23.22	24.39	1.17
	velocity	7.80	9.40	8.93	8.49	8.21	8.42	8.29	7.90	8.40		8.53	8.70	8.31	8.09	8.61	8.20	

Minami, Syono (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)										*(2017) - tfdata-store.com/2017/05/13/post-441/*							
date 11-May-17	time		11.68		22.43		33.92		47.61	47.61	3 / 6							
reaction time	interval				10.75		11.49		13.69		# of strides	11.68	10.75	11.49	13.69	22.43	25.18	2.75
	velocity		8.56		9.30		8.70		7.30	8.40		8.56	9.30	8.70	7.30	8.92	7.94	

Dobber, Jochem (NED) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)										*Omega Timing (2022) - diamond league race analysis*							
date 21-May-22	time	6.38	11.39	16.53	21.93	27.61	33.71	40.31	47.61	47.61	9 / 9							
reaction time 0.212	interval		5.01	5.14	5.40	5.68	6.10	6.60	7.30		# of strides	11.39	10.54	11.78	13.90	21.93	25.68	3.75
	velocity	7.84	9.98	9.73	9.26	8.80	8.20	7.58	6.85	8.40		8.78	9.49	8.49	7.19	9.12	7.79	

Katayama, Yuto (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date 16-Oct-15	time	6.34	11.57	16.97	22.68	28.52	34.55	40.83	47.62	47.62	/ 6							
reaction time	interval		5.23	5.40	5.71	5.84	6.03	6.28	6.79		# of strides	11.57	11.11	11.87	13.07	22.68	24.94	2.26
	velocity	7.89	9.56	9.26	8.76	8.56	8.29	7.96	7.36	8.40		8.64	9.00	8.42	7.65	8.82	8.02	

Kawakami, Sota (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2020 Japanese U20 National Championships (Hiroshima, JPN)										*Kobayashi (2020) - national high school and U20 national championhsips*							
date 23-Oct-20	time	6.24	11.46	16.78	22.36	28.28	34.43	40.75	47.62	47.62	8 / 1							
reaction time 0.161	interval		5.22	5.32	5.58	5.92	6.15	6.32	6.87		# of strides	11.46	10.90	12.07	13.19	22.36	25.26	2.90
	velocity	8.01	9.58	9.40	8.96	8.45	8.13	7.91	7.28	8.40	178.6	8.73	9.17	8.29	7.58	8.94	7.92	

Yousif, Rabah (GBR) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)										*Omega Timing (2022) - diamond league race analysis*							
date 21-May-22	time	6.3	11.4	16.6	22.1	28.0	34.2	40.6	47.62	47.62	9 / 7							
reaction time 0.180	interval		5.10	5.20	5.50	5.90	6.20	6.40	7.02		# of strides	11.40	10.70	12.10	13.42	22.10	25.52	3.42
	velocity	7.94	9.80	9.62	9.09	8.47	8.06	7.81	7.12	8.40	166.0	8.77	9.35	8.26	7.45	9.05	7.84	

Johansson, Emil (SWE) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)										*Omega Timing (2024) - diamond league race analysis*							
date 02-Jun-24	time	6.27	11.54	16.88	22.45	28.35	34.60	40.92	47.62	47.62	2 / 7							
reaction time 0.157	interval		5.27	5.34	5.57	5.90	6.25	6.32	6.70		# of strides	11.54	10.91	12.15	13.02	22.45	25.17	2.72
	velocity	7.97	9.49	9.36	8.98	8.47	8.00	7.91	7.46	8.40		8.67	9.17	8.23	7.68	8.91	7.95	

Naoe, Kohei (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 21-Oct-16	time	6.49	11.89	17.43	23.12	28.92	34.79	41.00	47.63	47.63	7 / 4							
reaction time	interval		5.40	5.54	5.69	5.80	5.87	6.21	6.63		# of strides	11.89	11.23	11.67	12.84	23.12	24.51	1.39
	velocity	7.70	9.26	9.03	8.79	8.62	8.52	8.05	7.54	8.40		8.41	8.90	8.57	7.79	8.65	8.16	

Pesela, Anthony (BOT) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)										*Longines Timing (2022) - commonwealth games race analysis*							
date 05-Aug-22	time	6.1	11.1	16.6	22.2	28.0	34.1	40.3	47.63	47.63	8 / 7							
reaction time 0.147	interval		5.00	5.50	5.60	5.80	6.10	6.20	7.33		# of strides	11.10	11.10	11.90	13.53	22.20	25.43	3.23
	velocity	8.20	10.00	9.09	8.93	8.62	8.20	8.06	6.82	8.40	186.0	9.01	9.01	8.40	7.39	9.01	7.86	

Baker, Wendell (USA) ???

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1886 ??? Beacon Park (Boston, MA) (440y Straightaway)										*Quercentani (2000) - athletics: a history of modern track and field athletics (1860-2000)*							
date 01-Jul-86	time				23.2				47.5	47.5	/ 1							
reaction time	interval								24.3		# of strides					23.20	24.30	
	velocity				8.62				8.23	8.42	*(47 3/4 /440y)*					8.62	8.23	

Someya, Sho (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date 05-Oct-15	time	6.65	12.37	18.03	23.73	29.62	35.48	41.47	47.64	47.64	/ 1							
reaction time	interval		5.72	5.66	5.70	5.89	5.86	5.99	6.17		# of strides	12.37	11.36	11.75	12.16	23.73	23.91	0.18
	velocity	7.52	8.74	8.83	8.77	8.49	8.53	8.35	8.10	8.40		8.08	8.80	8.51	8.22	8.43	8.36	

Kimura, Kazushi (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 National Sports Festival (Kitakami, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 09-Oct-16	time	6.45	11.83	17.35	23.02	28.85	34.86	41.06	47.64	47.64	4 / 5							
reaction time 0.231	interval		5.38	5.52	5.67	5.83	6.01	6.20	6.58		# of strides	11.83	11.19	11.84	12.78	23.02	24.62	1.60
	velocity	7.75	9.29	9.06	8.82	8.58	8.32	8.06	7.60	8.40		8.45	8.94	8.45	7.82	8.69	8.12	

Uike, Yuji (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 10-Oct-16	time	6.63	12.23	17.92	23.66	29.49	35.38	41.32	47.64	47.64	6 / 3							
reaction time 0.212	interval		5.60	5.69	5.74	5.83	5.89	5.94	6.32		# of strides	12.23	11.43	11.72	12.26	23.66	23.98	0.32
	velocity	7.54	8.93	8.79	8.71	8.58	8.49	8.42	7.91	8.40		8.18	8.75	8.53	8.16	8.45	8.34	

Suzaki, Mitsuhiro (JPN) (1995)
FINAL - 2016 National Sports Festival (Kitakami, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Oct-16	time	6.63	11.99	17.45	23.16	29.02	35.06	41.22	47.65	47.65	5 / 6							
reaction time	0.216	interval		5.36	5.46	5.71	5.86	6.04	6.16	6.43		# of strides	11.99	11.17	11.90	12.59	23.16	24.49	1.33
		velocity	7.54	9.33	9.16	8.76	8.53	8.28	8.12	7.78	8.39		8.34	8.95	8.40	7.94	8.64	8.17	

Uike, Yuji (JPN) (1998)
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/02/post-835/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.65		22.66		34.66		47.65	47.65	4 / ~~3~~ 2							
reaction time		interval				11.01		12.00		12.99		# of strides	11.65	11.01	12.00	12.99	22.66	24.99	2.33
		velocity		8.58		9.08		8.33		7.70	8.39	192.0	8.58	9.08	8.33	7.70	8.83	8.00	

Someya, Sho (JPN) (1997)
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/02/post-835/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.98		23.07		34.79		47.65	47.65	5 / ~~4~~ 3							
reaction time		interval				11.09		11.72		12.86		# of strides	11.98	11.09	11.72	12.86	23.07	24.58	1.51
		velocity		8.35		9.02		8.53		7.78	8.39	193.0	8.35	9.02	8.53	7.78	8.67	8.14	

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-18	time	6.34	11.90	17.52	23.42	29.41	35.42	41.47	47.65	47.65	6 / 3							
reaction time	0.153	interval		5.56	5.62	5.90	5.99	6.01	6.05	6.18		# of strides	11.90	11.52	12.00	12.23	23.42	24.23	0.81
		velocity	7.89	8.99	8.90	8.47	8.35	8.32	8.26	8.09	8.39		8.40	8.68	8.33	8.18	8.54	8.25	

Thompson, Lee (GBR) (1997)
B FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-May-22	time	6.3	11.3	16.5	22.0	27.8	34.0	40.5	47.65	47.65	8 / 8							
reaction time	0.207	interval		5.00	5.20	5.50	5.80	6.20	6.50	7.15		# of strides	11.30	10.70	12.00	13.65	22.00	25.65	3.65
		velocity	7.94	10.00	9.62	9.09	8.62	8.06	7.69	6.99	8.39	175.0	8.85	9.35	8.33	7.33	9.09	7.80	

Hirose, Hideyuki (JPN) (1989)
FINAL - 2012 Japanese National Championships (Osaka, JPN)
Maho (2013) - race analysis of the men's 400m run in competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-12	time	6.22	11.39	16.68	22.25	27.98	34.04	40.49	47.66	47.66	8 / 8							
reaction time		interval		5.17	5.29	5.57	5.73	6.06	6.45	7.17		# of strides	11.39	10.86	11.79	13.62	22.25	25.41	3.16
		velocity	8.04	9.67	9.45	8.98	8.73	8.25	7.75	6.97	8.39	186.0	8.78	9.21	8.48	7.34	8.99	7.87	

Someya, Sho (JPN) (1997)
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/01/post-786/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.95		23.18		34.76		47.66	47.66	8 / 6							
reaction time		interval				11.23		11.58		12.90		# of strides	11.95	11.23	11.58	12.90	23.18	24.48	1.30
		velocity		8.37		8.90		8.64		7.75	8.39	187.2	8.37	8.90	8.64	7.75	8.63	8.17	

Nakamura, Akihiko (JPN) (1990)
Decathlon - Heat ?? - 2012 Tokyo Athletics Championships (Chofu, JPN)
Takeo (2014) - decathletes sprint ability & relationship of individual event performance

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Apr-12	time	6.26	11.53	16.88	22.48	28.34	34.48	40.84	47.67	47.67	???							
reaction time		interval		5.27	5.35	5.60	5.86	6.14	6.36	6.83	PB	# of strides	11.53	10.95	12.00	13.19	22.48	25.19	2.71
		velocity	7.99	9.49	9.35	8.93	8.53	8.14	7.86	7.32	8.39		8.67	9.13	8.33	7.58	8.90	7.94	

Scheuerman, Jacob (USA) (1988)
FINAL - 2005 USATF National Junior Championships (Carson, CA)
USATF Women's Sprint Development (2005)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-05	time			16.95	22.51	28.32	34.22	40.68	47.68	47.68	8 / 7							
reaction time		interval				5.56	5.81	5.90	6.46	7.00		# of strides			11.71	13.46	22.51	25.17	2.66
		velocity			8.85	8.99	8.61	8.47	7.74	7.14	8.39				8.54	7.43	8.88	7.95	

Almgren, Daniel (SWE) (1979)
Decathlon - Heat 2 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Aug-09	time		11.80		22.80		34.78		47.68	47.68	3 / 2							
reaction time	0.167	interval				11.00		11.98		12.90	PB	# of strides	11.80	11.00	11.98	12.90	22.80	24.88	2.08
		velocity		8.47		9.09		8.35		7.75	8.39		8.47	9.09	8.35	7.75	8.77	8.04	

Yano, Takuto (JPN) (1994)
FINAL - 2015 National Sports Festival (Wakayama, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Oct-15	time	6.44	11.65	17.15	22.95	28.87	34.92	41.14	47.68	47.68	/ 6							
reaction time		interval		5.21	5.50	5.80	5.92	6.05	6.22	6.54		# of strides	11.65	11.30	11.97	12.76	22.95	24.73	1.78
		velocity	7.76	9.60	9.09	8.62	8.45	8.26	8.04	7.65	8.39		8.58	8.85	8.35	7.84	8.71	8.09	

Ibuka, Aisei (JPN) (1998)
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Oct-15	time	6.53	12.01	17.63	23.51	29.52	35.55	41.53	47.68	47.68	/ 2							
reaction time		interval		5.48	5.62	5.88	6.01	6.03	5.98	6.15		# of strides	12.01	11.50	12.04	12.13	23.51	24.17	0.66
		velocity	7.66	9.12	8.90	8.50	8.32	8.29	8.36	8.13	8.39		8.33	8.70	8.31	8.24	8.51	8.27	

Yamazaki, Norihiro (JPN)
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)
Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-18	time	6.36	11.57	16.98	22.57	28.43	34.75	41.17	47.68	47.68	5 / 4							
reaction time		interval		5.21	5.41	5.59	5.86	6.32	6.42	6.51	PB	# of strides	11.57	11.00	12.18	12.93	22.57	25.11	2.54
		velocity	7.86	9.60	9.24	8.94	8.53	7.91	7.79	7.68	8.39		8.64	9.09	8.21	7.73	8.86	7.96	

Suzuki, Aoto (JPN) (2001)
U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN)
Kijima (2019) - research on athlete performance and technique- 2019 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Oct-19	time	6.43	11.80	17.28	23.06	29.06	35.13	41.27	47.69	47.69	3 / 3							
reaction time	0.211	interval		5.37	5.48	5.78	6.00	6.07	6.14	6.42		# of strides	11.80	11.26	12.07	12.56	23.06	24.63	1.57
		velocity	7.78	9.31	9.12	8.65	8.33	8.24	8.14	7.79	8.39	178.0	8.47	8.88	8.29	7.96	8.67	8.12	

Mamada, Kodai (JPN) (2002)
Heat 2 - 2020 Japanese High School National Championships (Hiroshima, JPN)
Kobayashi (2020) - national high school and U20 national championhsips

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	23-Oct-20	time	6.47	11.71	16.98	22.56	28.47	34.59	40.92	47.69	47.69	4 / 1						
reaction time	0.157	interval		5.24	5.27	5.58	5.91	6.12	6.33	6.77		# of strides	11.71	10.85	12.03	13.10	22.56	25.13	2.57
		velocity	7.73	9.54	9.49	8.96	8.46	8.17	7.90	7.39	8.39	198.9	8.54	9.22	8.31	7.63	8.87	7.96	

Rooth, Markus (NOR) (2001) — **Decathlon - Heat 2** - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-24	time	6.52	11.95	17.47	23.16	28.94	34.93	41.11	47.69	47.69	8 / 3							
reaction time	0.163	interval		5.43	5.52	5.69	5.78	5.99	6.18	6.58	PB	# of strides	11.95	11.21	11.77	12.76	23.16	24.53	1.37
		velocity	7.67	9.21	9.06	8.79	8.65	8.35	8.09	7.60	8.39	178.0	8.37	8.92	8.50	7.84	8.64	8.15	

Otsuki, Ohori (JPN) (2002) — **FINAL** - 2019 Japanese National High School Championships (Okinawa, JPN) — *Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-19	time	6.87	12.37	17.84	23.32	28.94	34.79	41.02	47.70	47.70	2 / 6							
reaction time		interval		5.50	5.47	5.48	5.62	5.85	6.23	6.68		# of strides	12.37	10.95	11.47	12.91	23.32	24.38	1.06
		velocity	7.28	9.09	9.14	9.12	8.90	8.55	8.03	7.49	8.39		8.08	9.13	8.72	7.75	8.58	8.20	

Yoshiki, Tsubasa (JPN) (2003) — **A FINAL** - 2020 Japanese High School National Championships (Hiroshima, JPN) — *Kobayashi (2020) - national high school and U20 national championhsips*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Oct-20	time	6.44	11.63	17.00	22.56	28.38	34.49	40.92	47.70	47.70	1 / 5							
reaction time	0.167	interval		5.19	5.37	5.56	5.82	6.11	6.43	6.78		# of strides	11.63	10.93	11.93	13.21	22.56	25.14	2.58
		velocity	7.76	9.63	9.31	8.99	8.59	8.18	7.78	7.37	8.39	207.1	8.60	9.15	8.38	7.57	8.87	7.96	

Neugebauer, Leo (GER) (2000) — **Decathlon - Heat 2** - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-24	time	6.72	12.23	17.89	23.60	29.32	35.14	41.13	47.70	47.70	9 / 4							
reaction time	0.218	interval		5.51	5.66	5.71	5.72	5.82	5.99	6.57		# of strides	12.23	11.37	11.54	12.56	23.60	24.10	0.50
		velocity	7.44	9.07	8.83	8.76	8.74	8.59	8.35	7.61	8.39	161.0	8.18	8.80	8.67	7.96	8.47	8.30	

Ota, Kazuki (JPN) (1996) — **FINAL** - 2014 Japanese National High School Championships (Kofu, JPN) — *Yanagiya (2014) - research on athlete performance and technique- 2014 data book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jul-14	time	6.25	11.43	16.75	22.21	27.98	34.22	40.83	47.71	47.71	/ 4							
reaction time		interval		5.18	5.32	5.46	5.77	6.24	6.61	6.88		# of strides	11.43	10.78	12.01	13.49	22.21	25.50	3.29
		velocity	8.00	9.65	9.40	9.16	8.67	8.01	7.56	7.27	8.38		8.75	9.28	8.33	7.41	9.00	7.84	

Inoue, Kakeru (JPN) (1996) — **FINAL** - 2017 Kansai Regional University Championships (Osaka, JPN) — *(2017) - tfdata-store.com/2017/05/13/post-441/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-May-17	time		11.79		22.75		34.17		47.71	47.71	4 / 7							
reaction time		interval				10.96		11.42		13.54	PB	# of strides	11.79	10.96	11.42	13.54	22.75	24.96	2.21
		velocity		8.48		9.12		8.76		7.39	8.38		8.48	9.12	8.76	7.39	8.79	8.01	

Koyama, Ren (JPN) (2003) — **FINAL** - 2021 Japanese High School National Championships (Fukui, JPN) — *Shibayama (2021) - national high school and U20 national championhsips*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jul-21	time	6.62	11.97	17.42	23.05	28.90	34.97	41.15	47.71	47.71	3 / 2							
reaction time	0.196	interval		5.35	5.45	5.63	5.85	6.07	6.18	6.56		# of strides	11.97	11.08	11.92	12.74	23.05	24.66	1.61
		velocity	7.55	9.35	9.17	8.88	8.55	8.24	8.09	7.62	8.38		8.35	9.03	8.39	7.85	8.68	8.11	

Sato, Fuga (JPN) (1996) — **FINAL** - 2016 National Sports Festival (Kitakami, JPN) — *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Oct-16	time	6.62	12.16	17.83	23.67	29.38	35.20	41.25	47.72	47.72	6 / 7							
reaction time	0.226	interval		5.54	5.67	5.84	5.71	5.82	6.05	6.47		# of strides	12.16	11.51	11.53	12.52	23.67	24.05	0.38
		velocity	7.55	9.03	8.82	8.56	8.76	8.59	8.26	7.73	8.38		8.22	8.69	8.67	7.99	8.45	8.32	

Kudo, Taisei (JPN) (1996) — **Division 2 Semi-Final 1** - 2017 Kanto Collegiate Championships (Yokohama, JPN) — *(2017) - tfdata-store.com/2017/06/02/post-835/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.95		23.07		34.61		47.72	47.72	6 / 2							
reaction time		interval				11.12		11.54		13.11	PB	# of strides	11.95	11.12	11.54	13.11	23.07	24.65	1.58
		velocity		8.37		8.99		8.67		7.63	8.38	184.0	8.37	8.99	8.67	7.63	8.67	8.11	

Wakabayashi, Kota (JPN) (1997) — **Division 2 Semi-Final 2** - 2017 Kanto Collegiate Championships (Yokohama, JPN) — *(2017) - tfdata-store.com/2017/06/02/post-835/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.58		22.33		34.22		47.72	47.72	4 / 2							
reaction time		interval				10.75		11.89		13.50		# of strides	11.58	10.75	11.89	13.50	22.33	25.39	3.06
		velocity		8.64		9.30		8.41		7.41	8.38	169.7	8.64	9.30	8.41	7.41	8.96	7.88	

Mashiko, Yuta (JPN) (1998) — **Division 1 Semi-Final 2** - 2017 Kanto Collegiate Championships (Yokohama, JPN) — *(2017) - tfdata-store.com/2017/06/02/post-835/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.85		23.11		35.06		47.72	47.72	2 / 3							
reaction time		interval				11.26		11.95		12.66		# of strides	11.85	11.26	11.95	12.66	23.11	24.61	1.50
		velocity		8.44		8.88		8.37		7.90	8.38	183.5	8.44	8.88	8.37	7.90	8.65	8.13	

Yamaki, Kakeru (JPN) (1996) — **Heat 2** - 2017 National Sports Festival (Matsuyama, JPN) — *(2017) - tfdata-store.com/2017/10/12/post-1100/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.41		22.21		34.14		47.72	47.72	6 / 5							
reaction time	0.155	interval				10.80		11.93		13.58		# of strides	11.41	10.80	11.93	13.58	22.21	25.51	3.30
		velocity		8.76		9.26		8.38		7.36	8.38	185.0	8.76	9.26	8.38	7.36	9.00	7.84	

Wakabayashi, Kota (JPN) (1997) — **FINAL** - 2020 Seiko Golden Grand Prix (Tokyo, JPN) — *Yamanaka (2020) - 400m race analysis of men and women during 2020 season*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Aug-20	time	6.24	11.34	16.53	22.02	27.82	33.98	40.48	47.72	47.72	9 / 7							
reaction time	0.156	interval		5.10	5.19	5.49	5.80	6.16	6.50	7.24		# of strides	11.34	10.68	11.96	13.74	22.02	25.70	3.68
		velocity	8.01	9.80	9.63	9.11	8.62	8.12	7.69	6.91	8.38		8.82	9.36	8.36	7.28	9.08	7.78	

Dimokrati, El Mehdi (MAR) (2001) — **National FINAL** - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) — *Omega Timing (2023) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-23	time	6.55	12.01	17.62	23.51	29.36	35.28	41.35	47.72	47.72	3 / 4							
reaction time	0.203	interval		5.46	5.61	5.89	5.85	5.92	6.07	6.37		# of strides	12.01	11.50	11.77	12.44	23.51	24.21	0.70
		velocity	7.63	9.16	8.91	8.49	8.55	8.45	8.24	7.85	8.38		8.33	8.70	8.50	8.04	8.51	8.26	

Imaizumi, Takaki (JPN) (2001)
FINAL - 2020 Japanese U20 National Championships (Hiroshima, JPN)
Kobayashi (2020) - national high school and U20 national championhsips

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Oct-20	time	6.39	11.62	16.93	22.47	28.26	34.38	40.83	47.73	47.73	7 / 4							
reaction time	0.175	interval		5.23	5.31	5.54	5.79	6.12	6.45	6.90		# of strides	11.62	10.85	11.91	13.35	22.47	25.26	2.79
		velocity	7.82	9.56	9.42	9.03	8.64	8.17	7.75	7.25	8.38	182.8	8.61	9.22	8.40	7.49	8.90	7.92	

Al Saadi, Yasir Ali (IRQ) (1998)
Heat A - West Asian Championships - 2024 Seashore Doha Meeting (Doha, QAT)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-May-24	time	6.38	11.63	17.21	22.99	28.91	34.98	41.13	47.73	47.73	4 / 2							
reaction time	0.169	interval		5.25	5.58	5.78	5.92	6.07	6.15	6.60		# of strides	11.63	11.36	11.99	12.75	22.99	24.74	1.75
		velocity	7.84	9.52	8.96	8.65	8.45	8.24	8.13	7.58	8.38		8.60	8.80	8.34	7.84	8.70	8.08	

Taam, Rik (NED) (1997)
Decathlon - Heat 3 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-24	time	6.46	11.60	16.87	22.38	28.16	34.31	40.78	47.73	47.73	5 / 6							
reaction time	0.196	interval		5.14	5.27	5.51	5.78	6.15	6.47	6.95		# of strides	11.60	10.78	11.93	13.42	22.38	25.35	2.97
		velocity	7.74	9.73	9.49	9.07	8.65	8.13	7.73	7.19	8.38	182.0	8.62	9.28	8.38	7.45	8.94	7.89	

Liddell, Eric (GBR) (1902)
FINAL - 1924 Olympic Games (Paris, FRA) (500m Track)
Parienté (1978) - la fabuleuse histoire de l'athlétisme

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-Jul-24	time				22.2				47.6	47.6	6 / 1							
reaction time		interval								25.4	WR	# of strides					22.20	25.40	3.20
		velocity				9.01				7.87	8.40						9.01	7.87	

Matsukiyo, Kazuki (JPN) (1997)
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Oct-15	time	6.57	11.99	17.63	23.48	29.42	35.31	41.32	47.74	47.74	/ 3							
reaction time		interval		5.42	5.64	5.85	5.94	5.89	6.01	6.42		# of strides	11.99	11.49	11.83	12.43	23.48	24.26	0.78
		velocity	7.61	9.23	8.87	8.55	8.42	8.49	8.32	7.79	8.38		8.34	8.70	8.45	8.05	8.52	8.24	

Natkatsukue, Haruhiko (JPN)
FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Oct-15	time	6.63	11.90	17.27	22.96	28.91	34.98	41.15	47.74	47.74	4 / 2							
reaction time		interval		5.27	5.37	5.69	5.95	6.07	6.17	6.59		# of strides	11.90	11.06	12.02	12.76	22.96	24.78	1.82
		velocity	7.54	9.49	9.31	8.79	8.40	8.24	8.10	7.59	8.38		8.40	9.04	8.32	7.84	8.71	8.07	

Mashiko, Yuta (JPN) (1998)
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/01/post-786/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.60		22.84		34.82		47.74	47.74	9 / 7							
reaction time		interval				11.24		11.98		12.92		# of strides	11.60	11.24	11.98	12.92	22.84	24.90	2.06
		velocity		8.62		8.90		8.35		7.74	8.38	184.0	8.62	8.90	8.35	7.74	8.76	8.03	

Naoki, Masafumi (JPN) (1993)
FINAL - 2017 National Sports Festival (Matsuyama, JPN)
(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.36		22.64		34.59		47.74	47.74	3 / 6							
reaction time	0.170	interval				11.28		11.95		13.15		# of strides	11.36	11.28	11.95	13.15	22.64	25.10	2.46
		velocity		8.80		8.87		8.37		7.60	8.38	178.2	8.80	8.87	8.37	7.60	8.83	7.97	

Matsuoka, Tomonori (JPN) (2000)
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)
Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-18	time	6.28	11.27	16.53	22.16	28.12	34.32	40.82	47.74	47.74	8 / 5							
reaction time		interval		4.99	5.26	5.63	5.96	6.20	6.50	6.92	PB	# of strides	11.27	10.89	12.16	13.42	22.16	25.58	3.42
		velocity	7.96	10.02	9.51	8.88	8.39	8.06	7.69	7.23	8.38		8.87	9.18	8.22	7.45	9.03	7.82	

Rooney, Martyn (GBR) (1987)
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)
Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jul-21	time	6.4	11.6	17.0	22.6	28.3	34.3	40.7	47.74	47.74	3 / 7							
reaction time	0.146	interval		5.20	5.40	5.60	5.70	6.00	6.40	7.04		# of strides	11.60	11.00	11.70	13.44	22.60	25.14	2.54
		velocity	7.81	9.62	9.26	8.93	8.77	8.33	7.81	7.10	8.38		8.62	9.09	8.55	7.44	8.85	7.96	

Kayata, Takashi (JPN) (1992)
FINAL - 2009 Japanese National High School Championships (Nara, JPN)
Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-09	time		11.98		23.12		34.96		47.75	47.75	1 / 4							
reaction time		interval				11.14		11.84		12.79		# of strides	11.98	11.14	11.84	12.79	23.12	24.63	1.51
		velocity		8.35		8.98		8.45		7.82	8.38		8.35	8.98	8.45	7.82	8.65	8.12	

Eaton, Ashton (USA) (1988)
Decathlon - Heat 2 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Aug-09	time		11.39		22.70		34.94		47.75	47.75	6 / 3							
reaction time	0.171	interval				11.31		12.24		12.81		# of strides	11.39	11.31	12.24	12.81	22.70	25.05	2.35
		velocity		8.78		8.84		8.17		7.81	8.38		8.78	8.84	8.17	7.81	8.81	7.98	

Ito, Rikiya (JPN) (1998)
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-16	time	6.42	11.78	17.25	22.98	29.01	35.20	41.41	47.75	47.75	8 / 6							
reaction time	0.144	interval		5.36	5.47	5.73	6.03	6.19	6.21	6.34		# of strides	11.78	11.20	12.22	12.55	22.98	24.77	1.79
		velocity	7.79	9.33	9.14	8.73	8.29	8.08	8.05	7.89	8.38		8.49	8.93	8.18	7.97	8.70	8.07	

Hanada, Shion (JPN) (1999)
U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)
(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.54		22.59		34.70		47.75	47.75	7 / 6							
reaction time	0.156	interval				11.05		12.11		13.05		# of strides	11.54	11.05	12.11	13.05	22.59	25.16	2.57
		velocity		8.67		9.05		8.26		7.66	8.38	177.5	8.67	9.05	8.26	7.66	8.85	7.95	

Thid, David (SWE) (2003)
National FINAL - 2023 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	02-Jul-23	time	6.27	11.53	16.96	22.60	28.42	34.55	40.92	47.75	47.75	8 / 3						
reaction time	0.153	interval		5.26	5.43	5.64	5.82	6.13	6.37	6.83		# of strides	11.53	11.07	11.95	13.20	22.60	25.15	2.55
		velocity	7.97	9.51	9.21	8.87	8.59	8.16	7.85	7.32	8.38		8.67	9.03	8.37	7.58	8.85	7.95	

Yamano, Haruki (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN)																	*Takashima (2023) - national high school sports festival - biomechanics data*
date 02-Aug-23 time		11.63		22.81		34.85		47.75	47.75	2 / 5							
reaction time 0.246 interval				11.18		12.04		12.90		# of strides	11.63	11.18	12.04	12.90	22.81	24.94	2.13
velocity		8.60		8.94		8.31		7.75	8.38		8.60	8.94	8.31	7.75	8.77	8.02	

Nakamura, Akihiko (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat ?? - 2011 Japanese Multi-Event National Championships (Kawasaki, JPN)																	*Takeo (2014) - decathletes sprint ability & relationship of individual event performance*
date 04-Jun-11 time	6.34	11.61	17.08	22.87	28.81	34.86	41.12	47.76	47.76	???							
reaction time interval		5.27	5.47	5.79	5.94	6.05	6.26	6.64	PB	# of strides	11.61	11.26	11.99	12.90	22.87	24.89	2.02
velocity	7.89	9.49	9.14	8.64	8.42	8.26	7.99	7.53	8.38		8.61	8.88	8.34	7.75	8.75	8.04	

Hanada, Shion (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 21-Oct-16 time	6.34	11.59	16.95	22.69	28.59	34.64	40.98	47.76	47.76	3 / 3							
reaction time interval		5.25	5.36	5.74	5.90	6.05	6.34	6.78	PB	# of strides	11.59	11.10	11.95	13.12	22.69	25.07	2.38
velocity	7.89	9.52	9.33	8.71	8.47	8.26	7.89	7.37	8.38		8.63	9.01	8.37	7.62	8.81	7.98	

Asano, Kurodo (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 21-Oct-16 time	6.43	11.80	17.18	22.93	28.91	34.99	41.26	47.76	47.76	6 / 4							
reaction time interval		5.37	5.38	5.75	5.98	6.08	6.27	6.50	PB	# of strides	11.80	11.13	12.06	12.77	22.93	24.83	1.90
velocity	7.78	9.31	9.29	8.70	8.36	8.22	7.97	7.69	8.38		8.47	8.98	8.29	7.83	8.72	8.05	

Obuchi, Mizuki (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Nanbu Memorial Meeting (Sapporo, JPN)																	*(2017) - tfdata-store.com/2017/07/11/post-1010/*
date 09-Jul-17 time		11.83		23.16		35.18		47.76	47.76	7 / 5							
reaction time interval				11.33		12.02		12.58		# of strides	11.83	11.33	12.02	12.58	23.16	24.60	1.44
velocity		8.45		8.83		8.32		7.95	8.38	188.0	8.45	8.83	8.32	7.95	8.64	8.13	

Kosaka, Akihiro (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)																	*Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection*
date 04-Aug-19 time	6.59	11.79	17.19	22.68	28.38	34.37	40.83	47.76	47.76	1 / 7							
reaction time interval		5.20	5.40	5.49	5.70	5.99	6.46	6.93		# of strides	11.79	10.89	11.69	13.39	22.68	25.08	2.40
velocity	7.59	9.62	9.26	9.11	8.77	8.35	7.74	7.22	8.38		8.48	9.18	8.55	7.47	8.82	7.97	

Kimura, Kazushi (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2020 Japanese National Championships (Niigata, JPN)																	*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*
date 01-Oct-20 time	6.40	11.54	16.82	22.39	28.15	34.20	40.61	47.76	47.76	5 / 3							
reaction time 0.212 interval		5.14	5.28	5.57	5.76	6.05	6.41	7.15		# of strides	11.54	10.85	11.81	13.56	22.39	25.37	2.98
velocity	7.81	9.73	9.47	8.98	8.68	8.26	7.80	6.99	8.38		8.67	9.22	8.47	7.37	8.93	7.88	

Morimoto, Ren (JPN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U20 National Championships (Osaka, JPN)																	*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 25-Jun-21 time	6.19	11.36	16.71	22.36	28.25	34.44	40.85	47.76	47.76	2 / 3							
reaction time 0.222 interval		5.17	5.35	5.65	5.89	6.19	6.41	6.91		# of strides	11.36	11.00	12.08	13.32	22.36	25.40	3.04
velocity	8.08	9.67	9.35	8.85	8.49	8.08	7.80	7.24	8.38		8.80	9.09	8.28	7.51	8.94	7.87	

Yamazaki, Kengo (JPN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2010 Japanese National High School Championships (Okinawa, JPN)																	*Matsuo (2010) - 63rd high school championships: JAF scientific committee - biomechanics data*
date 29-Jul-10 time	6.59	11.92	17.37	22.97	28.69	34.63	40.97	47.79	47.79	/ 1							
reaction time interval		5.33	5.45	5.60	5.72	5.94	6.34	6.82		# of strides	11.92	11.05	11.66	13.16	22.97	24.82	1.85
velocity	7.59	9.38	9.17	8.93	8.74	8.42	7.89	7.33	8.37		8.39	9.05	8.58	7.60	8.71	8.06	

Yamaki, Kakeru (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 Japanese National High School Championships (Kitamaki, JPN)																	*Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics data*
date 04-Aug-11 time		11.77		23.07		34.99		47.79	47.79	4 / 2							
reaction time interval				11.30		11.92		12.80		# of strides	11.77	11.30	11.92	12.80	23.07	24.72	1.65
velocity		8.50		8.85		8.39		7.81	8.37		8.50	8.85	8.39	7.81	8.67	8.09	

Nakamura, Akihiko (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2014 Nittai University Distance Meeting (Wakayama, JPN)																	*Takeo (2014) - decathletes sprint ability & relationship of individual event performance*
date 26-Apr-14 time	6.39	11.69	17.15	22.83	28.73	34.81	41.06	47.79	47.79	6 / 1							
reaction time interval		5.30	5.46	5.68	5.90	6.08	6.25	6.73		# of strides	11.69	11.14	11.98	12.98	22.83	24.96	2.13
velocity	7.82	9.43	9.16	8.80	8.47	8.22	8.00	7.43	8.37		8.55	8.98	8.35	7.70	8.76	8.01	

Iwamoto, Takeshi (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)																	*Yanagiya (2014) - research on athlete performance and technique- 2014 data book*
date 30-Jul-14 time	6.59	11.83	17.18	22.73	28.56	34.68	41.24	47.79	47.79	/ 5							
reaction time interval		5.24	5.35	5.55	5.83	6.12	6.56	6.55		# of strides	11.83	10.90	11.95	13.11	22.73	25.06	2.33
velocity	7.59	9.54	9.35	9.01	8.58	8.17	7.62	7.63	8.37		8.45	9.17	8.37	7.63	8.80	7.98	

Hosoi, Brian (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 09-Oct-17 time		11.79		23.12		35.03		47.79	47.79	5 / 5							
reaction time 0.170 interval				11.33		11.91		12.76		# of strides	11.79	11.33	11.91	12.76	23.12	24.67	1.55
velocity		8.48		8.83		8.40		7.84	8.37	191.2	8.48	8.83	8.40	7.84	8.65	8.11	

Ono, Kona (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)																	*Ryutaro (2018) - research on athlete performance and technique- 2018 data book*
date 19-Oct-18 time	6.46	11.76	17.23	22.91	28.64	34.62	40.86	47.79	47.79	5 / 3							
reaction time 0.188 interval		5.30	5.47	5.68	5.73	5.98	6.24	6.93		# of strides	11.76	11.15	11.71	13.17	22.91	24.88	1.97
velocity	7.74	9.43	9.14	8.80	8.73	8.36	8.01	7.22	8.37	186.0	8.50	8.97	8.54	7.59	8.73	8.04	

Tamura, Tomoya (JPN) (1992)
A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)
Kobayashi (2019) - research on athlete performance and technique- 2019 data book

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-19	time	6.21	11.32	16.57	22.06	27.81	33.93	40.44	47.79	47.79	9 / 8						
reaction time		interval		5.11	5.25	5.49	5.75	6.12	6.51	7.35		# of strides	11.32	10.74	11.87	13.86	22.06	25.73	3.67
		velocity	8.05	9.78	9.52	9.11	8.70	8.17	7.68	6.80	8.37		8.83	9.31	8.42	7.22	9.07	7.77	

Fukunaga, Takuya (JPN) (1994)
FINAL - 2011 Japanese National High School Championships (Kitamaki, JPN)
Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics data

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-11	time		11.64		22.68		34.80		47.80	47.80	7 / 3						
reaction time		interval				11.04		12.12		13.00		# of strides	11.64	11.04	12.12	13.00	22.68	25.12	2.44
		velocity		8.59		9.06		8.25		7.69	8.37		8.59	9.06	8.25	7.69	8.82	7.96	

Horii, Kosuke (JPN) (1994)
FINAL - 2015 National Sports Festival (Wakayama, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Oct-15	time	6.30	11.64	17.30	23.28	29.31	35.34	41.42	47.80	47.80	/ 7						
reaction time		interval		5.34	5.66	5.98	6.03	6.03	6.08	6.38		# of strides	11.64	11.64	12.06	12.46	23.28	24.52	1.24
		velocity	7.94	9.36	8.83	8.36	8.29	8.29	8.22	7.84	8.37		8.59	8.59	8.29	8.03	8.59	8.16	

Aikyo, Shotaro (JPN) (1994)
Race C - 2016 Shizuoka International Meeting (Fukuroi, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-16	time	6.24	11.36	16.72	22.27	28.05	34.16	40.71	47.80	47.80	/ 5						
reaction time		interval		5.12	5.36	5.55	5.78	6.11	6.55	7.09		# of strides	11.36	10.91	11.89	13.64	22.27	25.53	3.26
		velocity	8.01	9.77	9.33	9.01	8.65	8.18	7.63	7.05	8.37		8.80	9.17	8.41	7.33	8.98	7.83	

Yamaki, Kakeru (JPN) (1996)
FINAL - 2016 National Sports Festival (Kitakami, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Oct-16	time	6.52	11.76	17.30	23.08	29.06	35.10	41.27	47.80	47.80	2 / 8						
reaction time	0.173	interval		5.24	5.54	5.78	5.98	6.04	6.17	6.53		# of strides	11.76	11.32	12.02	12.70	23.08	24.72	1.64
		velocity	7.67	9.54	9.03	8.65	8.36	8.28	8.10	7.66	8.37		8.50	8.83	8.32	7.87	8.67	8.09	

Ibuka, Aisei (JPN) (1998)
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-16	time	6.32	11.62	17.07	22.81	28.83	35.12	41.40	47.80	47.80	7 / 7						
reaction time	0.173	interval		5.30	5.45	5.74	6.02	6.29	6.28	6.40		# of strides	11.62	11.19	12.31	12.68	22.81	24.99	2.18
		velocity	7.91	9.43	9.17	8.71	8.31	7.95	7.96	7.81	8.37		8.61	8.94	8.12	7.89	8.77	8.00	

Larrengina, Elián (ARG) (2000)
Heat 4 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-24	time	6.26	11.34	16.51	21.83	27.41	33.28	39.44	47.80	47.80	3 / 6						
reaction time	0.155	interval		5.08	5.17	5.32	5.58	5.87	6.16	8.36		# of strides	11.34	10.49	11.45	14.52	21.83	25.97	4.14
		velocity	7.99	9.84	9.67	9.40	8.96	8.52	8.12	5.98	8.37	169.0	8.82	9.53	8.73	6.89	9.16	7.70	

Mamada, Kodai (JPN) (2002)
A FINAL - 2020 Japanese High School National Championships (Hiroshima, JPN)
Kobayashi (2020) - national high school and U20 national championhsips

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Oct-20	time	6.53	11.87	17.35	23.03	28.91	34.91	41.13	47.81	47.81	7 / 6						
reaction time	0.150	interval		5.34	5.48	5.68	5.88	6.00	6.22	6.68		# of strides	11.87	11.16	11.88	12.90	23.03	24.78	1.75
		velocity	7.66	9.36	9.12	8.80	8.50	8.33	8.04	7.49	8.37	197.5	8.42	8.96	8.42	7.75	8.68	8.07	

Kawakami, Daichi (JPN) (2006)
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)
Takashima (2024) - national high school sports festival - biomechanics data

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jul-24	time		11.96		22.81		34.85		47.81	47.81	8 / 5						
reaction time	0.235	interval				10.85		12.04		12.96		# of strides	11.96	10.85	12.04	12.96	22.81	25.00	2.19
		velocity		8.36		9.22		8.31		7.72	8.37		8.36	9.22	8.31	7.72	8.77	8.00	

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

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Apr-17	time		11.71		22.67		34.55		47.82	47.82	7 / 3						
reaction time		interval				10.96		11.88		13.27		# of strides	11.71	10.96	11.88	13.27	22.67	25.15	2.48
		velocity		8.54		9.12		8.42		7.54	8.36	188.2	8.54	9.12	8.42	7.54	8.82	7.95	

Suzaki, Mitsuhiro (JPN) (1995)
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/02/post-835/

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.75		22.68		34.59		47.83	47.83	7 / 4						
reaction time		interval				10.93		11.91		13.24		# of strides	11.75	10.93	11.91	13.24	22.68	25.15	2.47
		velocity		8.51		9.15		8.40		7.55	8.36	189.0	8.51	9.15	8.40	7.55	8.82	7.95	

Kimura, Kazushi (JPN) (1993)
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)
(2017) - tfdata-store.com/2017/10/05/post-1097/

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Sep-17	time		11.44		22.47		34.30		47.83	47.83	3 / 8						
reaction time	0.178	interval				11.03		11.83		13.53		# of strides	11.44	11.03	11.83	13.53	22.47	25.36	2.89
		velocity		8.74		9.07		8.45		7.39	8.36	187.2	8.74	9.07	8.45	7.39	8.90	7.89	

Aikyo, Shotaro (JPN) (1994)
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)
Yasunori (2012) - 65th high school championships: JAF scientific committee - biomechanics data

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-12	time		11.86		23.19		34.95		47.84	47.84	8 / 2						
reaction time		interval				11.33		11.76		12.89		# of strides	11.86	11.33	11.76	12.89	23.19	24.65	1.46
		velocity		8.43		8.83		8.50		7.76	8.36		8.43	8.83	8.50	7.76	8.62	8.11	

Johansson, Emil (SWE) (2002)
FINAL - 2020 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2020) - diamond league race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Aug-20	time	6.4	11.6	17.1	22.9	29.1	35.2	41.3	47.84	47.84	1 / 8						
reaction time	0.161	interval		5.20	5.50	5.80	6.20	6.10	6.10	6.54		# of strides	11.60	11.30	12.30	12.64	22.90	24.94	2.04
		velocity	7.81	9.62	9.09	8.62	8.06	8.20	8.20	7.65	8.36		8.62	8.85	8.13	7.91	8.73	8.02	

Kawauchi, Mitsuki (JPN) (1997)
Heat 3 - 2020 Japanese National Championships (Niigata, JPN)
Yamanaka (2020) - 400m race analysis of men and women during 2020 season

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	01-Oct-20	time	6.41	11.69	17.07	22.67	28.46	34.54	40.90	47.84	47.84	5 / 6						
reaction time	0.159	interval		5.28	5.38	5.60	5.79	6.08	6.36	6.94		# of strides	11.69	10.98	11.87	13.30	22.67	25.17	2.50
		velocity	7.80	9.47	9.29	8.93	8.64	8.22	7.86	7.20	8.36		8.55	9.11	8.42	7.52	8.82	7.95	

Victor, Lindon (GRN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 02-Aug-24 time	6.26	11.41	16.72	22.25	28.06	34.30	40.85	47.84	47.84	5 / 5							
reaction time 0.153 interval		5.15	5.31	5.53	5.81	6.24	6.55	6.99		# of strides	11.41	10.84	12.05	13.54	22.25	25.59	3.34
velocity	7.99	9.71	9.42	9.04	8.61	8.01	7.63	7.15	8.36	176.0	8.76	9.23	8.30	7.39	8.99	7.82	

Kasyanov, Oleksiy (UKR) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 19-Aug-09 time		11.78		23.00		35.36		47.85	47.85	5 / 4							
reaction time 0.163 interval				11.22		12.36		12.49		# of strides	11.78	11.22	12.36	12.49	23.00	24.85	1.85
velocity		8.49		8.91		8.09		8.01	8.36		8.49	8.91	8.09	8.01	8.70	8.05	

Aikyo, Shotaro (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2016 Japanese National Championships (Nagoya, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 24-Jun-16 time	6.27	11.37	16.70	22.25	28.02	34.13	40.71	47.85	47.85	8 / 5							
reaction time 0.196 interval		5.10	5.33	5.55	5.77	6.11	6.58	7.14		# of strides	11.37	10.88	11.88	13.72	22.25	25.60	3.35
velocity	7.97	9.80	9.38	9.01	8.67	8.18	7.60	7.00	8.36		8.80	9.19	8.42	7.29	8.99	7.81	

Yoshida, Tatsuya (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)																	*Ryutaro (2018) - research on athlete performance and technique- 2018 data book*
date 19-Oct-18 time	6.45	11.58	16.88	22.35	28.12	34.17	40.60	47.85	47.85	7 / 4							
reaction time 0.190 interval		5.13	5.30	5.47	5.77	6.05	6.43	7.25		# of strides	11.58	10.77	11.82	13.68	22.35	25.50	3.15
velocity	7.75	9.75	9.43	9.14	8.67	8.26	7.78	6.90	8.36	181.2	8.64	9.29	8.46	7.31	8.95	7.84	

Matsuoka, Tomoki (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)																	*Ryutaro (2018) - research on athlete performance and technique- 2018 data book*
date 19-Oct-18 time	6.37	11.43	16.72	22.48	28.55	34.81	41.12	47.85	47.85	4 / 5							
reaction time 0.183 interval		5.06	5.29	5.76	6.07	6.26	6.31	6.73		# of strides	11.43	11.05	12.33	13.04	22.48	25.37	2.89
velocity	7.85	9.88	9.45	8.68	8.24	7.99	7.92	7.43	8.36	185.0	8.75	9.05	8.11	7.67	8.90	7.88	

Meldrum, Alan (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)																	*Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data*
date 29-Jul-17 time	6.67	11.97	17.40	23.03	28.88	34.98	41.31	47.86	47.86	2 / 2							
reaction time 0.193 interval		5.30	5.43	5.63	5.85	6.10	6.33	6.55		# of strides	11.97	11.06	11.95	12.88	23.03	24.83	1.80
velocity	7.50	9.43	9.21	8.88	8.55	8.20	7.90	7.63	8.36		8.35	9.04	8.37	7.76	8.68	8.05	

Kimura, Jun (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17 time				22.80		34.71		47.86	47.86	9 / 3							
reaction time 0.212 interval						11.91		13.15		# of strides			11.91	13.15	22.80	25.06	2.26
velocity				8.77		8.40		7.60	8.36				8.40	7.60	8.77	7.98	

Meldrum, Alan (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)																	*Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection*
date 02-Aug-18 time	6.55	12.00	17.32	22.72	28.50	34.58	40.99	47.86	47.86	2 / 6							
reaction time interval		5.45	5.32	5.40	5.78	6.08	6.41	6.87		# of strides	12.00	10.72	11.86	13.28	22.72	25.14	2.42
velocity	7.63	9.17	9.40	9.26	8.65	8.22	7.80	7.28	8.36		8.33	9.33	8.43	7.53	8.80	7.96	

Nose, Hiroki (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2020 Japanese U20 National Championships (Hiroshima, JPN)																	*Kobayashi (2020) - national high school and U20 national championhsips*
date 23-Oct-20 time	6.28	11.47	16.82	22.40	28.34	34.46	40.85	47.86	47.86	4 / 2							
reaction time 0.152 interval		5.19	5.35	5.58	5.94	6.12	6.39	7.01		# of strides	11.47	10.93	12.06	13.40	22.40	25.46	3.06
velocity	7.96	9.63	9.35	8.96	8.42	8.17	7.82	7.13	8.36	188.6	8.72	9.15	8.29	7.46	8.93	7.86	

Kiyota, Yuki (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U20 National Championships (Osaka, JPN)																	*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 25-Jun-21 time	6.69	12.19	17.83	23.61	29.42	35.32	41.42	47.86	47.86	8 / 4							
reaction time 0.185 interval		5.50	5.64	5.78	5.81	5.90	6.10	6.44		# of strides	12.19	11.42	11.71	12.54	23.61	24.25	0.64
velocity	7.47	9.09	8.87	8.65	8.61	8.47	8.20	7.76	8.36		8.20	8.76	8.54	7.97	8.47	8.25	

Warner, Damian (CAN) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 25-Aug-23 time		11.35		22.26		34.25		47.86	47.86	3 / 5							
reaction time 0.153 interval				10.91		11.99		13.61		# of strides	11.35	10.91	11.99	13.61	22.26	25.60	3.34
velocity		8.81		9.17		8.34		7.35	8.36	175.0	8.81	9.17	8.34	7.35	8.98	7.81	

Iwamoto, Taishi (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 Japanese National High School Championships (Nara, JPN)																	*Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data*
date 29-Jul-09 time		11.85		23.35		35.48		47.87	47.87	6 / 5							
reaction time interval				11.50		12.13		12.39		# of strides	11.85	11.50	12.13	12.39	23.35	24.52	1.17
velocity		8.44		8.70		8.24		8.07	8.36		8.44	8.70	8.24	8.07	8.57	8.16	

Matsuo, Shuhei (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)																	*Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data*
date 29-Jul-17 time	6.52	12.05	17.83	23.80	29.87	35.93	41.93	47.87	47.87	7 / 3							
reaction time 0.182 interval		5.53	5.78	5.97	6.07	6.06	6.00	5.94		# of strides	12.05	11.75	12.13	11.94	23.80	24.07	0.27
velocity	7.67	9.04	8.65	8.38	8.24	8.25	8.33	8.42	8.36		8.30	8.51	8.24	8.38	8.40	8.31	

Johnston, Rashaud (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Junior Championships (Carson, CA)																	*USATF Women's Sprint Development (2005)*
date 25-Jun-05 time			17.28	22.76	28.65	34.39	40.73	47.88	47.88	9 / 8							
reaction time interval				5.48	5.89	5.74	6.34	7.15		# of strides			11.63	13.49	22.76	25.12	2.36
velocity			8.68	9.12	8.49	8.71	7.89	6.99	8.35				8.60	7.41	8.79	7.96	

Sun Jiahao (CHN) (2002)
FINAL - 2023 Chinese National Grand Prix 1 (Rizhao, CHN)
Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Apr-23	time		11.83		22.96		35.05	41.24	47.88	47.88	7 / 4							
reaction time	0.176	interval				11.13		12.09	6.19	6.64		# of strides	11.83	11.13	12.09	12.83	22.96	24.92	1.96
		velocity		8.45		8.98		8.27	8.08	7.53	8.35	181.0	8.45	8.98	8.27	7.79	8.71	8.03	

Khalil, Hassan (QAT)
Invitational FINAL - 2025 Jetour Doha Meeting (Doha, QAT)
Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-May-25	time	6.27	11.53	17.31	23.34	29.25	35.21	41.19	47.88	47.88	1 / 4							
reaction time	0.177	interval		5.26	5.78	6.03	5.91	5.96	5.98	6.69	PB	# of strides	11.53	11.81	11.87	12.67	23.34	24.54	1.20
		velocity	7.97	9.51	8.65	8.29	8.46	8.39	8.36	7.47	8.35		8.67	8.47	8.42	7.89	8.57	8.15	

Kitagawa, Takamasa (JPN) (1996)
FINAL - 2013 Japanese National High School Championships (Oita, JPN)
Matsuo (2013) - 66th high school championships: JAF scientific committee - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jul-13	time		11.75		23.00		35.12		47.89	47.89	2 / 7							
reaction time		interval				11.25		12.12		12.77		# of strides	11.75	11.25	12.12	12.77	23.00	24.89	1.89
		velocity		8.51		8.89		8.25		7.83	8.35		8.51	8.89	8.25	7.83	8.70	8.04	

Asanobu, Hiroto (JPN)
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)
Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data collection

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-17	time	6.52	11.87	17.33	23.07	28.97	35.15	41.52	47.89	47.89	9 / 4							
reaction time	0.182	interval		5.35	5.46	5.74	5.90	6.18	6.37	6.37		# of strides	11.87	11.20	12.08	12.74	23.07	24.82	1.75
		velocity	7.67	9.35	9.16	8.71	8.47	8.09	7.85	7.85	8.35		8.42	8.93	8.28	7.85	8.67	8.06	

Kotake, Rion (JPN) (1999)
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)
Ryutaro (2018) - research on athlete performance and technique- 2018 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Oct-18	time	6.52	11.88	17.35	22.95	28.80	34.91	41.17	47.89	47.89	2 / 6							
reaction time	0.170	interval		5.36	5.47	5.60	5.85	6.11	6.26	6.72		# of strides	11.88	11.07	11.96	12.98	22.95	24.94	1.99
		velocity	7.67	9.33	9.14	8.93	8.55	8.18	7.99	7.44	8.35	185.0	8.42	9.03	8.36	7.70	8.71	8.02	

Katayama, Yuto (JPN) (1997)
Heat 2 - 2017 Japanese National Championships (Osaka, JPN)
(2017) - tfdata-store.com/2017/07/08/post-965/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-17	time		11.27		21.91		33.93		47.90	47.90	7 / 7							
reaction time	0.152	interval				10.64		12.02		13.97		# of strides	11.27	10.64	12.02	13.97	21.91	25.99	4.08
		velocity		8.87		9.40		8.32		7.16	8.35	192.2	8.87	9.40	8.32	7.16	9.13	7.70	

Kimura, Jun (JPN) (1991)
B FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)
Kobayashi (2019) - research on athlete performance and technique- 2019 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-19	time	6.24	11.44	16.84	22.57	28.47	34.65	41.04	47.90	47.90	4 / 3							
reaction time		interval		5.20	5.40	5.73	5.90	6.18	6.39	6.86		# of strides	11.44	11.13	12.08	13.25	22.57	25.33	2.76
		velocity	8.01	9.62	9.26	8.73	8.47	8.09	7.82	7.29	8.35	183.0	8.74	8.98	8.28	7.55	8.86	7.90	

Keito, Sato (JPN) (2001)
Heat 2 - 2020 Japanese U20 National Championships (Hiroshima, JPN)
Kobayashi (2020) - national high school and U20 national championhsips

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Oct-20	time	6.50	11.96	17.57	23.34	29.25	35.30	41.40	47.90	47.90	3 / 3							
reaction time	0.165	interval		5.46	5.61	5.77	5.91	6.05	6.10	6.50		# of strides	11.96	11.38	11.96	12.60	23.34	24.56	1.22
		velocity	7.69	9.16	8.91	8.67	8.46	8.26	8.20	7.69	8.35	186.8	8.36	8.79	8.36	7.94	8.57	8.14	

Gombault, Cornelien (FRA) (1953)
Heat 1 - 1978 European Championships (Prague, TCH)
Lamare (1978) - championnats d'Europa 1978

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Aug-78	time				23.14				47.91	47.91	/ 5							
reaction time		interval								24.77		# of strides					23.14	24.77	1.63
		velocity				8.64				8.07	8.35						8.64	8.07	

Kokubo, Tomohiro (JPN) (1998)
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Oct-16	time	6.58	12.00	17.63	23.35	29.21	35.13	41.25	47.91	47.91	5 / 4							
reaction time	0.194	interval		5.42	5.63	5.72	5.86	5.92	6.12	6.66		# of strides	12.00	11.35	11.78	12.78	23.35	24.56	1.21
		velocity	7.60	9.23	8.88	8.74	8.53	8.45	8.17	7.51	8.35		8.33	8.81	8.49	7.82	8.57	8.14	

Sun Jiahao (CHN) (2002)
FINAL - 2023 Chinese World Championship & Asian Games Trials (Shenyang, CHN)
Shandong Athletics Sport Science (2023)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jun-23	time		11.93		22.94		34.75	40.91	47.91	47.91	8 / 7							
reaction time	0.231	interval				11.01		11.81	6.16	7.00		# of strides	11.93	11.01	11.81	13.16	22.94	24.97	2.03
		velocity		8.38		9.08		8.47	8.12	7.14	8.35	181.5	8.38	9.08	8.47	7.60	8.72	8.01	

Choshi, Mori (JPN)
FINAL - 2017 Nanbu Memorial Meeting (Sapporo, JPN)
(2017) - tfdata-store.com/2017/07/11/post-1010/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jul-17	time		11.77		22.74		34.86		47.92	47.92	8 / 6							
reaction time		interval				10.97		12.12		13.06		# of strides	11.77	10.97	12.12	13.06	22.74	25.18	2.44
		velocity		8.50		9.12		8.25		7.66	8.35	186.0	8.50	9.12	8.25	7.66	8.80	7.94	

Terai, Shota (JPN) (1997)
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)
Yanagiya (2014) - research on athlete performance and technique- 2014 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jul-14	time	6.68	12.14	17.58	23.23	29.11	35.21	41.31	47.93	47.93	/ 6							
reaction time		interval		5.46	5.44	5.65	5.88	6.10	6.10	6.62		# of strides	12.14	11.09	11.98	12.72	23.23	24.70	1.47
		velocity	7.49	9.16	9.19	8.85	8.50	8.20	8.20	7.55	8.35		8.24	9.02	8.35	7.86	8.61	8.10	

Nakatsukue, Haruhiko (JPN) (1998)
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Oct-15	time	6.61	12.02	17.55	23.39	29.38	35.50	41.58	47.93	47.93	/ 4							
reaction time		interval		5.41	5.53	5.84	5.99	6.12	6.08	6.35		# of strides	12.02	11.37	12.11	12.43	23.39	24.54	1.15
		velocity	7.56	9.24	9.04	8.56	8.35	8.17	8.22	7.87	8.35		8.32	8.80	8.26	8.05	8.55	8.15	

Kokubo, Tomohiro (JPN) (1998)
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

date	21-Oct-16	time	6.62	12.13	17.75	23.63	29.72	35.75	41.79	47.93	47.93	6 / 5						
reaction time		interval		5.51	5.62	5.88	6.09	6.03	6.04	6.14		# of strides	12.13	11.50	12.12	12.18	23.63	24.30	0.67
		velocity	7.55	9.07	8.90	8.50	8.21	8.29	8.28	8.14	8.35		8.24	8.70	8.25	8.21	8.46	8.23	

Kaneda, Riki (JPN) (2000)
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)
Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 02-Aug-18 time	6.32	11.59	16.93	22.57	28.49	34.60	41.00	47.93	47.93	3 / 7							
reaction time interval		5.27	5.34	5.64	5.92	6.11	6.40	6.93		# of strides	11.59	10.98	12.03	13.33	22.57	25.36	2.79
velocity	7.91	9.49	9.36	8.87	8.45	8.18	7.81	7.22	8.35		8.63	9.11	8.31	7.50	8.86	7.89	

Chen Feifeng (CHN) (2002)
Heat 6 - 2023 Chinese National Grand Prix 3 (Taizhou, CHN)
Shandong Athletics Sport Science (2023)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 26-May-23 time		11.26		22.36		34.59	40.93	47.93	47.93	6 / 1							
reaction time 0.228 interval				11.10		12.23	6.34	7.00		# of strides	11.26	11.10	12.23	13.34	22.36	25.57	3.21
velocity		8.88		9.01		8.18	7.89	7.14	8.35		8.88	9.01	8.18	7.50	8.94	7.82	

Mahamat, Khala Ngare (QAT) (2007)
Invitational FINAL - 2025 Jetour Doha Meeting (Doha, QAT)
Omega Timing (2025) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 16-May-25 time	6.55	11.92	17.73	23.84	29.82	35.72	41.56	47.93	47.93	4 / 5							
reaction time 0.188 interval		5.37	5.81	6.11	5.98	5.90	5.84	6.37		# of strides	11.92	11.92	11.88	12.21	23.84	24.09	0.25
velocity	7.63	9.31	8.61	8.18	8.36	8.47	8.56	7.85	8.35		8.39	8.39	8.42	8.19	8.39	8.30	

Swatowski, Stanislaw (POL) (1934)
FINAL - 1958 European Championships (Stockholm, SWE)
(1959) - der 400-m-hürdenlauf in stockholm

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 21-Aug-58 time				21.8				47.8	47.8	/ 6							
reaction time interval								26.0		# of strides					21.80	26.00	4.20
velocity				9.17				7.69	8.37						9.17	7.69	

Yoshiki, Tsubasa (JPN) (2003)
Heat 5 - 2020 Japanese High School National Championships (Hiroshima, JPN)
Kobayashi (2020) - national high school and U20 national championhsips

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 23-Oct-20 time	6.48	11.72	17.07	22.58	28.28	34.34	40.91	47.94	47.94	3 / 2							
reaction time 0.174 interval		5.24	5.35	5.51	5.70	6.06	6.57	7.03		# of strides	11.72	10.86	11.76	13.60	22.58	25.36	2.78
velocity	7.72	9.54	9.35	9.07	8.77	8.25	7.61	7.11	8.34	209.5	8.53	9.21	8.50	7.35	8.86	7.89	

Sawada, Natsuki (JPN) (2000)
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 21-Oct-16 time	6.79	12.47	18.25	24.14	29.83	35.61	41.61	47.95	47.95	1 / 5							
reaction time interval		5.68	5.78	5.89	5.69	5.78	6.00	6.34		# of strides	12.47	11.67	11.47	12.34	24.14	23.81	-0.33
velocity	7.36	8.80	8.65	8.49	8.79	8.65	8.33	7.89	8.34		8.02	8.57	8.72	8.10	8.29	8.40	

Bastien, Steven (USA) (1994)
Decathlon - Heat 3 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 23-Jul-22 time		11.60		22.94		35.42		47.95	47.95	2 / 6							
reaction time 0.148 interval				11.34		12.48		12.53		# of strides	11.60	11.34	12.48	12.53	22.94	25.01	2.07
velocity		8.62		8.82		8.01		7.98	8.34		8.62	8.82	8.01	7.98	8.72	8.00	

Ito, Rikiya (JPN) (1998)
FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 16-Oct-15 time	6.54	11.79	17.17	22.89	28.86	35.02	41.25	47.96	47.96	5 / 3							
reaction time interval		5.25	5.38	5.72	5.97	6.16	6.23	6.71		# of strides	11.79	11.10	12.13	12.94	22.89	25.07	2.18
velocity	7.65	9.52	9.29	8.74	8.38	8.12	8.03	7.45	8.34		8.48	9.01	8.24	7.73	8.74	7.98	

Yamazaki, Hiroki (JPN) (1996)
Division 2 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/02/post-835/

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 26-May-17 time		12.12		23.47		35.14		47.96	47.96	2 / 3							
reaction time interval				11.35		11.67		12.82		# of strides	12.12	11.35	11.67	12.82	23.47	24.49	1.02
velocity		8.25		8.81		8.57		7.80	8.34	181.0	8.25	8.81	8.57	7.80	8.52	8.17	

Horii, Kosuke (JPN) (1994)
FINAL - 2018 Japanese Corporate Championships (Osaka, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 23-Sep-18 time	6.46	11.84	17.30	23.09	29.07	35.14	41.33	47.96	47.96	9 / 6							
reaction time 0.177 interval		5.38	5.46	5.79	5.98	6.07	6.19	6.63		# of strides	11.84	11.25	12.05	12.82	23.09	24.87	1.78
velocity	7.74	9.29	9.16	8.64	8.36	8.24	8.08	7.54	8.34		8.45	8.89	8.30	7.80	8.66	8.04	

Hirakawa, Kira (JPN) (2005)
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)
Shibayama (2021) - national high school and U20 national championhsips

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 28-Jul-21 time	6.44	11.67	17.10	22.73	28.47	34.42	40.82	47.96	47.96	2 / 3							
reaction time 0.189 interval		5.23	5.43	5.63	5.74	5.95	6.40	7.14		# of strides	11.67	11.06	11.69	13.54	22.73	25.23	2.50
velocity	7.76	9.56	9.21	8.88	8.71	8.40	7.81	7.00	8.34		8.57	9.04	8.55	7.39	8.80	7.93	

Steinforth, Till (GER) (2002)
Decathlon - Heat 3 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 02-Aug-24 time	6.42	11.69	16.98	22.48	28.24	34.39	40.89	47.96	47.96	7 / 7							
reaction time 0.156 interval		5.27	5.29	5.50	5.76	6.15	6.50	7.07		# of strides	11.69	10.79	11.91	13.57	22.48	25.48	3.00
velocity	7.79	9.49	9.45	9.09	8.68	8.13	7.69	7.07	8.34	178.0	8.55	9.27	8.40	7.37	8.90	7.85	

Thompson, Luca (NOR) (2000)
National FINAL - 2019 Bislett Games (Olso, NOR)
Omega Timing (2019) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 13-Jun-19 time		12.2		23.3		35.2		47.97	47.97	3 / 1							
reaction time 0.143 interval				11.1		11.9		12.8	PB	# of strides	12.20	11.10	11.90	12.77	23.30	24.67	1.37
velocity		8.20		9.01		8.40		7.83	8.34		8.20	9.01	8.40	7.83	8.58	8.11	

Tominaga, Yuhei (JPN) (2004)
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)
Shibayama (2021) - national high school and U20 national championhsips

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 28-Jul-21 time	6.42	11.78	17.40	23.25	29.11	35.17	41.42	47.97	47.97	4 / 4							
reaction time 0.164 interval		5.36	5.62	5.85	5.86	6.06	6.25	6.55		# of strides	11.78	11.47	11.92	12.80	23.25	24.72	1.47
velocity	7.79	9.33	8.90	8.55	8.53	8.25	8.00	7.63	8.34		8.49	8.72	8.39	7.81	8.60	8.09	

Harada, Masato (JPN) (2004)
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)
Kishima (2022) - national high school championships biomechanics data collection

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Aug-22	time		11.72		22.60		34.62		47.97	47.97	8 / 3							
reaction time	0.175	interval				10.88		12.02		13.35		# of strides	11.72	10.88	12.02	13.35	22.60	25.37	2.77
		velocity		8.53		9.19		8.32		7.49	8.34	187.2	8.53	9.19	8.32	7.49	8.85	7.88	

Tanino, Yusei (JPN)
FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN)
Takashima (2023) - national high school sports festival - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-23	time		11.71		22.79		34.80		47.97	47.97	3 / 6							
reaction time	0.203	interval				11.08		12.01		13.17		# of strides	11.71	11.08	12.01	13.17	22.79	25.18	2.39
		velocity		8.54		9.03		8.33		7.59	8.34		8.54	9.03	8.33	7.59	8.78	7.94	

Daggu, Abdelmageed (QAT) (1998)
Invitational FINAL - 2025 Jetour Doha Meeting (Doha, QAT)
Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-May-25	time	6.34	11.63	17.40	23.46	29.49	35.40	41.37	47.97	47.97	2 / 6							
reaction time	0.201	interval		5.29	5.77	6.06	6.03	5.91	5.97	6.60		# of strides	11.63	11.83	11.94	12.57	23.46	24.51	1.05
		velocity	7.89	9.45	8.67	8.25	8.29	8.46	8.38	7.58	8.34		8.60	8.45	8.38	7.96	8.53	8.16	

Koshimizu, Yusuke (JPN) (2000)
U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN)
Kijima (2019) - research on athlete performance and technique- 2019 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Oct-19	time	6.28	11.39	16.65	22.35	28.28	34.49	41.04	47.98	47.98	6 / 4							
reaction time	0.225	interval		5.11	5.26	5.70	5.93	6.21	6.55	6.94		# of strides	11.39	10.96	12.14	13.49	22.35	25.63	3.28
		velocity	7.96	9.78	9.51	8.77	8.43	8.05	7.63	7.20	8.34	179.7	8.78	9.12	8.24	7.41	8.95	7.80	

Kitakani, Naoki (JPN) (1998)
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/02/post-835/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.52		22.46		34.86		47.99	47.99	8 / 5							
reaction time		interval				10.94		12.40		13.13		# of strides	11.52	10.94	12.40	13.13	22.46	25.53	3.07
		velocity		8.68		9.14		8.06		7.62	8.34	179.2	8.68	9.14	8.06	7.62	8.90	7.83	

Neugebauer, Leo (GER) (2000)
Decathlon - Heat 3 - 2023 World Athletics Championships (Budapest, HUN)
Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Aug-23	time		11.56		22.51		34.50		47.99	47.99	4 / 6							
reaction time	0.204	interval				10.95		11.99		13.49		# of strides	11.56	10.95	11.99	13.49	22.51	25.48	2.97
		velocity		8.65		9.13		8.34		7.41	8.34	168.5	8.65	9.13	8.34	7.41	8.88	7.85	

Maslák, Pavel (CZE) (1991)
Heat 3 - 2024 European Athletics Championships (Roma, ITA)
European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jun-24	time		11.93		23.23		35.18		47.99	47.99	8 / 7							
reaction time	0.239	interval				11.30		11.95		12.81		# of strides	11.93	11.30	11.95	12.81	23.23	24.76	1.53
		velocity		8.38		8.85		8.37		7.81	8.34		8.38	8.85	8.37	7.81	8.61	8.08	

Suárez, Leonel (CUB) (1987)
Decathlon - Heat 2 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Aug-09	time		11.41		22.66		34.74		48.00	48.00	4 / 5							
reaction time	0.137	interval				11.25		12.08		13.26		# of strides	11.41	11.25	12.08	13.26	22.66	25.34	2.68
		velocity		8.76		8.89		8.28		7.54	8.33		8.76	8.89	8.28	7.54	8.83	7.89	

Hosoi, Brian (JPN) (1999)
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)
Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-17	time	6.52	11.99	17.60	23.32	29.22	35.36	41.63	48.00	48.00	8 / 5							
reaction time	0.176	interval		5.47	5.61	5.72	5.90	6.14	6.27	6.37		# of strides	11.99	11.33	12.04	12.64	23.32	24.68	1.36
		velocity	7.67	9.14	8.91	8.74	8.47	8.14	7.97	7.85	8.33		8.34	8.83	8.31	7.91	8.58	8.10	

Yamasaki, Nenji (JPN) (2000)
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)
Ryutaro (2018) - research on athlete performance and technique- 2018 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Oct-18	time	6.35	11.51	16.93	22.70	28.70	34.96	41.35	48.00	48.00	8 / 7							
reaction time	0.180	interval		5.16	5.42	5.77	6.00	6.26	6.39	6.65		# of strides	11.51	11.19	12.26	13.04	22.70	25.30	2.60
		velocity	7.87	9.69	9.23	8.67	8.33	7.99	7.82	7.52	8.33	190.0	8.69	8.94	8.16	7.67	8.81	7.91	

Badji, Asamti (BEL) (1995)
National FINAL - 2019 Memorial van Damme (Brussels, BEL)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Sep-19	time	6.4	11.5	16.8	22.3	28.1	34.3	40.8	48.00	48.00	9 / 7							
reaction time		interval		5.1	5.3	5.5	5.8	6.2	6.5	13.7		# of strides	11.50	10.80	12.00	13.70	22.30	25.70	3.40
		velocity	7.81	9.80	9.43	9.09	8.62	8.06	7.69	7.30	8.33		8.70	9.26	8.33	7.30	8.97	7.78	

Fujiyoshi, Shunta (JPN) (2001)
U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN)
Kijima (2019) - research on athlete performance and technique- 2019 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Oct-19	time	6.54	11.77	17.08	22.69	28.64	34.81	41.18	48.00	48.00	2 / 5							
reaction time	0.178	interval		5.23	5.31	5.61	5.95	6.17	6.37	6.82		# of strides	11.77	10.92	12.12	13.19	22.69	25.31	2.62
		velocity	7.65	9.56	9.42	8.91	8.40	8.10	7.85	7.33	8.33		8.50	9.16	8.25	7.58	8.81	7.90	

Allen, Nathon (JAM) (1995)
FINAL - 2022 Commonwealth Games (Birmingham, GBR)
Longines Timing (2022) - commonwealth games race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-22	time	6.5	11.8	17.0	22.6	28.3	34.3	40.6	48.00	48.00	9 / 8							
reaction time	0.165	interval		5.30	5.20	5.60	5.70	6.00	6.30	7.40		# of strides	11.80	10.80	11.70	13.70	22.60	25.40	2.80
		velocity	7.69	9.43	9.62	8.93	8.77	8.33	7.94	6.76	8.33		8.47	9.26	8.55	7.30	8.85	7.87	

Mahamoud, Mahamat Moussa Abdull
West Asian GP - 2025 Jetour Doha Meeting (Doha, QAT)
Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-May-25	time	6.27	11.53	16.99	22.67	28.40	34.38	40.74	48.00	48.00	5 / 4							
reaction time	0.182	interval		5.26	5.46	5.68	5.73	5.98	6.36	7.26		# of strides	11.53	11.14	11.71	13.62	22.67	25.33	2.66
		velocity	7.97	9.51	9.16	8.80	8.73	8.36	7.86	6.89	8.33		8.67	8.98	8.54	7.34	8.82	7.90	

Sato, Takuya (JPN) (1993)
FINAL - 2011 Japanese National High School Championships (Kitamaki, JPN)
Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	04-Aug-11	time		11.58		22.63		34.78		48.01	48.01	3 / 4						
reaction time		interval				11.05		12.15		13.23		# of strides	11.58	11.05	12.15	13.23	22.63	25.38	2.75
		velocity		8.64		9.05		8.23		7.56	8.33		8.64	9.05	8.23	7.56	8.84	7.88	

Jones, Jonathan (BAR) (1999)

FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)

Koyama (2018) - research on athlete performance and technique- 2018 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jul-18	time	6.34	11.37	16.43	21.89	27.61	33.72	40.40	48.01	48.01	8 / 8							
reaction time	0.185	interval		5.03	5.06	5.46	5.72	6.11	6.68	7.61		# of strides	11.37	10.52	11.83	14.29	21.89	26.12	4.23
		velocity	7.89	9.94	9.88	9.16	8.74	8.18	7.49	6.57	8.33		8.80	9.51	8.45	7.00	9.14	7.66	

Nakamichi, Daiki (JPN) (2004)

FINAL - 2022 Japanese National High School Championships (Naruto, JPN)

Kishima (2022) - national high school championships biomechanics data collection

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Aug-22	time		11.92		23.19		35.51		48.01	48.01	7 / 4							
reaction time	0.164	interval				11.27		12.32		12.50		# of strides	11.92	11.27	12.32	12.50	23.19	24.82	1.63
		velocity		8.39		8.87		8.12		8.00	8.33	180.0	8.39	8.87	8.12	8.00	8.62	8.06	

Ikeda, Kosuke (JPN) (1995)

FINAL - 2017 National Sports Festival (Matsuyama, JPN)

(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.69		22.75		34.92		48.02	48.02	6 / 7							
reaction time	0.172	interval				11.06		12.17		13.10		# of strides	11.69	11.06	12.17	13.10	22.75	25.27	2.52
		velocity		8.55		9.04		8.22		7.63	8.33	183.0	8.55	9.04	8.22	7.63	8.79	7.91	

Noguchi, Kohei (JPN) (2000)

FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)

Ryutaro (2018) - research on athlete performance and technique- 2018 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Oct-18	time	6.37	11.53	16.88	22.52	28.44	34.65	41.17	48.02	48.02	1 / 8							
reaction time	0.149	interval		5.16	5.35	5.64	5.92	6.21	6.52	6.85		# of strides	11.53	10.99	12.13	13.37	22.52	25.50	2.98
		velocity	7.85	9.69	9.35	8.87	8.45	8.05	7.67	7.30	8.33	187.0	8.67	9.10	8.24	7.48	8.88	7.84	

Õiglane, Janek (EST) (1994)

Decathlon - Heat 1 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-24	time	6.34	11.59	17.13	22.84	28.71	34.79	41.20	48.02	48.02	4 / 1							
reaction time	0.160	interval		5.25	5.54	5.71	5.87	6.08	6.41	6.82	PB	# of strides	11.59	11.25	11.95	13.23	22.84	25.18	2.34
		velocity	7.89	9.52	9.03	8.76	8.52	8.22	7.80	7.33	8.33	181.7	8.63	8.89	8.37	7.56	8.76	7.94	

Sugue, Kohei (JPN) (1997)

Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)

(2017) - tfdata-store.com/2017/06/02/post-835/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		12.08		23.48		35.24		48.03	48.03	3 / ~~5~~ 4							
reaction time		interval				11.40		11.76		12.79		# of strides	12.08	11.40	11.76	12.79	23.48	24.55	1.07
		velocity		8.28		8.77		8.50		7.82	8.33	187.7	8.28	8.77	8.50	7.82	8.52	8.15	

Fujimoto, Masaru (JPN)

FINAL - 2016 China Perfecture High School Championships (Okayama, JPN)

(2016.06.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jun-16	time		12.16		23.20		34.95		48.04	48.04	9 / 1							
reaction time		interval				11.04		11.75		13.09		# of strides	12.16	11.04	11.75	13.09	23.20	24.84	1.64
		velocity		8.22		9.06		8.51		7.64	8.33		8.22	9.06	8.51	7.64	8.62	8.05	

Ito, Rikiya (JPN) (1998)

Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)

(2017) - tfdata-store.com/2017/06/02/post-835/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.82		22.76		34.87		48.04	48.04	9 / 6							
reaction time		interval				10.94		12.11		13.17		# of strides	11.82	10.94	12.11	13.17	22.76	25.28	2.52
		velocity		8.46		9.14		8.26		7.59	8.33	198.7	8.46	9.14	8.26	7.59	8.79	7.91	

Okoro, Efekemo (GBR) (1992)

B FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)

Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-May-22	time	6.3	11.4	16.7	22.1	27.9	34.2	40.8	48.04	48.04	1 / 9							
reaction time	0.146	interval		5.10	5.30	5.40	5.80	6.30	6.60	7.24		# of strides	11.40	10.70	12.10	13.84	22.10	25.94	3.84
		velocity	7.94	9.80	9.43	9.26	8.62	7.94	7.58	6.91	8.33		8.77	9.35	8.26	7.23	9.05	7.71	

Merhe Mortada, Mohamad (LBN) (19

Heat B - West Asian Championships - 2024 Seashore Doha Meeting (Doha, QAT)

Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-May-24	time	6.31	11.67	17.29	23.13	29.13	35.29	41.57	48.04	48.04	3 / 1							
reaction time	0.152	interval		5.36	5.62	5.84	6.00	6.16	6.28	6.47		# of strides	11.67	11.46	12.16	12.75	23.13	24.91	1.78
		velocity	7.92	9.33	8.90	8.56	8.33	8.12	7.96	7.73	8.33		8.57	8.73	8.22	7.84	8.65	8.03	

Tomioka, Yuya (JPN) (1998)

Division 2 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)

(2017) - tfdata-store.com/2017/06/02/post-835/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.40		22.32		34.44		48.05	48.05	4 / 3							
reaction time		interval				10.92		12.12		13.61		# of strides	11.40	10.92	12.12	13.61	22.32	25.73	3.41
		velocity		8.77		9.16		8.25		7.35	8.32	182.0	8.77	9.16	8.25	7.35	8.96	7.77	

Dunn, Jarryd (GBR) (1992)

National FINAL - 2018 Müller Anniversary Games (London, GBR)

Omega Timing (2018) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-18	time		11.8		22.7		34.7		48.05	48.05	2 / 9							
reaction time	0.157	interval				10.9		12.0		13.4		# of strides	11.80	10.90	12.00	13.35	22.70	25.35	2.65
		velocity		8.47		9.17		8.33		7.49	8.32		8.47	9.17	8.33	7.49	8.81	7.89	

Keito, Sato (JPN) (2001)

FINAL - 2020 Japanese U20 National Championships (Hiroshima, JPN)

Kobayashi (2020) - national high school and U20 national championhsips

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Oct-20	time	6.56	11.99	17.52	23.27	29.29	35.41	41.61	48.05	48.05	1 / 5							
reaction time	0.148	interval		5.43	5.53	5.75	6.02	6.12	6.20	6.44		# of strides	11.99	11.28	12.14	12.64	23.27	24.78	1.51
		velocity	7.62	9.21	9.04	8.70	8.31	8.17	8.06	7.76	8.32	186.9	8.34	8.87	8.24	7.91	8.59	8.07	

Victor, Lindon (GRN) (1993)

Decathlon - Heat 2 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Aug-23	time		11.46		22.52		34.69		48.05	48.05	2 / 2							
reaction time	0.160	interval				11.06		12.17		13.36	PB	# of strides	11.46	11.06	12.17	13.36	22.52	25.53	3.01
		velocity		8.73		9.04		8.22		7.49	8.32	177.0	8.73	9.04	8.22	7.49	8.88	7.83	

Eto, Takuto (JPN) (1997)
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Oct-15	time	6.65	12.16	17.77	23.51	29.45	35.37	41.54	48.06	48.06	/ 5							
reaction time		interval		5.51	5.61	5.74	5.94	5.92	6.17	6.52		# of strides	12.16	11.35	11.86	12.69	23.51	24.55	1.04
		velocity	7.52	9.07	8.91	8.71	8.42	8.45	8.10	7.67	8.32		8.22	8.81	8.43	7.88	8.51	8.15	

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

Yamazaki, Hiroki (JPN) (1996)
Division 2 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.98		23.03		34.73		48.06	48.06	9 / 4							
reaction time		interval				11.05		11.70		13.33		# of strides	11.98	11.05	11.70	13.33	23.03	25.03	2.00
		velocity		8.35		9.05		8.55		7.50	8.32	182.0	8.35	9.05	8.55	7.50	8.68	7.99	

(2017) - tfdata-store.com/2017/06/01/post-786/

Kawai, Toshito (JPN)
FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-23	time		11.68		22.96		35.19		48.06	48.06	8 / 7							
reaction time	0.231	interval				11.28		12.23		12.87		# of strides	11.68	11.28	12.23	12.87	22.96	25.10	2.14
		velocity		8.56		8.87		8.18		7.77	8.32		8.56	8.87	8.18	7.77	8.71	7.97	

Takashima (2023) - national high school sports festival - biomechanics data

Adoum, Khalid Wadi (QAT) (2005)
Invitational FINAL - 2025 Jetour Doha Meeting (Doha, QAT)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-May-25	time	6.24	11.60	17.50	23.50	29.39	35.44	41.53	48.06	48.06	3 / 7							
reaction time	0.175	interval		5.36	5.90	6.00	5.89	6.05	6.09	6.53		# of strides	11.60	11.90	11.94	12.62	23.50	24.56	1.06
		velocity	8.01	9.33	8.47	8.33	8.49	8.26	8.21	7.66	8.32		8.62	8.40	8.38	7.92	8.51	8.14	

Omega Timing (2025) - diamond league race analysis

Yanagisawa, Junki (JPN) (1991)
FINAL - 2008 Japanese National High School Championships (Kumagaya, JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-08	time	6.76	12.30	18.00	23.67	29.51	35.53	41.67	48.07	48.07	/ 3							
reaction time		interval		5.54	5.70	5.67	5.84	6.02	6.14	6.40		# of strides	12.30	11.37	11.86	12.54	23.67	24.40	0.73
		velocity	7.40	9.03	8.77	8.82	8.56	8.31	8.14	7.81	8.32		8.13	8.80	8.43	7.97	8.45	8.20	

Abe (2008) - 61st high school championships: JAF scientific committee - biomechanics data

Wakabayashi, Kota (JPN) (1997)
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Oct-16	time	6.50	11.96	17.50	23.27	29.20	35.24	41.50	48.07	48.07	5 / 6							
reaction time		interval		5.46	5.54	5.77	5.93	6.04	6.26	6.57		# of strides	11.96	11.31	11.97	12.83	23.27	24.80	1.53
		velocity	7.69	9.16	9.03	8.67	8.43	8.28	7.99	7.61	8.32		8.36	8.84	8.35	7.79	8.59	8.06	

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

Inoguchi, Yuta (JPN) (1994)
FINAL - 2011 Japanese National High School Championships (Kitamaki, JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-11	time		12.32		23.52		35.31		48.08	48.08	9 / 5							
reaction time		interval				11.20		11.79		12.77		# of strides	12.32	11.20	11.79	12.77	23.52	24.56	1.04
		velocity		8.12		8.93		8.48		7.83	8.32		8.12	8.93	8.48	7.83	8.50	8.14	

Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics data

Ito, Rikiya (JPN) (1998)
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Oct-16	time	6.71	12.15	17.67	23.42	29.35	35.36	41.51	48.08	48.08	2 / 5							
reaction time	0.191	interval		5.44	5.52	5.75	5.93	6.01	6.15	6.57		# of strides	12.15	11.27	11.94	12.72	23.42	24.66	1.24
		velocity	7.45	9.19	9.06	8.70	8.43	8.32	8.13	7.61	8.32		8.23	8.87	8.38	7.86	8.54	8.11	

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

Obuchi, Mizuki (JPN) (1997)
B FINAL - 2021 Shizuoka International Athletics Meeting (Fukuroi, JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-21	time	6.24	11.49	16.85	22.40	28.14	34.18	40.54	48.08	48.08	5 / 8							
reaction time	0.191	interval		5.25	5.36	5.55	5.74	6.04	6.36	7.54		# of strides	11.49	10.91	11.78	13.90	22.40	25.68	3.28
		velocity	8.01	9.52	9.33	9.01	8.71	8.28	7.86	6.63	8.32		8.70	9.17	8.49	7.19	8.93	7.79	

Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

Ureña, Jorge (ESP) (1993)
Decathlon - Heat 2 - 2024 Olympic Games (Paris, FRA)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-24	time	6.61	11.98	17.40	23.08	28.91	34.89	41.19	48.08	48.08	3 / 6							
reaction time	0.141	interval		5.37	5.42	5.68	5.83	5.98	6.30	6.89		# of strides	11.98	11.10	11.81	13.19	23.08	25.00	1.92
		velocity	7.56	9.31	9.23	8.80	8.58	8.36	7.94	7.26	8.32	174.0	8.35	9.01	8.47	7.58	8.67	8.00	

Paris 2024 Olympic Games - Results Book (2024)

Nakamura, Akihiko (JPN) (1990)
Decathlon - Heat 2 - 2013 Wakayama Athletics Meeting (Wakayama, JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Apr-13	time	6.33	11.56	16.95	22.85	29.04	35.19	41.38	48.09	48.09	6 / 1							
reaction time		interval		5.23	5.39	5.90	6.19	6.15	6.19	6.71		# of strides	11.56	11.29	12.34	12.90	22.85	25.24	2.39
		velocity	7.90	9.56	9.28	8.47	8.08	8.13	8.08	7.45	8.32		8.65	8.86	8.10	7.75	8.75	7.92	

Takeo (2014) - decathletes sprint ability & relationship of individual event performance

Nomura, Yuki (JPN) (1998)
FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Oct-15	time	6.46	11.75	17.28	23.11	29.25	35.48	41.74	48.09	48.09	7 / 4							
reaction time		interval		5.29	5.53	5.83	6.14	6.23	6.26	6.35		# of strides	11.75	11.36	12.37	12.61	23.11	24.98	1.87
		velocity	7.74	9.45	9.04	8.58	8.14	8.03	7.99	7.87	8.32		8.51	8.80	8.08	7.93	8.65	8.01	

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

Imoto, Yoshinobu (JPN) (1999)
B FINAL - 2021 Shizuoka International Athletics Meeting (Fukuroi, JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-21	time	6.00	11.01	16.23	21.85	27.68	33.79	40.41	48.09	48.09	8 / 9							
reaction time	0.151	interval		5.01	5.22	5.62	5.83	6.11	6.62	7.68		# of strides	11.01	10.84	11.94	14.30	21.85	26.24	4.39
		velocity	8.33	9.98	9.58	8.90	8.58	8.18	7.55	6.51	8.32		9.08	9.23	8.38	6.99	9.15	7.62	

Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

Ibrahim Issaka, Hussein (QAT) (2003)
B FINAL - 2021 Doha Diamond League (Doha, QAT)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-21	time	6.4	11.5	17.0	22.8	28.9	35.1	41.5	48.10	48.10	2 / 4							
reaction time	0.173	interval		5.10	5.50	5.80	6.10	6.20	6.40	6.60	PB	# of strides	11.50	11.30	12.30	13.00	22.80	25.30	2.50
		velocity	7.81	9.80	9.09	8.62	8.20	8.06	7.81	7.58	8.32		8.70	8.85	8.13	7.69	8.77	7.91	

Omega Timing (2021) - diamond league race analysis

Miura, Ayumu (JPN) (1997)
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

date	16-Oct-15	time	6.43	11.65	17.18	22.93	28.83	35.08	41.51	48.11	48.11	/ 7						
reaction time		interval		5.22	5.53	5.75	5.90	6.25	6.43	6.60		# of strides	11.65	11.28	12.15	13.03	22.93	25.18	2.25
		velocity	7.78	9.58	9.04	8.70	8.47	8.00	7.78	7.58	8.31		8.58	8.87	8.23	7.67	8.72	7.94	

Hoshino, Sota (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 2 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/02/post-835/*
date 26-May-17	time	12.20		23.36		35.26		48.11	48.11	8 / 4							
reaction time	interval			11.16		11.90		12.85		# of strides	12.20	11.16	11.90	12.85	23.36	24.75	1.39
	velocity	8.20		8.96		8.40		7.78	8.31	172.0	8.20	8.96	8.40	7.78	8.56	8.08	

Sigurdsen, Simen (NOR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Bislett Games (Olso, NOR)																	*Omega Timing (2019) - diamond league race analysis*
date 13-Jun-19	time	11.5		22.6		34.7		48.11	48.11	6 / 2							
reaction time 0.144	interval			11.1		12.1		13.4		# of strides	11.50	11.10	12.10	13.41	22.60	25.51	2.91
	velocity	8.70		9.01		8.26		7.46	8.31		8.70	9.01	8.26	7.46	8.85	7.84	

Asakawa, Hiroki (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17	time	11.66		22.53		34.43		48.12	48.12	9 / 6							
reaction time 0.215	interval			10.87		11.90		13.69	PB	# of strides	11.66	10.87	11.90	13.69	22.53	25.59	3.06
	velocity	8.58		9.20		8.40		7.30	8.31	185.0	8.58	9.20	8.40	7.30	8.88	7.82	

Matsukiyo, Kazuki (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17	time	11.88		22.86		34.62		48.12	48.12	8 / 7							
reaction time 0.214	interval			10.98		11.76		13.50		# of strides	11.88	10.98	11.76	13.50	22.86	25.26	2.40
	velocity	8.42		9.11		8.50		7.41	8.31	194.5	8.42	9.11	8.50	7.41	8.75	7.92	

Mori, Syuji (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2018 IAAF World Junior Championships (Tampere, FIN)																	*Koyama (2018) - research on athlete performance and technique- 2018 data book*
date 11-Jul-18	time	6.28	11.36	16.57	22.20	28.13	34.39	40.99	48.12	48.12	2 / 6						
reaction time 0.159	interval		5.08	5.21	5.63	5.93	6.26	6.60	7.13		# of strides	11.36	10.84	12.19	13.73	22.20	25.92	3.72
	velocity	7.96	9.84	9.60	8.88	8.43	7.99	7.58	7.01	8.31		8.80	9.23	8.20	7.28	9.01	7.72	

Nakajima, Yuki Joseph (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Japanese U20 National Championships (Hiroshima, JPN)																	*Kobayashi (2020) - national high school and U20 national championhsips*
date 23-Oct-20	time	6.46	11.85	17.40	23.15	29.08	35.17	41.43	48.12	48.12	3 / 6						
reaction time 0.188	interval		5.39	5.55	5.75	5.93	6.09	6.26	6.69		# of strides	11.85	11.30	12.02	12.95	23.15	24.97	1.82
	velocity	7.74	9.28	9.01	8.70	8.43	8.21	7.99	7.47	8.31	173.7	8.44	8.85	8.32	7.72	8.64	8.01	

Gahne, Gustav (SWE) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2023 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2023) - diamond league race analysis*
date 02-Jul-23	time	6.39	11.63	16.99	22.54	28.37	34.56	41.06	48.12	48.12	2 / 4						
reaction time 0.180	interval		5.24	5.36	5.55	5.83	6.19	6.50	7.06		# of strides	11.63	10.91	12.02	13.56	22.54	25.58	3.04
	velocity	7.82	9.54	9.33	9.01	8.58	8.08	7.69	7.08	8.31		8.60	9.17	8.32	7.37	8.87	7.82	

Hardee, Trey (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 4 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 19-Aug-09	time		11.41		22.50		34.64		48.13	48.13	5 / 1							
reaction time 0.148	interval				11.09		12.14		13.49		# of strides	11.41	11.09	12.14	13.49	22.50	25.63	3.13
	velocity		8.76		9.02		8.24		7.41	8.31		8.76	9.02	8.24	7.41	8.89	7.80	

Minagi, Yuta (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 Japanese National High School Championships (Kitamaki, JPN)																	*Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics data*
date 04-Aug-11	time		11.83		23.22		35.14		48.13	48.13	6 / 6							
reaction time	interval				11.39		11.92		12.99		# of strides	11.83	11.39	11.92	12.99	23.22	24.91	1.69
	velocity		8.45		8.78		8.39		7.70	8.31		8.45	8.78	8.39	7.70	8.61	8.03	

Hashimoto, Yoshinari (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17	time		11.37		22.07		34.23		48.13	48.13	8 / 5							
reaction time 0.187	interval				10.70		12.16		13.90		# of strides	11.37	10.70	12.16	13.90	22.07	26.06	3.99
	velocity		8.80		9.35		8.22		7.19	8.31	186.5	8.80	9.35	8.22	7.19	9.06	7.67	

Asano, Kurodo (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 09-Oct-17	time		11.89		23.32		35.38		48.13	48.13	3 / 6							
reaction time 0.194	interval				11.43		12.06		12.75		# of strides	11.89	11.43	12.06	12.75	23.32	24.81	1.49
	velocity		8.41		8.75		8.29		7.84	8.31	194.0	8.41	8.75	8.29	7.84	8.58	8.06	

McCaskill, William (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Junior Championships (Carson, CA)																	*USATF Women's Sprint Development (2005)*
date 25-Jun-05	time		11.82	17.08	22.58	28.43	34.34	40.81	48.14	48.14	3 / 9							
reaction time	interval			5.26	5.50	5.85	5.91	6.47	7.33		# of strides	11.82	10.76	11.76	13.80	22.58	25.56	2.98
	velocity		8.46	9.51	9.09	8.55	8.46	7.73	6.82	8.31		8.46	9.29	8.50	7.25	8.86	7.82	

Amano, Iori (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 China Perfecture High School Championships (Okayama, JPN)																	*(2016.06.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*
date 17-Jun-16	time		11.90		22.65		34.75		48.14	48.14	7 / 2							
reaction time	interval				10.75		12.10		13.39		# of strides	11.90	10.75	12.10	13.39	22.65	25.49	2.84
	velocity		8.40		9.30		8.26		7.47	8.31		8.40	9.30	8.26	7.47	8.83	7.85	

Sakaguchi, Amagi (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 21-Oct-16	time	6.59	11.94	17.42	23.03	28.86	34.95	41.31	48.14	48.14	7 / 6						
reaction time	interval		5.35	5.48	5.61	5.83	6.09	6.36	6.83		# of strides	11.94	11.09	11.92	13.19	23.03	25.11	2.08
	velocity	7.59	9.35	9.12	8.91	8.58	8.21	7.86	7.32	8.31		8.38	9.02	8.39	7.58	8.68	7.96	

Sorg, Michael (SUI) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2024 Athletissima (Lausanne, SUI)																	*Omega Timing (2024) - diamond league race analysis*
date 22-Aug-24 time	6.36	11.47	16.72	22.23	28.09	34.35	40.98	48.14	48.14	8 / 4							
reaction time 0.215 interval		5.11	5.25	5.51	5.86	6.26	6.63	7.16		# of strides	11.47	10.76	12.12	13.79	22.23	25.91	3.68
velocity	7.86	9.78	9.52	9.07	8.53	7.99	7.54	6.98	8.31		8.72	9.29	8.25	7.25	9.00	7.72	

Sawa, Daichi (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2018 IAAF World Junior Championships (Tampere, FIN)																	*Koyama (2018) - research on athlete performance and technique- 2018 data book*
date 11-Jul-18 time	6.38	11.64	16.97	22.63	28.44	34.50	40.99	48.15	48.15	3 / 7							
reaction time 0.144 interval		5.26	5.33	5.66	5.81	6.06	6.49	7.16	PB	# of strides	11.64	10.99	11.87	13.65	22.63	25.52	2.89
velocity	7.84	9.51	9.38	8.83	8.61	8.25	7.70	6.98	8.31		8.59	9.10	8.42	7.33	8.84	7.84	

Fujiyoshi, Shunta (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)																	*Ryutaro (2018) - research on athlete performance and technique- 2018 data book*
date 19-Oct-18 time	6.67	11.97	17.32	22.91	28.82	35.03	41.36	48.15	48.15	2 / 4							
reaction time 0.173 interval		5.30	5.35	5.59	5.91	6.21	6.33	6.79		# of strides	11.97	10.94	12.12	13.12	22.91	25.24	2.33
velocity	7.50	9.43	9.35	8.94	8.46	8.05	7.90	7.36	8.31	183.0	8.35	9.14	8.25	7.62	8.73	7.92	

Kayata, Takashi (JPN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2010 Japanese National High School Championships (Okinawa, JPN)																	*Matsuo (2010) - 63rd high school championships: JAF scientific committee - biomechanics data*
date 29-Jul-10 time	6.29	11.56	16.88	22.43	28.15	34.35	40.96	48.16	48.16	/ 2							
reaction time interval		5.27	5.32	5.55	5.72	6.20	6.61	7.20		# of strides	11.56	10.87	11.92	13.81	22.43	25.73	3.30
velocity	7.95	9.49	9.40	9.01	8.74	8.06	7.56	6.94	8.31		8.65	9.20	8.39	7.24	8.92	7.77	

Nielsen, Gustav Lundholm (DEN) (19

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Bislett Games (Olso, NOR)																	*Omega Timing (2019) - diamond league race analysis*
date 13-Jun-19 time		11.8		23.0		35.0		48.16	48.16	4 / 3							
reaction time 0.201 interval				11.2		12.0		13.2		# of strides	11.80	11.20	12.00	13.16	23.00	25.16	2.16
velocity		8.47		8.93		8.33		7.60	8.31		8.47	8.93	8.33	7.60	8.70	7.95	

Fujiyoshi, Shunta (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2020 Japanese U20 National Championships (Hiroshima, JPN)																	*Kobayashi (2020) - national high school and U20 national championhsips*
date 23-Oct-20 time	6.57	11.76	17.02	22.53	28.48	37.74	41.20	48.16	48.16	6 / 3							
reaction time 0.258 interval		5.19	5.26	5.51	5.95	9.26	3.46	6.96		# of strides	11.76	10.77	15.21	10.42	22.53	25.63	3.10
velocity	7.61	9.63	9.51	9.07	8.40	5.40	14.45	7.18	8.31	183.0	8.50	9.29	6.57	9.60	8.88	7.80	

Suzuki, Yumeto (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 2 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/02/post-835/*
date 26-May-17 time		11.83		23.23		35.31		48.17	48.17	5 / 4							
reaction time interval				11.40		12.08		12.86		# of strides	11.83	11.40	12.08	12.86	23.23	24.94	1.71
velocity		8.45		8.77		8.28		7.78	8.30	187.0	8.45	8.77	8.28	7.78	8.61	8.02	

Ibrahim Issaka, Hussein (QAT) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Doha Diamond League (Doha, QAT)																	*Omega Timing (2023) - diamond league race analysis*
date 05-May-23 time	6.49	11.79	17.40	23.15	29.22	35.35	41.65	48.17	48.17	7 / 2							
reaction time 0.305 interval		5.30	5.61	5.75	6.07	6.13	6.30	6.52		# of strides	11.79	11.36	12.20	12.82	23.15	25.02	1.87
velocity	7.70	9.43	8.91	8.70	8.24	8.16	7.94	7.67	8.30		8.48	8.80	8.20	7.80	8.64	7.99	

Wakabayashi, Kota (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 All Japan Corporate Championships (Kumagaya, JPN)																	*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*
date 19-Sep-20 time	6.36	11.45	16.75	22.47	28.40	34.51	40.96	48.18	48.18	7 / 5							
reaction time 0.204 interval		5.09	5.30	5.72	5.93	6.11	6.45	7.22		# of strides	11.45	11.02	12.04	13.67	22.47	25.71	3.24
velocity	7.86	9.82	9.43	8.74	8.43	8.18	7.75	6.93	8.30	172.5	8.73	9.07	8.31	7.32	8.90	7.78	

Pitre, Marcus (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 USATF National Junior Championships (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 22-Jun-03 time				23.66		35.37	41.51	48.19	48.19	1 / 9							
reaction time interval						11.71	6.14	6.68		# of strides			11.71	12.82	23.66	24.53	0.87
velocity				8.45		8.54	8.14	7.49	8.30				8.54	7.80	8.45	8.15	

Nakamura, Akihiko (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2014 Asian Games (Incheon, KOR)																	*Takeo (2014) - decathletes sprint ability & relationship of individual event performance*
date 30-Sep-14 time	6.33	11.62	17.22	23.02	29.04	35.19	41.47	48.19	48.19	/ 1							
reaction time interval		5.29	5.60	5.80	6.02	6.15	6.28	6.72		# of strides	11.62	11.40	12.17	13.00	23.02	25.17	2.15
velocity	7.90	9.45	8.93	8.62	8.31	8.13	7.96	7.44	8.30		8.61	8.77	8.22	7.69	8.69	7.95	

Meng Xinpeng (CHN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese World Championship & Asian Games Trials (Shenyang, CHN)																	*Shandong Athletics Sport Science (2023)*
date 28-Jun-23 time		11.64		22.37		34.23	40.68	48.19	48.19	1 / 8							
reaction time 0.215 interval				10.73		11.86	6.45	7.51		# of strides	11.64	10.73	11.86	13.96	22.37	25.82	3.45
velocity		8.59		9.32		8.43	7.75	6.66	8.30	190.0	8.59	9.32	8.43	7.16	8.94	7.75	

Müller, Norman (GER) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 19-Aug-09 time		11.65		22.58		34.55		48.20	48.20	5 / 1							
reaction time 0.184 interval				10.93		11.97		13.65		# of strides	11.65	10.93	11.97	13.65	22.58	25.62	3.04
velocity		8.58		9.15		8.35		7.33	8.30		8.58	9.15	8.35	7.33	8.86	7.81	

Wumaier Ailixier (CHN) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Grand Prix 1 (Rizhao, CHN)																	*Shandong Athletics Sport Science (2023)*
date 26-Apr-23 time		11.53		22.63		35.10	41.49	48.20	48.20	4 / 5							
reaction time 0.183 interval				11.10		12.47	6.39	6.71		# of strides	11.53	11.10	12.47	13.10	22.63	25.57	2.94
velocity		8.67		9.01		8.02	7.82	7.45	8.30	179.2	8.67	9.01	8.02	7.63	8.84	7.82	

Qiao Zhen (CHN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2023 Chinese National Grand Prix 3 (Taizhou, CHN)																	*Shandong Athletics Sport Science (2023)*

date	26-May-23	time		11.21		22.13		34.35	40.92	48.20	48.20	3 / 6						
reaction time	0.197	interval				10.92		12.22	6.57	7.28		# of strides	11.21	10.92	12.22	13.85	22.13	26.07	3.94
		velocity		8.92		9.16		8.18	7.61	6.87	8.30	173.2	8.92	9.16	8.18	7.22	9.04	7.67	

Kitahara, Ryota (JPN) (1998)

FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Oct-15	time	6.55	11.70	17.07	22.76	28.69	34.81	41.18	48.22	48.22	1 / 5							
reaction time		interval		5.15	5.37	5.69	5.93	6.12	6.37	7.04		# of strides	11.70	11.06	12.05	13.41	22.76	25.46	2.70
		velocity	7.63	9.71	9.31	8.79	8.43	8.17	7.85	7.10	8.30		8.55	9.04	8.30	7.46	8.79	7.86	

Hammi, Oussama (MAR) (2000)

National FINAL - 2022 Meeting International Mohammed VI d'Athlétime (Rabat, MAR)

Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Jun-22	time	6.52	11.80	17.30	22.92	28.96	35.41	41.74	48.22	48.22	2 / 4							
reaction time	0.242	interval		5.28	5.50	5.62	6.04	6.45	6.33	6.48	PB	# of strides	11.80	11.12	12.49	12.81	22.92	25.30	2.38
		velocity	7.67	9.47	9.09	8.90	8.28	7.75	7.90	7.72	8.30		8.47	8.99	8.01	7.81	8.73	7.91	

Okuda, Keisuke (JPN) (1996)

Decathlon - Heat 1 - 2024 Japanese National Multi-Event Championships (Gifu, JPN)

Matsubayashi (2025) - performance analysis of decathlon athletes in the 2024 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-24	time	6.40	11.73	17.18	22.96	29.08	35.32	41.64	48.22	48.22	8 / 1							
reaction time		interval		5.33	5.45	5.78	6.12	6.24	6.32	6.58		# of strides	11.73	11.23	12.36	12.90	22.96	25.26	2.30
		velocity	7.81	9.38	9.17	8.65	8.17	8.01	7.91	7.60	8.30		8.53	8.90	8.09	7.75	8.71	7.92	

Kitakani, Naoki (JPN) (1998)

FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Oct-15	time	6.43	11.68	17.00	22.70	28.78	35.03	41.43	48.23	48.23	8 / 6							
reaction time		interval		5.25	5.32	5.70	6.08	6.25	6.40	6.80		# of strides	11.68	11.02	12.33	13.20	22.70	25.53	2.83
		velocity	7.78	9.52	9.40	8.77	8.22	8.00	7.81	7.35	8.29		8.56	9.07	8.11	7.58	8.81	7.83	

Kanemaru, Yuzo (JPN) (1987)

FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-18	time	6.20	11.31	16.57	22.12	28.01	34.37	41.07	48.23	48.23	2 / 8							
reaction time	0.170	interval		5.11	5.26	5.55	5.89	6.36	6.70	7.16		# of strides	11.31	10.81	12.25	13.86	22.12	26.11	3.99
		velocity	8.06	9.78	9.51	9.01	8.49	7.86	7.46	6.98	8.29		8.84	9.25	8.16	7.22	9.04	7.66	

Kasai, Kuraki (JPN) (2002)

FINAL - 2021 Japanese U20 National Championships (Osaka, JPN)

Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-21	time	6.48	11.88	17.42	23.19	29.07	35.14	41.44	48.23	48.23	7 / 5							
reaction time	0.182	interval		5.40	5.54	5.77	5.88	6.07	6.30	6.79		# of strides	11.88	11.31	11.95	13.09	23.19	25.04	1.85
		velocity	7.72	9.26	9.03	8.67	8.50	8.24	7.94	7.36	8.29		8.42	8.84	8.37	7.64	8.62	7.99	

Waernulf, Mattias (SWE) (2002)

National FINAL - 2023 Bauhaus Galan (Stockholm, SWE)

Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Jul-23	time	6.28	11.48	16.88	22.45	28.13	34.26	40.90	48.23	48.23	4 / 5							
reaction time	0.160	interval		5.20	5.40	5.57	5.68	6.13	6.64	7.33		# of strides	11.48	10.97	11.81	13.97	22.45	25.78	3.33
		velocity	7.96	9.62	9.26	8.98	8.80	8.16	7.53	6.82	8.29		8.71	9.12	8.47	7.16	8.91	7.76	

Jones, Louis (USA) (1932)

FINAL - 1956 Olympic Games (Melbourne, AUS)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Nov-56	time				21.8		33.4		48.1	48.1	6 / 5							
reaction time		interval						11.6		14.7	*(48.35)*	# of strides			11.60	14.70	21.80	26.30	4.50
		velocity				9.17		8.62		6.80	8.57				8.62	6.80	9.17	7.60	

Matsumoto, Shion (JPN)

FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)

Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-18	time	6.55	11.93	17.45	23.29	29.37	35.64	41.81	48.24	48.24	7 / 8							
reaction time		interval		5.38	5.52	5.84	6.08	6.27	6.17	6.43		# of strides	11.93	11.36	12.35	12.60	23.29	24.95	1.66
		velocity	7.63	9.29	9.06	8.56	8.22	7.97	8.10	7.78	8.29		8.38	8.80	8.10	7.94	8.59	8.02	

Jinushi, Naohiro (JPN) (2001)

FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)

Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-19	time	6.65	11.98	17.44	23.03	28.67	34.50	40.96	48.24	48.24	3 / 8							
reaction time		interval		5.33	5.46	5.59	5.64	5.83	6.46	7.28		# of strides	11.98	11.05	11.47	13.74	23.03	25.21	2.18
		velocity	7.52	9.38	9.16	8.94	8.87	8.58	7.74	6.87	8.29		8.35	9.05	8.72	7.28	8.68	7.93	

Yirga, Nahom (SUI) (2001)

B Race - 2024 Athletissima (Lausanne, SUI)

Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-24	time	6.34	11.59	17.00	22.64	28.58	34.79	41.29	48.24	48.24	2 / 5							
reaction time	0.148	interval		5.25	5.41	5.64	5.94	6.21	6.50	6.95		# of strides	11.59	11.05	12.15	13.45	22.64	25.60	2.96
		velocity	7.89	9.52	9.24	8.87	8.42	8.05	7.69	7.19	8.29		8.63	9.05	8.23	7.43	8.83	7.81	

Sanada, Tadahi (JPN)

FINAL - 2016 China Perfecture High School Championships (Okayama, JPN)

(2016.06.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jun-16	time		12.27		23.24		35.04		48.25	48.25	4 / 3							
reaction time		interval				10.97		11.80		13.21		# of strides	12.27	10.97	11.80	13.21	23.24	25.01	1.77
		velocity		8.15		9.12		8.47		7.57	8.29		8.15	9.12	8.47	7.57	8.61	8.00	

Sofue, Takumi (JPN) (1998)

FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Oct-16	time	6.69	12.28	18.02	23.93	29.86	35.80	41.88	48.25	48.25	8 / 7							
reaction time		interval		5.59	5.74	5.91	5.93	5.94	6.08	6.37		# of strides	12.28	11.65	11.87	12.45	23.93	24.32	0.39
		velocity	7.47	8.94	8.71	8.46	8.43	8.42	8.22	7.85	8.29		8.14	8.58	8.42	8.03	8.36	8.22	

Obuchi, Mizuki (JPN) (1997)

FINAL - 2017 National Sports Festival (Matsuyama, JPN)

(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.74		23.27		35.19		48.25	48.25	9 / 8							
reaction time	0.173	interval				11.53		11.92		13.06		# of strides	11.74	11.53	11.92	13.06	23.27	24.98	1.71
		velocity		8.52		8.67		8.39		7.66	8.29	191.0	8.52	8.67	8.39	7.66	8.59	8.01	

Kuroda, Takuya (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 Japanese National High School Championships (Kitakami, JPN)										*Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics data collection*							
date 04-Aug-11	time	11.78		22.82		35.10		48.26	48.26	2 / 7							
reaction time	interval			11.04		12.28		13.16		# of strides	11.78	11.04	12.28	13.16	22.82	25.44	2.62
	velocity	8.49		9.06		8.14		7.60	8.29		8.49	9.06	8.14	7.60	8.76	7.86	

Higuchi, Kazuma (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date 05-Oct-15	time	6.62	12.00	17.58	23.34	29.27	35.48	41.73	48.26	48.26	/ 6							
reaction time	interval		5.38	5.58	5.76	5.93	6.21	6.25	6.53		# of strides	12.00	11.34	12.14	12.78	23.34	24.92	1.58
	velocity	7.55	9.29	8.96	8.68	8.43	8.05	8.00	7.66	8.29		8.33	8.82	8.24	7.82	8.57	8.03	

Kato, Nobuya (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)										*Yasunori (2012) - 65th high school championships: JAF scientific committee - biomechanics data*							
date 29-Jul-12	time		12.88		24.11		35.76		48.27	48.27	3 / 3							
reaction time	interval				11.23		11.65		12.51		# of strides	12.88	11.23	11.65	12.51	24.11	24.16	0.05
	velocity		7.76		8.90		8.58		7.99	8.29		7.76	8.90	8.58	7.99	8.30	8.28	

Makabe, Shohei (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 2 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)										*(2017) - tfdata-store.com/2017/06/02/post-835/*							
date 26-May-17	time		11.80		23.03		35.01		48.27	48.27	5 / 5							
reaction time	interval				11.23		11.98		13.26		# of strides	11.80	11.23	11.98	13.26	23.03	25.24	2.21
	velocity		8.47		8.90		8.35		7.54	8.29	187.2	8.47	8.90	8.35	7.54	8.68	7.92	

Okawa, Noda (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)										*(2017) - tfdata-store.com/2017/10/12/post-1100/*							
date 08-Oct-17	time		11.62		22.86		35.11		48.27	48.27	5 / 2							
reaction time 0.168	interval				11.24		12.25		13.16		# of strides	11.62	11.24	12.25	13.16	22.86	25.41	2.55
	velocity		8.61		8.90		8.16		7.60	8.29	178.0	8.61	8.90	8.16	7.60	8.75	7.87	

Rooth, Markus (NOR) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 25-Aug-23	time		11.93		23.48		35.12		48.27	48.27	7 / 1							
reaction time 0.143	interval				11.55		11.64		13.15	PB	# of strides	11.93	11.55	11.64	13.15	23.48	24.79	1.31
	velocity		8.38		8.66		8.59		7.60	8.29	183.5	8.38	8.66	8.59	7.60	8.52	8.07	

Asakawa, Yuto (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)										*Yanagiya (2014) - research on athlete performance and technique- 2014 data book*							
date 30-Jul-14	time	6.61	11.96	17.28	22.82	28.64	34.88	41.49	48.28	48.28	/ 7							
reaction time	interval		5.35	5.32	5.54	5.82	6.24	6.61	6.79		# of strides	11.96	10.86	12.06	13.40	22.82	25.46	2.64
	velocity	7.56	9.35	9.40	9.03	8.59	8.01	7.56	7.36	8.29		8.36	9.21	8.29	7.46	8.76	7.86	

Hashimoto, Yasushige (JPN (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)										*(2017) - tfdata-store.com/2017/10/12/post-1100/*							
date 08-Oct-17	time		11.55		22.76		35.00		48.28	48.28	7 / 3							
reaction time 0.182	interval				11.21		12.24		13.28		# of strides	11.55	11.21	12.24	13.28	22.76	25.52	2.76
	velocity		8.66		8.92		8.17		7.53	8.29	181.0	8.66	8.92	8.17	7.53	8.79	7.84	

Matsumoto, Akira (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)										*(2017) - tfdata-store.com/2017/10/12/post-1100/*							
date 09-Oct-17	time		11.66		22.27		34.25		48.28	48.28	9 / 6							
reaction time 0.182	interval				10.61		11.98		14.03		# of strides	11.66	10.61	11.98	14.03	22.27	26.01	3.74
	velocity		8.58		9.43		8.35		7.13	8.29	184.2	8.58	9.43	8.35	7.13	8.98	7.69	

Noda, Taiga (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)										*(2017) - tfdata-store.com/2017/10/12/post-1100/*							
date 08-Oct-17	time		11.96		23.46		35.75		48.28	48.28	9 / 7							
reaction time 0.179	interval				11.50		12.29		12.53		# of strides	11.96	11.50	12.29	12.53	23.46	24.82	1.36
	velocity		8.36		8.70		8.14		7.98	8.29	176.2	8.36	8.70	8.14	7.98	8.53	8.06	

Satake, Yuzuki (JPN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)										*Shibayama (2021) - national high school and U20 national championhsips*							
date 28-Jul-21	time	6.61	11.97	17.42	23.12	29.09	35.36	41.66	48.28	48.28	1 / 5							
reaction time 0.146	interval		5.36	5.45	5.70	5.97	6.27	6.30	6.62		# of strides	11.97	11.15	12.24	12.92	23.12	25.16	2.04
	velocity	7.56	9.33	9.17	8.77	8.38	7.97	7.94	7.55	8.29		8.35	8.97	8.17	7.74	8.65	7.95	

Okuda, Keisuke (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - FINAL - 2022 Japanese Multi-Event National Championsips (Akita, JPN)										*Takefu (2023) - performance analyisis of decathlon athletes in the 2022 season*							
date 04-Jun-22	time	6.34	11.55	16.92	22.63	28.67	34.94	41.50	48.28	48.28	7 / 1							
reaction time	interval		5.21	5.37	5.71	6.04	6.27	6.56	6.78		# of strides	11.55	11.08	12.31	13.34	22.63	25.65	3.02
	velocity	7.89	9.60	9.31	8.76	8.28	7.97	7.62	7.37	8.29		8.66	9.03	8.12	7.50	8.84	7.80	

Someya, Sho (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date 29-Jul-15	time	6.71	12.12	17.68	23.48	29.39	35.38	41.59	48.29	48.29	/ 5							
reaction time	interval		5.41	5.56	5.80	5.91	5.99	6.21	6.70		# of strides	12.12	11.36	11.90	12.91	23.48	24.81	1.33
	velocity	7.45	9.24	8.99	8.62	8.46	8.35	8.05	7.46	8.28		8.25	8.80	8.40	7.75	8.52	8.06	

Hudson-Smith, Matthew (GBR) (1994

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)										*Omega Timing (2021) - diamond league race analysis*							
date 13-Jul-21	time	6.3	11.4	16.7	22.3	28.2	34.3	41.0	48.29	48.29	6 / 8							
reaction time 0.149	interval		5.10	5.30	5.60	5.90	6.10	6.70	7.29		# of strides	11.40	10.90	12.00	13.99	22.30	25.99	3.69
	velocity	7.94	9.80	9.43	8.93	8.47	8.20	7.46	6.86	8.28		8.77	9.17	8.33	7.15	8.97	7.70	

Sakurai, Naoya (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)										*(2017) - tfdata-store.com/2017/06/02/post-835/*							

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

date	26-May-17	time	11.70		22.81		34.93		48.30	48.30	6 / ~~6~~ 5						
reaction time		interval			11.11		12.12		13.37		# of strides	11.70	11.11	12.12	13.37	22.81	25.49	2.68
		velocity	8.55		9.00		8.25		7.48	8.28	185.2	8.55	9.00	8.25	7.48	8.77	7.85	

Bondoc, Marian Adrian (ROU) (2002) — **Semi-Final 2** - 2021 European Athletics U20 Championships (Tallin, EST) — *European Athletics (2021) - european athletics U20 championships results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Jul-21	time		12.07		23.28		35.35		48.30	48.30	7 / 6							
reaction time	0.213	interval				11.21		12.07		12.95		# of strides	12.07	11.21	12.07	12.95	23.28	25.02	1.74
		velocity		8.29		8.92		8.29		7.72	8.28		8.29	8.92	8.29	7.72	8.59	7.99	

Matsubara, Tetsuya (JPN) (1991) — **FINAL** - 2009 Japanese National High School Championships (Nara, JPN) — *Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-09	time		11.85		23.05		35.08		48.31	48.31	2 / 6							
reaction time		interval				11.20		12.03		13.23		# of strides	11.85	11.20	12.03	13.23	23.05	25.26	2.21
		velocity		8.44		8.93		8.31		7.56	8.28		8.44	8.93	8.31	7.56	8.68	7.92	

Furukawa, Ryo (JPN) (1992) — **FINAL** - 2010 Japanese National High School Championships (Okinawa, JPN) — *Matsuo (2010) - 63rd high school championships: JAF scientific committee - biomechanics data*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-10	time	6.47	11.97	17.43	23.14	28.96	35.14	41.51	48.31	48.31	/ 3							
reaction time		interval		5.50	5.46	5.71	5.82	6.18	6.37	6.80		# of strides	11.97	11.17	12.00	13.17	23.14	25.17	2.03
		velocity	7.73	9.09	9.16	8.76	8.59	8.09	7.85	7.35	8.28		8.35	8.95	8.33	7.59	8.64	7.95	

Ishitsuka, Yusuke (JPN) (1987) — **FINAL** - 2015 National Sports Festival (Wakayama, JPN) — *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Oct-15	time	6.30	11.56	17.13	23.02	29.06	35.25	41.55	48.31	48.31	/ 8							
reaction time		interval		5.26	5.57	5.89	6.04	6.19	6.30	6.76		# of strides	11.56	11.46	12.23	13.06	23.02	25.29	2.27
		velocity	7.94	9.51	8.98	8.49	8.28	8.08	7.94	7.40	8.28		8.65	8.73	8.18	7.66	8.69	7.91	

Swillims, Bastian (GER) (1982) — **B FINAL** - 2009 ISTAF (Berlin, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Jun-09	time		11.51		22.56		34.73		48.32	48.32	/ 7							
reaction time	0.354	interval				11.05		12.17		13.59		# of strides	11.51	11.05	12.17	13.59	22.56	25.76	3.20
		velocity		8.69		9.05		8.22		7.36	8.28		8.69	9.05	8.22	7.36	8.87	7.76	

Furuta, Shinya (JPN) (1998) — **FINAL** - 2015 Japanese National Youth Championships (Nagoya, JPN) — *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Oct-15	time	6.56	11.90	17.27	22.98	29.01	35.18	41.57	48.32	48.32	6 / 7							
reaction time		interval		5.34	5.37	5.71	6.03	6.17	6.39	6.75		# of strides	11.90	11.08	12.20	13.14	22.98	25.34	2.36
		velocity	7.62	9.36	9.31	8.76	8.29	8.10	7.82	7.41	8.28		8.40	9.03	8.20	7.61	8.70	7.89	

Kawabata, Kenta (JPN) (1996) — **Heat 1** - 2017 National Sports Festival (Matsuyama, JPN) — *(2017) - tfdata-store.com/2017/10/12/post-1100/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		12.22		23.63		35.51		48.32	48.32	8 / 4							
reaction time	0.172	interval				11.41		11.88		12.81	PB	# of strides	12.22	11.41	11.88	12.81	23.63	24.69	1.06
		velocity		8.18		8.76		8.42		7.81	8.28	198.0	8.18	8.76	8.42	7.81	8.46	8.10	

Mitsukiya, Kakeki (JPN) — **FINAL** - 2024 Shimane High School Championships (Izumo, JPN) — *Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-May-24	time		12.12		23.45		35.56		48.32	48.32	5 / 1							
reaction time		interval				11.33		12.11		12.76		# of strides	12.12	11.33	12.11	12.76	23.45	24.87	1.42
		velocity		8.25		8.83		8.26		7.84	8.28		8.25	8.83	8.26	7.84	8.53	8.04	

Futayni, Ibrahim (KSA) (1999) — **B FINAL** - 2021 Doha Diamond League (Doha, QAT) — *Omega Timing (2021) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-21	time	6.3	11.6	17.1	22.7	28.5	34.6	41.1	48.33	48.33	6 / 5							
reaction time	0.131	interval		5.30	5.50	5.60	5.80	6.10	6.50	7.23		# of strides	11.60	11.10	11.90	13.73	22.70	25.63	2.93
		velocity	7.94	9.43	9.09	8.93	8.62	8.20	7.69	6.92	8.28		8.62	9.01	8.40	7.28	8.81	7.80	

García, Yordanis (CUB) (1988) — **Decathlon - Heat 4** - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Aug-09	time		11.07		22.68		35.06		48.34	48.34	3 / 2							
reaction time	0.150	interval				11.61		12.38		13.28	PB	# of strides	11.07	11.61	12.38	13.28	22.68	25.66	2.98
		velocity		9.03		8.61		8.08		7.53	8.27		9.03	8.61	8.08	7.53	8.82	7.79	

Kudo, Taisei (JPN) (1996) — **Division 2 FINAL** - 2017 Kanto Collegiate Championships (Yokohama, JPN) — *(2017) - tfdata-store.com/2017/06/01/post-786/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		12.02		23.55		35.27		48.34	48.34	4 / 5							
reaction time		interval				11.53		11.72		13.07		# of strides	12.02	11.53	11.72	13.07	23.55	24.79	1.24
		velocity		8.32		8.67		8.53		7.65	8.27	183.2	8.32	8.67	8.53	7.65	8.49	8.07	

Obuchi, Mizuki (JPN) (1997) — **FINAL** - 2021 All Japan Corporate Championships (Osaka, JPN) — *@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Sep-21	time		11.38		22.26		33.75		48.21	48.34	4 / 7							
reaction time	0.188	interval				10.88		11.49		14.46		# of strides	11.38	10.88	11.49	14.46	22.26	25.95	3.69
		velocity		8.79		9.19		8.70		6.92	8.27		8.79	9.19	8.70	6.92	8.98	7.71	

Neugebauer, Leo (GER) (2000) — **Decathlon - Heat 3** - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jul-22	time		11.78		22.77		34.84		48.34	48.34	6 / 7							
reaction time	0.151	interval				10.99		12.07		13.50		# of strides	11.78	10.99	12.07	13.50	22.77	25.57	2.80
		velocity		8.49		9.10		8.29		7.41	8.27		8.49	9.10	8.29	7.41	8.78	7.82	

Nabeshima, Ebisu (JPN) (2000) — **U19 Heat 1** - 2017 National Sports Festival (Matsuyama, JPN) — *(2017) - tfdata-store.com/2017/10/12/post-1100/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.89		23.19		35.32		48.35	48.35	9 / 4							
reaction time	0.204	interval				11.30		12.13		13.03		# of strides	11.89	11.30	12.13	13.03	23.19	25.16	1.97
		velocity		8.41		8.85		8.24		7.67	8.27	185.2	8.41	8.85	8.24	7.67	8.62	7.95	

Jinushi, Naohiro (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)																	*Ryutaro (2018) - research on athlete performance and technique- 2018 data book*
date 19-Oct-18 time	6.62	12.12	17.75	23.47	29.26	35.29	41.63	48.35	48.35	6 / 5							
reaction time 0.187 interval		5.50	5.63	5.72	5.79	6.03	6.34	6.72		# of strides	12.12	11.35	11.82	13.06	23.47	24.88	1.41
velocity	7.55	9.09	8.88	8.74	8.64	8.29	7.89	7.44	8.27	177.0	8.25	8.81	8.46	7.66	8.52	8.04	

Shirahata, Kentaro (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN)																	*Takashima (2023) - national high school sports festival - biomechanics data*
date 02-Aug-23 time		11.54		22.62		34.83		48.36	48.36	6 / 8							
reaction time 0.232 interval				11.08		12.21		13.53		# of strides	11.54	11.08	12.21	13.53	22.62	25.74	3.12
velocity		8.67		9.03		8.19		7.39	8.27		8.67	9.03	8.19	7.39	8.84	7.77	

Young, Brodie (GBR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2021 European Athletics U20 Championships (Tallin, EST)																	*European Athletics (2021) - european athletics U20 championships results book*
date 15-Jul-21 time		12.13		23.70		35.93		48.37	48.37	7 / 6							
reaction time 0.159 interval				11.57		12.23		12.44		# of strides	12.13	11.57	12.23	12.44	23.70	24.67	0.97
velocity		8.24		8.64		8.18		8.04	8.27		8.24	8.64	8.18	8.04	8.44	8.11	

Kanemaru, Yuzo (JPN) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 7 - 2016 Olympic Games (Rio de Janeiro, BRA)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 12-Aug-16 time		11.34		22.22		34.73		48.38	48.38	8 / 1							
reaction time 0.144 interval				10.88		12.51		13.65		# of strides	11.34	10.88	12.51	13.65	22.22	26.16	3.94
velocity		8.82		9.19		7.99		7.33	8.27		8.82	9.19	7.99	7.33	9.00	7.65	

Hokkaido, Kunieda (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17 time		11.67		22.51		34.82		48.38	48.38	3 / 7							
reaction time 0.193 interval				10.84		12.31		13.56		# of strides	11.67	10.84	12.31	13.56	22.51	25.87	3.36
velocity		8.57		9.23		8.12		7.37	8.27	178.5	8.57	9.23	8.12	7.37	8.88	7.73	

Imaizumi, Takaki (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2020 Japanese U20 National Championships (Hiroshima, JPN)																	*Kobayashi (2020) - national high school and U20 national championhsips*
date 23-Oct-20 time	6.34	11.61	16.98	22.52	28.32	34.53	41.19	48.38	48.38	5 / 2							
reaction time 0.202 interval		5.27	5.37	5.54	5.80	6.21	6.66	7.19		# of strides	11.61	10.91	12.01	13.85	22.52	25.86	3.34
velocity	7.89	9.49	9.31	9.03	8.62	8.05	7.51	6.95	8.27	183.8	8.61	9.17	8.33	7.22	8.88	7.73	

Hssine, Yassine (MAR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)																	*Omega Timing (2023) - diamond league race analysis*
date 28-May-23 time	6.42	11.81	17.37	23.23	29.17	35.14	41.43	48.38	48.38	2 / 5							
reaction time 0.155 interval		5.39	5.56	5.86	5.94	5.97	6.29	6.95	PB	# of strides	11.81	11.42	11.91	13.24	23.23	25.15	1.92
velocity	7.79	9.28	8.99	8.53	8.42	8.38	7.95	7.19	8.27		8.47	8.76	8.40	7.55	8.61	7.95	

Pozo, Gerson (ESP) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2021 European Athletics U20 Championships (Tallin, EST)																	*European Athletics (2021) - european athletics U20 championships results book*
date 15-Jul-21 time		11.83		22.87		34.93		48.39	48.39	1 / 7							
reaction time 0.164 interval				11.04		12.06		13.46		# of strides	11.83	11.04	12.06	13.46	22.87	25.52	2.65
velocity		8.45		9.06		8.29		7.43	8.27		8.45	9.06	8.29	7.43	8.75	7.84	

Kaul, Niklas (GER) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 23-Jul-22 time		11.89		23.48		35.47		48.39	48.39	4 / 1							
reaction time 0.158 interval				11.59		11.99		12.92		# of strides	11.89	11.59	11.99	12.92	23.48	24.91	1.43
velocity		8.41		8.63		8.34		7.74	8.27	166.5	8.41	8.63	8.34	7.74	8.52	8.03	

Maruyama, Tomoyo (JPN) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)																	*Kishima (2022) - national high school championships biomechanics data collection*
date 03-Aug-22 time		12.12		23.44		35.67		48.39	48.39	3 / 5							
reaction time 0.195 interval				11.32		12.23		12.72		# of strides	12.12	11.32	12.23	12.72	23.44	24.95	1.51
velocity		8.25		8.83		8.18		7.86	8.27	176.0	8.25	8.83	8.18	7.86	8.53	8.02	

Abdel, Youssouf (QAT)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Doha Diamond League (Doha, QAT)																	*Omega Timing (2023) - diamond league race analysis*
date 05-May-23 time	6.59	12.04	17.71	23.60	29.62	35.58	41.88	48.39	48.39	3 / 3							
reaction time 0.173 interval		5.45	5.67	5.89	6.02	5.96	6.30	6.51		# of strides	12.04	11.56	11.98	12.81	23.60	24.79	1.19
velocity	7.59	9.17	8.82	8.49	8.31	8.39	7.94	7.68	8.27		8.31	8.65	8.35	7.81	8.47	8.07	

Kishida, Kentaro (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)																	*Yasunori (2012) - 65th high school championships: JAF scientific committee - biomechanics data*
date 29-Jul-12 time		11.96		23.58		35.60		48.40	48.40	5 / 4							
reaction time interval				11.62		12.02		12.80		# of strides	11.96	11.62	12.02	12.80	23.58	24.82	1.24
velocity		8.36		8.61		8.32		7.81	8.26		8.36	8.61	8.32	7.81	8.48	8.06	

Miyagawa, Sota (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)																	*Ryutaro (2018) - research on athlete performance and technique- 2018 data book*
date 19-Oct-18 time	6.62	11.94	17.45	23.25	29.29	35.50	41.79	48.40	48.40	8 / 6							
reaction time 0.186 interval		5.32	5.51	5.80	6.04	6.21	6.29	6.61		# of strides	11.94	11.31	12.25	12.90	23.25	25.15	1.90
velocity	7.55	9.40	9.07	8.62	8.28	8.05	7.95	7.56	8.26		8.38	8.84	8.16	7.75	8.60	7.95	

Mayorga, Dexter (NCA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22 time		12.05		23.29		35.41		48.40	48.40	2 / 7							
reaction time 0.232 interval				11.24		12.12		12.99		# of strides	12.05	11.24	12.12	12.99	23.29	25.11	1.82
velocity		8.30		8.90		8.25		7.70	8.26	191.7	8.30	8.90	8.25	7.70	8.59	7.96	

Takahashi, Yumitsu (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/04/07/post-249/*

date	06-Apr-17	time	11.80		22.79		34.92		48.41	48.41	6 / 4						
reaction time		interval			10.99		12.13		13.49		# of strides	11.80	10.99	12.13	13.49	22.79	25.62	2.83
		velocity	8.47		9.10		8.24		7.41	8.26	184.5	8.47	9.10	8.24	7.41	8.78	7.81	

Yano, Takuto (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17 time		11.43		22.45		34.85		48.41	48.41	2 / 5							
reaction time 0.166 interval				11.02		12.40		13.56		# of strides	11.43	11.02	12.40	13.56	22.45	25.96	3.51
velocity		8.75		9.07		8.06		7.37	8.26	192.0	8.75	9.07	8.06	7.37	8.91	7.70	

Williams, Devon (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 21-Jun-24 time		11.45		22.81		35.02		48.42	48.42	5 / 1							
reaction time		interval		11.36		12.21		13.40		# of strides	11.45	11.36	12.21	13.40	22.81	25.61	2.80
		velocity	8.73		8.80		8.19		7.46	8.26		8.73	8.80	8.19	7.46	8.77	7.81	

Spence, Malcolm (RSA) (1937)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1956 Olympic Games (Melbourne, AUS)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 29-Nov-56 time				22.0		34.1		48.3	48.3	1 / 6							
reaction time		interval				12.1		14.2	*(48.40)*	# of strides		22.00	12.10	14.20	22.00	26.30	4.30
		velocity		9.09		8.26		7.04	8.57			9.09	8.26	7.04	9.09	7.60	

Nomura, Kazuki (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)																	*Yanagiya (2014) - research on athlete performance and technique- 2014 data book*
date 30-Jul-14 time	6.64	11.92	17.18	22.67	28.29	34.54	41.29	48.44	48.44	/ 8							
reaction time	interval	5.28	5.26	5.49	5.62	6.25	6.75	7.15		# of strides	11.92	10.75	11.87	13.90	22.67	25.77	3.10
	velocity 7.53	9.47	9.51	9.11	8.90	8.00	7.41	6.99	8.26		8.39	9.30	8.42	7.19	8.82	7.76	

Matyama, Haruki (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/02/post-835/*
date 26-May-17 time		11.48		22.44		34.66		48.44	48.44	5 / 7							
reaction time		interval		10.96		12.22		13.78		# of strides	11.48	10.96	12.22	13.78	22.44	26.00	3.56
		velocity	8.71		9.12		8.18		7.26	8.26	195.7	8.71	9.12	8.18	7.26	8.91	7.69	

Noda, Taiga (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)																	*Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data*
date 29-Jul-17 time	6.44	11.81	17.32	23.24	29.39	35.73	42.10	48.44	48.44	3 / 6							
reaction time 0.178 interval		5.37	5.51	5.92	6.15	6.34	6.37	6.34		# of strides	11.81	11.43	12.49	12.71	23.24	25.20	1.96
velocity	7.76	9.31	9.07	8.45	8.13	7.89	7.85	7.89	8.26		8.47	8.75	8.01	7.87	8.61	7.94	

Nyström, Alexander (SWE) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2023 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2023) - diamond league race analysis*
date 02-Jul-23 time	6.50	11.76	17.26	22.98	28.87	35.07	41.52	48.44	48.44	3 / 7							
reaction time 0.175 interval		5.26	5.50	5.72	5.89	6.20	6.45	6.92		# of strides	11.76	11.22	12.09	13.37	22.98	25.46	2.48
velocity	7.69	9.51	9.09	8.74	8.49	8.06	7.75	7.23	8.26		8.50	8.91	8.27	7.48	8.70	7.86	

Walburn, Lee (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 21-Jun-24 time		11.27		22.23		34.54		48.44	48.44	9 / 2							
reaction time		interval		10.96		12.31		13.90		# of strides	11.27	10.96	12.31	13.90	22.23	26.21	3.98
		velocity	8.87		9.12		8.12		7.19	8.26		8.87	9.12	8.12	7.19	9.00	7.63	

Al-Jabri, Hamza Abdullah (OMA) (200

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat A - West Asian Championships - 2024 Seashore Doha Meeting (Doha, QAT)																	*Omega Timing (2024) - diamond league race analysis*
date 10-May-24 time	6.32	11.63	17.38	23.26	29.25	35.46	41.81	48.45	48.45	3 / 3							
reaction time 0.188 interval		5.31	5.75	5.88	5.99	6.21	6.35	6.64		# of strides	11.63	11.63	12.20	12.99	23.26	25.19	1.93
velocity	7.91	9.42	8.70	8.50	8.35	8.05	7.87	7.53	8.26		8.60	8.60	8.20	7.70	8.60	7.94	

Yukihiro, Koki (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 29-Jul-16 time	6.62	12.15	17.85	23.70	29.75	35.90	42.01	48.46	48.46	9 / 8							
reaction time 0.162 interval		5.53	5.70	5.85	6.05	6.15	6.11	6.45		# of strides	12.15	11.55	12.20	12.56	23.70	24.76	1.06
velocity	7.55	9.04	8.77	8.55	8.26	8.13	8.18	7.75	8.25		8.23	8.66	8.20	7.96	8.44	8.08	

Tamura, Tomoya (JPN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2018 Shizuoka International Meeting (Fukuroi, JPN)																	*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*
date 03-May-18 time	6.51	11.73	17.11	22.69	28.48	34.62	41.12	48.46	48.46	9 / 5							
reaction time 0.206 interval		5.22	5.38	5.58	5.79	6.14	6.50	7.34		# of strides	11.73	10.96	11.93	13.84	22.69	25.77	3.08
velocity	7.68	9.58	9.29	8.96	8.64	8.14	7.69	6.81	8.25	190.2	8.53	9.12	8.38	7.23	8.81	7.76	

Eitel, Manuel (GER) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 25-Aug-23 time		11.48		22.73		34.93		48.47	48.47	4 / 3							
reaction time 0.162 interval				11.25		12.20		13.54		# of strides	11.48	11.25	12.20	13.54	22.73	25.74	3.01
		velocity	8.71		8.89		8.20		7.39	8.25	179.0	8.71	8.89	8.20	7.39	8.80	7.77	

Han Zhiyu (CHN) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2023 Chinese National Grand Prix 3 (Taizhou, CHN)																	*Shandong Athletics Sport Science (2023)*
date 26-May-23 time		11.61		22.72		35.40	42.22	49.48	49.48	8 / 6							
reaction time 0.195 interval				11.11		12.68	6.82	7.26		# of strides	11.61	11.11	12.68	14.08	22.72	26.76	4.04
		velocity	8.61		9.00		7.89	7.33	6.89	8.08	173.0	8.61	9.00	7.89	7.10	8.80	7.47	

Skotheim, Sander (NOR) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 25-Aug-23 time		11.43		22.29		34.48		48.48	48.48	2 / 7							
reaction time 0.173 interval				10.86		12.19		14.00		# of strides	11.43	10.86	12.19	14.00	22.29	26.19	3.90
		velocity	8.75		9.21		8.20		7.14	8.25	181.5	8.75	9.21	8.20	7.14	8.97	7.64	

Iwaki, Takuma (JPN) (1996)
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/02/post-835/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.67		22.75		35.14		48.49	48.49	3 / 8							
reaction time		interval				11.08		12.39		13.35		# of strides	11.67	11.08	12.39	13.35	22.75	25.74	2.99
		velocity		8.57		9.03		8.07		7.49	8.25	185.2	8.57	9.03	8.07	7.49	8.79	7.77	

Yoshida, Yuto (JPN) (1998)
Division 2 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/02/post-835/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.92		23.33		35.41		48.50	48.50	2 / 6							
reaction time		interval				11.41		12.08		13.09		# of strides	11.92	11.41	12.08	13.09	23.33	25.17	1.84
		velocity		8.39		8.76		8.28		7.64	8.25	192.2	8.39	8.76	8.28	7.64	8.57	7.95	

Tomioka, Yuya (JPN) (1998)
Division 2 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/01/post-786/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.60		22.69		35.06		48.50	48.50	8 / 6							
reaction time		interval				11.09		12.37		13.44		# of strides	11.60	11.09	12.37	13.44	22.69	25.81	3.12
		velocity		8.62		9.02		8.08		7.44	8.25	181.2	8.62	9.02	8.08	7.44	8.81	7.75	

Nomura, Shotaro (JPN) (2001)
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)
Ryutaro (2018) - research on athlete performance and technique- 2018 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Oct-18	time	6.58	12.00	17.58	23.21	29.23	35.35	41.65	48.51	48.51	3 / 7							
reaction time	0.188	interval		5.42	5.58	5.63	6.02	6.12	6.30	6.86		# of strides	12.00	11.21	12.14	13.16	23.21	25.30	2.09
		velocity	7.60	9.23	8.96	8.88	8.31	8.17	7.94	7.29	8.25		8.33	8.92	8.24	7.60	8.62	7.91	

Horinouchi, Yorito (JPN)
FINAL - 2016 China Perfecture High School Championships (Okayama, JPN)
(2016.06.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jun-16	time		12.23		23.37		35.19		48.52	48.52	5 / 4							
reaction time		interval				11.14		11.82		13.33		# of strides	12.23	11.14	11.82	13.33	23.37	25.15	1.78
		velocity		8.18		8.98		8.46		7.50	8.24		8.18	8.98	8.46	7.50	8.56	7.95	

Ibuka, Aisei (JPN) (1998)
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Oct-16	time	6.54	12.19	17.92	23.80	29.90	36.05	42.20	48.52	48.52	8 / 6							
reaction time	0.182	interval		5.65	5.73	5.88	6.10	6.15	6.15	6.32		# of strides	12.19	11.61	12.25	12.47	23.80	24.72	0.92
		velocity	7.65	8.85	8.73	8.50	8.20	8.13	8.13	7.91	8.24		8.20	8.61	8.16	8.02	8.40	8.09	

Ikeda, Shoki (JPN) (1996)
FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN)
(2017) - tfdata-store.com/2017/04/07/post-249/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Apr-17	time		11.90		23.27		35.50		48.52	48.52	5 / 5							
reaction time		interval				11.37		12.23		13.02		# of strides	11.90	11.37	12.23	13.02	23.27	25.25	1.98
		velocity		8.40		8.80		8.18		7.68	8.24	184.5	8.40	8.80	8.18	7.68	8.59	7.92	

Takao, Yoshitsu (JPN)
FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Oct-15	time	6.54	11.91	17.37	23.15	29.08	35.17	41.62	48.53	48.53	2 / 8							
reaction time		interval		5.37	5.46	5.78	5.93	6.09	6.45	6.91		# of strides	11.91	11.24	12.02	13.36	23.15	25.38	2.23
		velocity	7.65	9.31	9.16	8.65	8.43	8.21	7.75	7.24	8.24		8.40	8.90	8.32	7.49	8.64	7.88	

Nagayoshi, Haruto (JPN) (2004)
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)
Kishima (2022) - national high school championships biomechanics data collection

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Aug-22	time		11.78		22.80		35.07		48.53	48.53	9 / 6							
reaction time	0.167	interval				11.02		12.27		13.46		# of strides	11.78	11.02	12.27	13.46	22.80	25.73	2.93
		velocity		8.49		9.07		8.15		7.43	8.24	192.0	8.49	9.07	8.15	7.43	8.77	7.77	

Sumitani, Toshiaki (JPN)
FINAL - 2016 China Perfecture High School Championships (Okayama, JPN)
(2016.06.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jun-16	time		11.74		22.85		34.93		48.54	48.54	8 / 5							
reaction time		interval				11.11		12.08		13.61		# of strides	11.74	11.11	12.08	13.61	22.85	25.69	2.84
		velocity		8.52		9.00		8.28		7.35	8.24		8.52	9.00	8.28	7.35	8.75	7.79	

Machida, Reo (JPN) (2003)
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)
Shibayama (2021) - national high school and U20 national championhsips

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jul-21	time	6.89	12.57	18.37	24.37	30.36	36.34	42.34	48.55	48.55	8 / 6							
reaction time	0.227	interval		5.68	5.80	6.00	5.99	5.98	6.00	6.21		# of strides	12.57	11.80	11.97	12.21	24.37	24.18	-0.19
		velocity	7.26	8.80	8.62	8.33	8.35	8.36	8.33	8.05	8.24		7.96	8.47	8.35	8.19	8.21	8.27	

Hukumura, Yuto (JPN) (2006)
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)
Takashima (2024) - national high school sports festival - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jul-24	time		11.58		22.79		34.80		48.55	48.55	3 / 6							
reaction time	0.178	interval				11.21		12.01		13.75		# of strides	11.58	11.21	12.01	13.75	22.79	25.76	2.97
		velocity		8.64		8.92		8.33		7.27	8.24		8.64	8.92	8.33	7.27	8.78	7.76	

Hirose, Hideyuki (JPN) (1989)
Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)
(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.63		22.53		35.03		48.56	48.56	3 / 6							
reaction time	0.169	interval				10.90		12.50		13.53		# of strides	11.63	10.90	12.50	13.53	22.53	26.03	3.50
		velocity		8.60		9.17		8.00		7.39	8.24	185.5	8.60	9.17	8.00	7.39	8.88	7.68	

Arai, Yusuke (JPN)
Division 2 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/02/post-835/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.83		23.23		35.36		48.56	48.56	3 / 7							
reaction time		interval				11.40		12.13		13.20		# of strides	11.83	11.40	12.13	13.20	23.23	25.33	2.10
		velocity		8.45		8.77		8.24		7.58	8.24	182.2	8.45	8.77	8.24	7.58	8.61	7.90	

Nabeshima, Ebisu (JPN) (2000)
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)
(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	08-Oct-17	time	11.62	22.54	34.98	48.56	48.56	2 / 7									
reaction time	0.197	interval		10.92	12.44	13.58		# of strides	11.62	10.92	12.44	13.58	22.54	26.02	3.48		
		velocity	8.61	9.16	8.04	7.36	8.24	185.2	8.61	9.16	8.04	7.36	8.87	7.69			

Fujita, Shinya (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/04/07/post-249/*
date	06-Apr-17	time	11.81	23.18		35.00		48.57	48.57	3 / 6							
reaction time		interval		11.37		11.82		13.57		# of strides	11.81	11.37	11.82	13.57	23.18	25.39	2.21
		velocity	8.47	8.80		8.46		7.37	8.24	193.0	8.47	8.80	8.46	7.37	8.63	7.88	

Maizen, Ali (QAT)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Doha Diamond League (Doha, QAT)																	*Omega Timing (2023) - diamond league race analysis*
date	05-May-23	time	6.38	11.65	17.31	23.14	29.15	35.22	41.43	48.57	48.57	2 / 4							
reaction time	0.199	interval		5.27	5.66	5.83	6.01	6.07	6.21	7.14		# of strides	11.65	11.49	12.08	13.35	23.14	25.43	2.29
		velocity	7.84	9.49	8.83	8.58	8.32	8.24	8.05	7.00	8.24		8.58	8.70	8.28	7.49	8.64	7.86	

Bouraada, Larbi (ALG) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date	19-Aug-09	time		11.35		22.00		34.20		48.58	48.58	2 / 6							
reaction time	0.141	interval				10.65		12.20		14.38		# of strides	11.35	10.65	12.20	14.38	22.00	26.58	4.58
		velocity		8.81		9.39		8.20		6.95	8.23		8.81	9.39	8.20	6.95	9.09	7.52	

Tilga, Karel (EST) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date	25-Aug-23	time		11.78		23.13		34.99		48.58	48.58	9 / 4							
reaction time	0.178	interval				11.35		11.86		13.59		# of strides	11.78	11.35	11.86	13.59	23.13	25.45	2.32
		velocity		8.49		8.81		8.43		7.36	8.23		8.49	8.81	8.43	7.36	8.65	7.86	

Baldwin, Heath (USA) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	21-Jun-24	time		11.46		22.48		34.79		48.58	48.58	8 / 3							
reaction time		interval				11.02		12.31		13.79	PB	# of strides	11.46	11.02	12.31	13.79	22.48	26.10	3.62
		velocity		8.73		9.07		8.12		7.25	8.23		8.73	9.07	8.12	7.25	8.90	7.66	

Aikyo, Shotaro (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 Japanese National High School Championships (Kitamaki, JPN)																	*Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics data*
date	04-Aug-11	time		11.78		23.03		34.95		48.59	48.59	8 / 8							
reaction time		interval				11.25		11.92		13.64		# of strides	11.78	11.25	11.92	13.64	23.03	25.56	2.53
		velocity		8.49		8.89		8.39		7.33	8.23		8.49	8.89	8.39	7.33	8.68	7.82	

Nozaki, Tsuyoshi (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date	21-Oct-16	time	6.59	12.00	17.52	23.25	29.18	35.38	41.84	48.59	48.59	8 / 7							
reaction time		interval		5.41	5.52	5.73	5.93	6.20	6.46	6.75		# of strides	12.00	11.25	12.13	13.21	23.25	25.34	2.09
		velocity	7.59	9.24	9.06	8.73	8.43	8.06	7.74	7.41	8.23		8.33	8.89	8.24	7.57	8.60	7.89	

Umikawa, Shigeru (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date	21-Oct-16	time	6.53	11.86	17.32	22.93	28.85	35.13	41.71	48.60	48.60	2 / 8							
reaction time		interval		5.33	5.46	5.61	5.92	6.28	6.58	6.89		# of strides	11.86	11.07	12.20	13.47	22.93	25.67	2.74
		velocity	7.66	9.38	9.16	8.91	8.45	7.96	7.60	7.26	8.23		8.43	9.03	8.20	7.42	8.72	7.79	

Suzuki, Yumeto (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 2 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/01/post-786/*
date	26-May-17	time		11.98		23.50		35.72		48.60	48.60	2 / 7							
reaction time		interval				11.52		12.22		12.88		# of strides	11.98	11.52	12.22	12.88	23.50	25.10	1.60
		velocity		8.35		8.68		8.18		7.76	8.23	187.0	8.35	8.68	8.18	7.76	8.51	7.97	

Wang Hongliang (CHN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Grand Prix 1 (Rizhao, CHN)																	*Shandong Athletics Sport Science (2023)*
date	26-Apr-23	time		12.09		23.54		35.74	42.06	48.60	48.60	2 / 6							
reaction time	0.155	interval				11.45		12.20	6.32	6.54		# of strides	12.09	11.45	12.20	12.86	23.54	25.06	1.52
		velocity		8.27		8.73		8.20	7.91	7.65	8.23	174.0	8.27	8.73	8.20	7.78	8.50	7.98	

Tang Jiajun (CHN) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Grand Prix 1 (Rizhao, CHN)																	*Shandong Athletics Sport Science (2023)*
date	26-Apr-23	time		11.96		23.29		35.50	41.90	48.60	48.60	1 / 7							
reaction time	0.179	interval				11.33		12.21	6.40	6.70		# of strides	11.96	11.33	12.21	13.10	23.29	25.31	2.02
		velocity		8.36		8.83		8.19	7.81	7.46	8.23	180.7	8.36	8.83	8.19	7.63	8.59	7.90	

Zheng Chiyu (CHN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2024)*
date	16-Sep-24	time		12.21		23.59		35.80	42.01	48.60	48.60	2 / 8							
reaction time	0.200	interval				11.38		12.21	6.21	6.59		# of strides	12.21	11.38	12.21	12.80	23.59	25.01	1.42
		velocity		8.19		8.79		8.19	8.05	7.59	8.23	175.0	8.19	8.79	8.19	7.81	8.48	8.00	

Kitamura, Shuya (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 2 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/02/post-835/*
date	26-May-17	time		11.76		22.89		35.07		48.62	48.62	9 / 5							
reaction time		interval				11.13		12.18		13.55		# of strides	11.76	11.13	12.18	13.55	22.89	25.73	2.84
		velocity		8.50		8.98		8.21		7.38	8.23	184.2	8.50	8.98	8.21	7.38	8.74	7.77	

Nakatsukue, Haruhiko (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date	10-Oct-16	time	6.54	11.92	17.50	23.39	29.44	35.64	42.01	48.62	48.62	3 / 7							
reaction time	0.208	interval		5.38	5.58	5.89	6.05	6.20	6.37	6.61		# of strides	11.92	11.47	12.25	12.98	23.39	25.23	1.84
		velocity	7.65	9.29	8.96	8.49	8.26	8.06	7.85	7.56	8.23		8.39	8.72	8.16	7.70	8.55	7.93	

Coertzen, Willem (RSA) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 4 - 2009 IAAF World Championships (Berlin, GER)										*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*							
date 19-Aug-09 time		11.42		22.62		34.84		48.63	48.63	2 / 3							
reaction time 0.189 interval				11.20		12.22		13.79	PB	# of strides	11.42	11.20	12.22	13.79	22.62	26.01	3.39
velocity		8.76		8.93		8.18		7.25	8.23		8.76	8.93	8.18	7.25	8.84	7.69	

Kawauchi, Mitsuki (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)										*(2017) - tfdata-store.com/2017/10/12/post-1100/*							
date 08-Oct-17 time		11.57		22.34		34.73		48.63	48.63	7 / 7							
reaction time 0.211 interval				10.77		12.39		13.90		# of strides	11.57	10.77	12.39	13.90	22.34	26.29	3.95
velocity		8.64		9.29		8.07		7.19	8.23	193.2	8.64	9.29	8.07	7.19	8.95	7.61	

Asano, Daichi (JPN) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)										*Shibayama (2021) - national high school and U20 national championhsips*							
date 28-Jul-21 time	6.73	12.16	17.75	23.45	29.31	35.46	41.86	48.63	48.63	6 / 7							
reaction time 0.171 interval		5.43	5.59	5.70	5.86	6.15	6.40	6.77		# of strides	12.16	11.29	12.01	13.17	23.45	25.18	1.73
velocity	7.43	9.21	8.94	8.77	8.53	8.13	7.81	7.39	8.23		8.22	8.86	8.33	7.59	8.53	7.94	

Myers, Lon (USA) (1858)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1881 Time Trial in Solo Effort (New York, NY) (640y Circuit)										*Hymans (2015) - progression of IAAF world records - 2015 edition*							
date 22-Oct-81 time						34.8		48.5	48.5	/ 1							
reaction time interval								13.7		# of strides				13.70			
velocity						8.62		7.30	8.25	*(48 4/5 /440y)*				7.30			

Miki, Kondo (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 China Perfecture High School Championships (Okayama, JPN)										*(2016.06.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*							
date 17-Jun-16 time		12.35		23.60		35.51		48.64	48.64	6 / 6							
reaction time interval				11.25		11.91		13.13		# of strides	12.35	11.25	11.91	13.13	23.60	25.04	1.44
velocity		8.10		8.89		8.40		7.62	8.22		8.10	8.89	8.40	7.62	8.47	7.99	

Claridge, Ben (GBR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Bislett Games (Olso, NOR)										*Omega Timing (2019) - diamond league race analysis*							
date 13-Jun-19 time		11.5		22.4		34.6		48.64	48.64	5 / 4							
reaction time 0.160 interval				10.9		12.2		14.0		# of strides	11.50	10.90	12.20	14.04	22.40	26.24	3.84
velocity		8.70		9.17		8.20		7.12	8.22		8.70	9.17	8.20	7.12	8.93	7.62	

Flück, Luca (SUI) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2021 Athletissima (Lausanne, SUI)										*Omega Timing (2021) - diamond league race analysis*							
date 26-Aug-21 time	6.5	11.9	17.5	23.3	29.3	35.5	41.8	48.64	48.64	3 / 3							
reaction time 0.167 interval		5.40	5.60	5.80	6.00	6.20	6.30	6.84		# of strides	11.90	11.40	12.20	13.14	23.30	25.34	2.04
velocity	7.69	9.26	8.93	8.62	8.33	8.06	7.94	7.31	8.22		8.40	8.77	8.20	7.61	8.58	7.89	

Sato, Kentaro (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 All Japan Corporate Championships (Kumagaya, JPN)										*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*							
date 19-Sep-20 time	6.24	11.33	16.55	21.99	27.86	34.36	41.24	48.65	48.65	2 / 8							
reaction time 0.225 interval		5.09	5.22	5.44	5.87	6.50	6.88	7.41		# of strides	11.33	10.66	12.37	14.29	21.99	26.66	4.67
velocity	8.01	9.82	9.58	9.19	8.52	7.69	7.27	6.75	8.22		8.83	9.38	8.08	7.00	9.10	7.50	

Toma, Denis Simon (ROU) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2021 European Athletics U20 Championships (Tallin, EST)										*European Athletics (2021) - european athletics U20 championships results book*							
date 15-Jul-21 time		12.32		23.97		36.14		48.67	48.67	2 / 8							
reaction time 0.198 interval				11.65		12.17		12.53		# of strides	12.32	11.65	12.17	12.53	23.97	24.70	0.73
velocity		8.12		8.58		8.22		7.98	8.22		8.12	8.58	8.22	7.98	8.34	8.10	

Tilga, Karel (EST) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2024 Olympic Games (Paris, FRA)										*Paris 2024 Olympic Games - Results Book (2024)*							
date 02-Aug-24 time	6.50	11.82	17.25	22.92	28.84	35.10	41.65	48.67	48.67	6 / 7							
reaction time 0.189 interval		5.32	5.43	5.67	5.92	6.26	6.55	7.02		# of strides	11.82	11.10	12.18	13.57	22.92	25.75	2.83
velocity	7.69	9.40	9.21	8.82	8.45	7.99	7.63	7.12	8.22	165.0	8.46	9.01	8.21	7.37	8.73	7.77	

Sato, Keitaro (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 Japanese National High School Championships (Saga, JPN)										*Hitorara (2007) - 60st high school championships: JAF scientific committee - biomechanics data*							
date 02-Aug-07 time	6.32	12.04	18.07	24.32	30.54	36.51	42.41	48.68	48.68	/ 1							
reaction time interval		5.72	6.03	6.25	6.22	5.97	5.90	6.27		# of strides	12.04	12.28	12.19	12.17	24.32	24.36	0.04
velocity	7.91	8.74	8.29	8.00	8.04	8.38	8.47	7.97	8.22		8.31	8.14	8.20	8.22	8.22	8.21	

Shirahata, Daiki (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)										*(2017) - tfdata-store.com/2017/06/02/post-835/*							
date 26-May-17 time		11.78		23.07		35.17		48.68	48.68	2 / ~~7~~ 6							
reaction time interval				11.29		12.10		13.51		# of strides	11.78	11.29	12.10	13.51	23.07	25.61	2.54
velocity		8.49		8.86		8.26		7.40	8.22	176.5	8.49	8.86	8.26	7.40	8.67	7.81	

Nakagawa, Yuichiro (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2017 Nanbu Memorial Meeting (Sapporo, JPN)										*(2017) - tfdata-store.com/2017/07/11/post-1010/*							
date 09-Jul-17 time		11.75		23.33		35.45		48.68	48.68	3 / 2							
reaction time interval				11.58		12.12		13.23		# of strides	11.75	11.58	12.12	13.23	23.33	25.35	2.02
velocity		8.51		8.64		8.25		7.56	8.22	195.0	8.51	8.64	8.25	7.56	8.57	7.89	

Kojima, Sota (JPN) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)										*Kishima (2022) - national high school championships biomechanics data collection*							
date 03-Aug-22 time		11.95		23.45		35.80		48.68	48.68	2 / 7							
reaction time 0.162 interval				11.50		12.35		12.88		# of strides	11.95	11.50	12.35	12.88	23.45	25.23	1.78
velocity		8.37		8.70		8.10		7.76	8.22	186.0	8.37	8.70	8.10	7.76	8.53	7.93	

Wakabayashi, Kota (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2020 Japanese National Championships (Niigata, JPN)										*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*							

date	01-Oct-20	time	6.22	11.21	16.40	22.01	27.94	34.22	40.88	48.70	48.70	4 / 5						
reaction time	0.169	interval		4.99	5.19	5.61	5.93	6.28	6.66	7.82		# of strides	11.21	10.80	12.21	14.48	22.01	26.69	4.68
		velocity	8.04	10.02	9.63	8.91	8.43	7.96	7.51	6.39	8.21		8.92	9.26	8.19	6.91	9.09	7.49	

Taleb, Lahssen (MAR) (2005) — **National FINAL** - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) — *Omega Timing (2023) - diamond league race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-23	time	6.76	12.23	17.72	23.49	29.32	35.37	41.75	48.70	48.70	8 / 6							
reaction time	0.240	interval		5.47	5.49	5.77	5.83	6.05	6.38	6.95	PB	# of strides	12.23	11.26	11.88	13.33	23.49	25.21	1.72
		velocity	7.40	9.14	9.11	8.67	8.58	8.26	7.84	7.19	8.21		8.18	8.88	8.42	7.50	8.51	7.93	

Muraki, Daiki (JPN) (1996) — **Division 1 Semi-Final 1** - 2017 Kanto Collegiate Championships (Yokohama, JPN) — *(2017) - tfdata-store.com/2017/06/02/post-835/*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.83		23.14		35.49		48.71	48.71	8 / ~~8~~ 7							
reaction time		interval				11.31		12.35		13.22		# of strides	11.83	11.31	12.35	13.22	23.14	25.57	2.43
		velocity		8.45		8.84		8.10		7.56	8.21	184.5	8.45	8.84	8.10	7.56	8.64	7.82	

Behrenbruch, Pascal (GER) (1985) — **Decathlon - Heat 3** - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Aug-09	time		11.35		22.54		34.86		48.72	48.72	8 / 2							
reaction time	0.142	interval				11.19		12.32		13.86		# of strides	11.35	11.19	12.32	13.86	22.54	26.18	3.64
		velocity		8.81		8.94		8.12		7.22	8.21		8.81	8.94	8.12	7.22	8.87	7.64	

Sakurai, Takahiro (JPN) (1995) — **FINAL** - 2012 Japanese National High School Championships (Niigata, JPN) — *Yasunori (2012) - 65th high school championships: JAF scientific committee - biomechanics data*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-12	time		12.11		24.05		36.48		48.72	48.72	7 / 5							
reaction time		interval				11.94		12.43		12.24		# of strides	12.11	11.94	12.43	12.24	24.05	24.67	0.62
		velocity		8.26		8.38		8.05		8.17	8.21		8.26	8.38	8.05	8.17	8.32	8.11	

Arai, Masanori (JPN) (1994) — **FINAL** - 2012 Japanese National High School Championships (Niigata, JPN) — *Yasunori (2012) - 65th high school championships: JAF scientific committee - biomechanics data*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-12	time		12.11		24.05		36.48		48.72	48.72	2 / 6							
reaction time		interval				11.94		12.43		12.24		# of strides	12.11	11.94	12.43	12.24	24.05	24.67	0.62
		velocity		8.26		8.38		8.05		8.17	8.21		8.26	8.38	8.05	8.17	8.32	8.11	

Suzaki, Mitsuhiro (JPN) (1995) — **Division 1 FINAL** - 2017 Kanto Collegiate Championships (Yokohama, JPN) — *(2017) - tfdata-store.com/2017/06/01/post-786/*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.77		22.91		34.86		48.72	48.72	2 / 8							
reaction time		interval				11.14		11.95		13.86		# of strides	11.77	11.14	11.95	13.86	22.91	25.81	2.90
		velocity		8.50		8.98		8.37		7.22	8.21	187.2	8.50	8.98	8.37	7.22	8.73	7.75	

Tsunaga, Kanno (JPN) (1999) — **U19 Heat 1** - 2017 National Sports Festival (Matsuyama, JPN) — *(2017) - tfdata-store.com/2017/10/12/post-1100/*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.71		23.34		35.47		48.72	48.72	3 / 5							
reaction time	0.186	interval				11.63		12.13		13.25		# of strides	11.71	11.63	12.13	13.25	23.34	25.38	2.04
		velocity		8.54		8.60		8.24		7.55	8.21	200.5	8.54	8.60	8.24	7.55	8.57	7.88	

Wiberg, Nicklas (SWE) (1985) — **Decathlon - Heat 4** - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Aug-09	time		11.76		22.95		35.09		48.73	48.73	4 / 4							
reaction time	0.198	interval				11.19		12.14		13.64		# of strides	11.76	11.19	12.14	13.64	22.95	25.78	2.83
		velocity		8.50		8.94		8.24		7.33	8.21		8.50	8.94	8.24	7.33	8.71	7.76	

Kudo, Taisei (JPN) (1996) — **Heat 1** - 2017 National Sports Festival (Matsuyama, JPN) — *(2017) - tfdata-store.com/2017/10/12/post-1100/*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.61		22.55		34.79		48.74	48.74	4 / 8							
reaction time	0.214	interval				10.94		12.24		13.95		# of strides	11.61	10.94	12.24	13.95	22.55	26.19	3.64
		velocity		8.61		9.14		8.17		7.17	8.21	188.0	8.61	9.14	8.17	7.17	8.87	7.64	

Delgado, Joe (USA) (1995) — **Decathlon - Heat 1** - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-24	time		11.71		22.94		35.43		48.74	48.74	7 / 4							
reaction time		interval				11.23		12.49		13.31		# of strides	11.71	11.23	12.49	13.31	22.94	25.80	2.86
		velocity		8.54		8.90		8.01		7.51	8.21		8.54	8.90	8.01	7.51	8.72	7.75	

Katayama, Takuya (JPN) (2000) — **U19 Semi-Final 1** - 2017 National Sports Festival (Matsuyama, JPN) — *(2017) - tfdata-store.com/2017/10/12/post-1100/*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.98		23.43		35.60		48.75	48.75	8 / 8							
reaction time	0.209	interval				11.45		12.17		13.15		# of strides	11.98	11.45	12.17	13.15	23.43	25.32	1.89
		velocity		8.35		8.73		8.22		7.60	8.21	179.0	8.35	8.73	8.22	7.60	8.54	7.90	

Krauchanka, Andrei (BLR) (1986) — **Decathlon - Heat 4** - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Aug-09	time		11.63		22.88		35.17		48.77	48.77	6 / 5							
reaction time	0.207	interval				11.25		12.29		13.60		# of strides	11.63	11.25	12.29	13.60	22.88	25.89	3.01
		velocity		8.60		8.89		8.14		7.35	8.20		8.60	8.89	8.14	7.35	8.74	7.72	

Black, Sam (USA) (1995) — **Decathlon - Heat 1** - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-24	time		11.74		22.98		35.19		48.78	48.78	6 / 5							
reaction time		interval				11.24		12.21		13.59		# of strides	11.74	11.24	12.21	13.59	22.98	25.80	2.82
		velocity		8.52		8.90		8.19		7.36	8.20		8.52	8.90	8.19	7.36	8.70	7.75	

Ferreira Santana, Jose (BRA) (1999) — **Decathlon - Heat 1** - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-24	time	6.49	11.84	17.43	23.22	29.26	35.57	42.07	48.78	48.78	6 / 2							
reaction time	0.157	interval		5.35	5.59	5.79	6.04	6.31	6.50	6.71	PB	# of strides	11.84	11.38	12.35	13.21	23.22	25.56	2.34
		velocity	7.70	9.35	8.94	8.64	8.28	7.92	7.69	7.45	8.20	181.0	8.45	8.79	8.10	7.57	8.61	7.82	

Honma, Daisuke (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 Japanese National High School Championships (Oita, JPN)										*Matsuo (2013) - 66th high school championships: JAF scientific committee - biomechanics data*							
date 30-Jul-13	time	12.02		23.37		35.45		48.79	48.79	6 / 8							
reaction time	interval			11.35		12.08		13.34		# of strides	12.02	11.35	12.08	13.34	23.37	25.42	2.05
	velocity	8.32		8.81		8.28		7.50	8.20		8.32	8.81	8.28	7.50	8.56	7.87	

Sasaki, Hayata (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN)										*(2017) - tfdata-store.com/2017/04/07/post-249/*							
date 06-Apr-17	time	11.93		22.92		35.22		48.79	48.79	9 / 7							
reaction time	interval			10.99		12.30		13.57		# of strides	11.93	10.99	12.30	13.57	22.92	25.87	2.95
	velocity	8.38		9.10		8.13		7.37	8.20		8.38	9.10	8.13	7.37	8.73	7.73	

Õiglane, Janek (EST) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 25-Aug-23	time	11.78		23.19		35.29		48.41	48.41	2 / 2							
reaction time 0.163	interval			11.41		12.10		13.12	PB	# of strides	11.78	11.41	12.10	13.12	23.19	25.22	2.03
	velocity	8.49		8.76		8.26		7.62	8.26	180.7	8.49	8.76	8.26	7.62	8.62	7.93	

Yoshimura, Kengo (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 Japanese National High School Championships (Nara, JPN)										*Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data*							
date 29-Jul-09	time	11.72		23.67		35.99		48.82	48.82	8 / 7							
reaction time	interval			11.95		12.32		12.83		# of strides	11.72	11.95	12.32	12.83	23.67	25.15	1.48
	velocity	8.53		8.37		8.12		7.79	8.19		8.53	8.37	8.12	7.79	8.45	7.95	

Masuda, Shion (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)										*Ryutaro (2018) - research on athlete performance and technique- 2018 data book*							
date 19-Oct-18	time 6.52	11.87	17.37	23.18	29.15	35.32	41.79	48.84	48.84	1 / 8							
reaction time	interval	5.35	5.50	5.81	5.97	6.17	6.47	7.05		# of strides	11.87	11.31	12.14	13.52	23.18	25.66	2.48
	velocity 7.67	9.35	9.09	8.61	8.38	8.10	7.73	7.09	8.19		8.42	8.84	8.24	7.40	8.63	7.79	

Abdulrahman, Mohamed Moussa (QA

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2021 Doha Diamond League (Doha, QAT)										*Omega Timing (2021) - diamond league race analysis*							
date 28-May-21	time 6.3	11.4	16.8	22.5	28.4	34.6	41.3	48.84	48.84	8 / 6							
reaction time 0.164	interval	5.10	5.40	5.70	5.90	6.20	6.70	7.54		# of strides	11.40	11.10	12.10	14.24	22.50	26.34	3.84
	velocity 7.94	9.80	9.26	8.77	8.47	8.06	7.46	6.63	8.19		8.77	9.01	8.26	7.02	8.89	7.59	

Han Zhiyu (CHN) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2023 Chinese National Grand Prix 1 (Rizhao, CHN)										*Shandong Athletics Sport Science (2023)*							
date 26-Apr-23	time	11.73		22.64		35.22	41.93	48.84	48.84	2 / 4							
reaction time 0.197	interval			10.91		12.58	6.71	6.91	PB	# of strides	11.73	10.91	12.58	13.62	22.64	26.20	3.56
	velocity	8.53		9.17		7.95	7.45	7.24	8.19	172.0	8.53	9.17	7.95	7.34	8.83	7.63	

El Boussiri, Walid (MAR) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)										*Omega Timing (2023) - diamond league race analysis*							
date 28-May-23	time 6.66	12.14	17.77	23.63	29.58	35.65	41.95	48.84	48.84	7 / 7							
reaction time 0.226	interval	5.48	5.63	5.86	5.95	6.07	6.30	6.89	PB	# of strides	12.14	11.49	12.02	13.19	23.63	25.21	1.58
	velocity 7.51	9.12	8.88	8.53	8.40	8.24	7.94	7.26	8.19		8.24	8.70	8.32	7.58	8.46	7.93	

Hasidume, Tatuki (JPN) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)										*Takashima (2024) - national high school sports festival - biomechanics data*							
date 28-Jul-24	time	11.76		22.96		35.19		48.84	48.84	7 / 7							
reaction time 0.170	interval			11.20		12.23		13.65		# of strides	11.76	11.20	12.23	13.65	22.96	25.88	2.92
	velocity	8.50		8.93		8.18		7.33	8.19		8.50	8.93	8.18	7.33	8.71	7.73	

Thebe, Baboloki (BOT) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Bauhaus Galan (Stockholm, SWE)										*Omega Timing (2019) - diamond league race analysis*							
date 30-May-19	time	11.3		22.2		33.9		48.85	48.85	3 / 8							
reaction time 0.170	interval			10.9		11.7		15.0		# of strides	11.30	10.90	11.70	14.95	22.20	26.65	4.45
	velocity	8.85		9.17		8.55		6.69	8.19		8.85	9.17	8.55	6.69	9.01	7.50	

Kanamori, Reiya (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)										*(2017) - tfdata-store.com/2017/05/13/post-441/*							
date 11-May-17	time	12.25		23.74		35.71		48.86	48.86	6 / 8							
reaction time	interval			11.49		11.97		13.15		# of strides	12.25	11.49	11.97	13.15	23.74	25.12	1.38
	velocity	8.16		8.70		8.35		7.60	8.19		8.16	8.70	8.35	7.60	8.42	7.96	

Ibrahim Issaka, Hussein (QAT) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat B - West Asian Championships - 2024 Seashore Doha Meeting (Doha, QAT)										*Omega Timing (2024) - diamond league race analysis*							
date 10-May-24	time 6.39	11.68	17.20	22.98	29.00	35.29	41.86	48.86	48.86	6 / 2							
reaction time 0.228	interval	5.29	5.52	5.78	6.02	6.29	6.57	7.00		# of strides	11.68	11.30	12.31	13.57	22.98	25.88	2.90
	velocity 7.82	9.45	9.06	8.65	8.31	7.95	7.61	7.14	8.19		8.56	8.85	8.12	7.37	8.70	7.73	

Nakamura, Akihiko (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2018 Tokyo Combined Event Meeting (Tokyo, JPN)										*Matsubayashi (2018) - research on athlete performance and technique- 2018 data book*							
date 21-Apr-18	time 6.45	11.89	17.37	23.03	28.96	35.30	41.95	48.89	48.89	4 / 1							
reaction time	interval	5.44	5.48	5.66	5.93	6.34	6.65	6.94		# of strides	11.89	11.14	12.27	13.59	23.03	25.86	2.83
	velocity 7.75	9.19	9.12	8.83	8.43	7.89	7.52	7.20	8.18		8.41	8.98	8.15	7.36	8.68	7.73	

Nazih, Yahya (MAR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Meeting International Mohammed VI d'Athlétime (Rabat, MAR)										*Omega Timing (2022) - diamond league race analysis*							
date 05-Jun-22	time 6.44	11.78	17.38	23.13	29.27	35.55	41.91	48.89	48.89	8 / 5							
reaction time 0.164	interval	5.34	5.60	5.75	6.14	6.28	6.36	6.98		# of strides	11.78	11.35	12.42	13.34	23.13	25.76	2.63
	velocity 7.76	9.36	8.93	8.70	8.14	7.96	7.86	7.16	8.18		8.49	8.81	8.05	7.50	8.65	7.76	

Yousif, Rabah (GBR) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2023 Bauhaus Galan (Stockholm, SWE)										*Omega Timing (2023) - diamond league race analysis*							

date	02-Jul-23	time	6.56	11.87	17.30	22.90	28.82	35.10	41.67	48.89	48.89	7 / 7						
reaction time	0.164	interval		5.31	5.43	5.60	5.92	6.28	6.57	7.22		# of strides	11.87	11.03	12.20	13.79	22.90	25.99	3.09
		velocity	7.62	9.42	9.21	8.93	8.45	7.96	7.61	6.93	8.18		8.42	9.07	8.20	7.25	8.73	7.70	

Hoshino, Sota (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 2 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/01/post-786/*
date 26-May-17	time	12.42		23.65		35.74		48.90	48.90	3 / 8							
reaction time	interval			11.23		12.09		13.16		# of strides	12.42	11.23	12.09	13.16	23.65	25.25	1.60
	velocity	8.05		8.90		8.27		7.60	8.18	171.5	8.05	8.90	8.27	7.60	8.46	7.92	

Kajiyama, Kaitama (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17	time	11.92		23.41		35.62		48.91	48.91	4 / 6							
reaction time 0.183	interval			11.49		12.21		13.29		# of strides	11.92	11.49	12.21	13.29	23.41	25.50	2.09
	velocity	8.39		8.70		8.19		7.52	8.18	176.0	8.39	8.70	8.19	7.52	8.54	7.84	

Mohadjir, Abdel Madjid (QAT) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2021 Doha Diamond League (Doha, QAT)																	*Omega Timing (2021) - diamond league race analysis*
date 28-May-21	time	6.4	11.8	17.2	23.0	28.9	35.1	41.5	48.91	48.91	3 / 7							
reaction time 0.149	interval		5.40	5.40	5.80	5.90	6.20	6.40	7.41	PB	# of strides	11.80	11.20	12.10	13.81	23.00	25.91	2.91
	velocity	7.81	9.26	9.26	8.62	8.47	8.06	7.81	6.75	8.18		8.47	8.93	8.26	7.24	8.70	7.72	

Han Zhiyu (CHN) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2023 Chinese National Grand Prix 5 (Huangshi, CHN)																	*Shandong Athletics Sport Science (2023)*
date 09-Jun-23	time		11.64		22.82		35.30	41.89	48.91	48.91	7 / 6							
reaction time 0.239	interval				11.18		12.48	6.59	7.02		# of strides	11.64	11.18	12.48	13.61	22.82	26.09	3.27
	velocity		8.59		8.94		8.01	7.59	7.12	8.18	169.2	8.59	8.94	8.01	7.35	8.76	7.67	

Garland, Kyle (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 21-Jun-24	time		11.33		22.30		34.95		48.91	48.91	7 / 6							
reaction time	interval				10.97		12.65		13.96		# of strides	11.33	10.97	12.65	13.96	22.30	26.61	4.31
	velocity		8.83		9.12		7.91		7.16	8.18		8.83	9.12	7.91	7.16	8.97	7.52	

Yoshitsu, Takao (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 21-Oct-16	time	6.59	12.17	17.82	23.59	29.55	35.68	42.02	48.92	48.92	1 / 8							
reaction time	interval		5.58	5.65	5.77	5.96	6.13	6.34	6.90		# of strides	12.17	11.42	12.09	13.24	23.59	25.33	1.74
	velocity	7.59	8.96	8.85	8.67	8.39	8.16	7.89	7.25	8.18		8.22	8.76	8.27	7.55	8.48	7.90	

Sakai, Yu (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 2 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/02/post-835/*
date 26-May-17	time		12.23		23.61		35.67		48.92	48.92	9 / 8							
reaction time	interval				11.38		12.06		13.25		# of strides	12.23	11.38	12.06	13.25	23.61	25.31	1.70
	velocity		8.18		8.79		8.29		7.55	8.18	194.0	8.18	8.79	8.29	7.55	8.47	7.90	

Yoshioka, Fumiya (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 16-Oct-15	time	6.49	11.78	17.32	23.09	28.99	35.19	41.66	48.93	48.93	/ 8							
reaction time	interval		5.29	5.54	5.77	5.90	6.20	6.47	7.27		# of strides	11.78	11.31	12.10	13.74	23.09	25.84	2.75
	velocity	7.70	9.45	9.03	8.67	8.47	8.06	7.73	6.88	8.17		8.49	8.84	8.26	7.28	8.66	7.74	

Taue, Shun (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2023 Michitaka Kinami Memorial (Osaka, JPN)																	*Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season*
date 06-May-23	time	6.49	11.74	17.11	22.79	28.82	35.12	41.76	48.94	48.94	8 / 2							
reaction time 0.141	interval		5.25	5.37	5.68	6.03	6.30	6.64	7.18		# of strides	11.74	11.05	12.33	13.82	22.79	26.15	3.36
	velocity	7.70	9.52	9.31	8.80	8.29	7.94	7.53	6.96	8.17		8.52	9.05	8.11	7.24	8.78	7.65	

Lysne, Torbjørn (NOR) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Bislett Games (Olso, NOR)																	*Omega Timing (2019) - diamond league race analysis*
date 13-Jun-19	time		11.9		23.4		35.9		48.95	48.95	1 / 5							
reaction time 0.178	interval				11.5		12.5		13.1		# of strides	11.90	11.50	12.50	13.05	23.40	25.55	2.15
	velocity		8.40		8.70		8.00		7.66	8.17		8.40	8.70	8.00	7.66	8.55	7.83	

Maruyama, Yuma (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2022 Michitaka Kinami Memorial (Osaka, JPN)																	*Takefu (2023) - performance analysis of decathlon athletes in the 2022 season*
date 30-Apr-22	time	6.52	11.94	17.42	23.15	29.08	35.30	41.88	48.96	48.96	4 / 2							
reaction time 0.151	interval		5.42	5.48	5.73	5.93	6.22	6.58	7.08		# of strides	11.94	11.21	12.15	13.66	23.15	25.81	2.66
	velocity	7.67	9.23	9.12	8.73	8.43	8.04	7.60	7.06	8.17		8.38	8.92	8.23	7.32	8.64	7.75	

Ebed, Amar Ebed (QAT) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat A - West Asian Championships - 2024 Seashore Doha Meeting (Doha, QAT)																	*Omega Timing (2024) - diamond league race analysis*
date 10-May-24	time	6.43	11.79	17.33	22.99	28.96	35.30	41.86	48.97	48.97	6 / 4							
reaction time 0.206	interval		5.36	5.54	5.66	5.97	6.34	6.56	7.11		# of strides	11.79	11.20	12.31	13.67	22.99	25.98	2.99
	velocity	7.78	9.33	9.03	8.83	8.38	7.89	7.62	7.03	8.17		8.48	8.93	8.12	7.32	8.70	7.70	

Berner, Markus Nikolai (NOR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Bislett Games (Olso, NOR)																	*Omega Timing (2019) - diamond league race analysis*
date 13-Jun-19	time		11.6		22.7		35.3		48.99	48.99	8 / 6							
reaction time 0.210	interval				11.1		12.6		13.7	PB	# of strides	11.60	11.10	12.60	13.69	22.70	26.29	3.59
	velocity		8.62		9.01		7.94		7.30	8.16		8.62	9.01	7.94	7.30	8.81	7.61	

Raja, Andres (EST) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 19-Aug-09	time		11.67		22.98		35.79		49.00	49.00	2 / 3							
reaction time 0.170	interval				11.31		12.81		13.21		# of strides	11.67	11.31	12.81	13.21	22.98	26.02	3.04
	velocity		8.57		8.84		7.81		7.57	8.16		8.57	8.84	7.81	7.57	8.70	7.69	

Steigerwald, Ernö (HUN) (2002)
Semi-Final 2 - 2021 European Athletics U20 Championships (Tallin, EST)
European Athletics (2021) - european athletics U20 championships results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Jul-21	time		12.26		23.71		35.84		49.00	49.00	2 / 7							
reaction time	0.203	interval				11.45		12.13		13.16		# of strides	12.26	11.45	12.13	13.16	23.71	25.29	1.58
		velocity		8.16		8.73		8.24		7.60	8.16		8.16	8.73	8.24	7.60	8.44	7.91	

Farmer, Josh (USA) (1999)
Decathlon - Heat 1 - 2024 USA Olympic Trials (Eugene, OR)
USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-24	time		11.42		22.43		34.80		49.00	49.00	4 / 6							
reaction time		interval				11.01		12.37		14.20		# of strides	11.42	11.01	12.37	14.20	22.43	26.57	4.14
		velocity		8.76		9.08		8.08		7.04	8.16		8.76	9.08	8.08	7.04	8.92	7.53	

Grimerud, Andreas (NOR) (2003)
Semi-Final 2 - 2021 European Athletics U20 Championships (Tallin, EST)
European Athletics (2021) - european athletics U20 championships results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Jul-21	time		12.40		24.11		36.68		49.01	49.01	1 / 8							
reaction time	0.190	interval				11.71		12.57		12.33		# of strides	12.40	11.71	12.57	12.33	24.11	24.90	0.79
		velocity		8.06		8.54		7.96		8.11	8.16		8.06	8.54	7.96	8.11	8.30	8.03	

Ogi, Moeto (JPN) (1994)
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)
Yasunori (2012) - 65th high school championships: JAF scientific committee - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-12	time		12.33		24.02		35.86		49.03	49.03	4 / 7							
reaction time		interval				11.69		11.84		13.17		# of strides	12.33	11.69	11.84	13.17	24.02	25.01	0.99
		velocity		8.11		8.55		8.45		7.59	8.16		8.11	8.55	8.45	7.59	8.33	8.00	

Ino, Yoshihiko (JPN)
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-15	time	6.64	12.05	17.70	23.72	29.82	36.10	42.49	49.03	49.03	/ 6							
reaction time		interval		5.41	5.65	6.02	6.10	6.28	6.39	6.54		# of strides	12.05	11.67	12.38	12.93	23.72	25.31	1.59
		velocity	7.53	9.24	8.85	8.31	8.20	7.96	7.82	7.65	8.16		8.30	8.57	8.08	7.73	8.43	7.90	

Baldwin, Heath (USA) (2001)
Decathlon - Heat 2 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-24	time	6.49	11.72	17.16	22.88	28.83	35.14	41.87	49.04	49.04	4 / 8							
reaction time	0.149	interval		5.23	5.44	5.72	5.95	6.31	6.73	7.17		# of strides	11.72	11.16	12.26	13.90	22.88	26.16	3.28
		velocity	7.70	9.56	9.19	8.74	8.40	7.92	7.43	6.97	8.16	176.2	8.53	8.96	8.16	7.19	8.74	7.65	

Kakuho, Miyauchi (JPN) (1999)
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)
(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		11.87		23.24		35.58		49.05	49.05	3 / 8							
reaction time	0.244	interval				11.37		12.34		13.47		# of strides	11.87	11.37	12.34	13.47	23.24	25.81	2.57
		velocity		8.42		8.80		8.10		7.42	8.15	192.2	8.42	8.80	8.10	7.42	8.61	7.75	

Ebed, Amar Ebed (QAT) (2002)
FINAL - 2023 Doha Diamond League (Doha, QAT)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-May-23	time	6.40	11.61	17.07	22.80	28.77	34.96	41.56	49.09	49.09	8 / 5							
reaction time	0.277	interval		5.21	5.46	5.73	5.97	6.19	6.60	7.53		# of strides	11.61	11.19	12.16	14.13	22.80	26.29	3.49
		velocity	7.81	9.60	9.16	8.73	8.38	8.08	7.58	6.64	8.15		8.61	8.94	8.22	7.08	8.77	7.61	

Al-Mabsali, Mohammed Said Aamir (C
West Asian GP - 2025 Jetour Doha Meeting (Doha, QAT)
Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-May-25	time	6.57	11.89	17.38	23.12	28.95	35.12	41.68	49.09	49.09	6 / 5							
reaction time	0.247	interval		5.32	5.49	5.74	5.83	6.17	6.56	7.41	PB	# of strides	11.89	11.23	12.00	13.97	23.12	25.97	2.85
		velocity	7.61	9.40	9.11	8.71	8.58	8.10	7.62	6.75	8.15		8.41	8.90	8.33	7.16	8.65	7.70	

Miura, Ayumu (JPN) (1997)
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-15	time	6.69	12.21	17.88	23.81	29.88	36.16	42.62	49.10	49.10	/ 7							
reaction time		interval		5.52	5.67	5.93	6.07	6.28	6.46	6.48		# of strides	12.21	11.60	12.35	12.94	23.81	25.29	1.48
		velocity	7.47	9.06	8.82	8.43	8.24	7.96	7.74	7.72	8.15		8.19	8.62	8.10	7.73	8.40	7.91	

Kabeya, Tomoyuki (JPN) (1992)
FINAL - 2009 Japanese National High School Championships (Nara, JPN)
Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-09	time		12.03		23.22		35.45		49.11	49.11	7 / 8							
reaction time		interval				11.19		12.23		13.66		# of strides	12.03	11.19	12.23	13.66	23.22	25.89	2.67
		velocity		8.31		8.94		8.18		7.32	8.14		8.31	8.94	8.18	7.32	8.61	7.72	

Maruike, Yuta (JPN) (1994)
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)
Yasunori (2012) - 65th high school championships: JAF scientific committee - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-12	time		12.59		24.87		36.93		49.12	49.12	9 / 8							
reaction time		interval				12.28		12.06		12.19		# of strides	12.59	12.28	12.06	12.19	24.87	24.25	-0.62
		velocity		7.94		8.14		8.29		8.20	8.14		7.94	8.14	8.29	8.20	8.04	8.25	

Taue, Shun (JPN) (1997)
Decathlon - Heat 3 - 2020 Japanese Multi-Event National Championships (Nagano, JPN)
Matsubayashi (2020) - research on athlete performance and technique- 2020 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Sep-20	time	6.57	12.02	17.60	23.36	29.36	35.55	42.09	49.12	49.12	6 / 3							
reaction time		interval		5.45	5.58	5.76	6.00	6.19	6.54	7.03		# of strides	12.02	11.34	12.19	13.57	23.36	25.76	2.40
		velocity	7.61	9.17	8.96	8.68	8.33	8.08	7.65	7.11	8.14		8.32	8.82	8.20	7.37	8.56	7.76	

Kaul, Niklas (GER) (1998)
Decathlon - Heat 1 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-24	time	6.65	12.06	17.70	23.43	29.28	35.47	42.08	49.13	49.13	5 / 3							
reaction time	0.173	interval		5.41	5.64	5.73	5.85	6.19	6.61	7.05		# of strides	12.06	11.37	12.04	13.66	23.43	25.70	2.27
		velocity	7.52	9.24	8.87	8.73	8.55	8.08	7.56	7.09	8.14	170.0	8.29	8.80	8.31	7.32	8.54	7.78	

Õiglane, Janek (EST) (1994)
Decathlon - Heat 1 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	23-Jul-22	time	11.59	22.76	35.11	49.16	49.16	8 / 1									
reaction time	0.148	interval		11.17	12.35	14.05		# of strides	11.59	11.17	12.35	14.05	22.76	26.40	3.64		
		velocity	8.63	8.95	8.10	7.12	8.14	175.5	8.63	8.95	8.10	7.12	8.79	7.58			

Cleve, Moritz (GER) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 4 - 2009 IAAF World Championships (Berlin, GER)											*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*						
date 19-Aug-09	time	12.08		23.43		35.36		49.17	49.17	8 / 6							
reaction time 0.195	interval			11.35		11.93		13.81		# of strides	12.08	11.35	11.93	13.81	23.43	25.74	2.31
	velocity	8.28		8.81		8.38		7.24	8.14		8.28	8.81	8.38	7.24	8.54	7.77	

Nakamura, Akihiko (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2018 Japanese National Multi-Event Championships (Nagano, JPN)											*Matsubayashi (2018) - research on athlete performance and technique- 2018 data book*						
date 16-Jun-18	time	6.51	11.97	17.75	23.80	29.98	36.19	42.53	49.17	49.17	6 / 1						
reaction time	interval		5.46	5.78	6.05	6.18	6.21	6.34	6.64		# of strides	11.97	11.83	12.39	12.98	23.80	25.37	1.57
	velocity	7.68	9.16	8.65	8.26	8.09	8.05	7.89	7.53	8.14		8.35	8.45	8.07	7.70	8.40	7.88	

Jutzet, Juri (SUI) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2024 Athletissima (Lausanne, SUI)											*Omega Timing (2024) - diamond league race analysis*						
date 22-Aug-24	time	6.62	12.16	17.77	23.58	29.65	35.96	42.39	49.17	49.17	3 / 6						
reaction time 0.180	interval		5.54	5.61	5.81	6.07	6.31	6.43	6.78		# of strides	12.16	11.42	12.38	13.21	23.58	25.59	2.01
	velocity	7.55	9.03	8.91	8.61	8.24	7.92	7.78	7.37	8.14		8.22	8.76	8.08	7.57	8.48	7.82	

Aieda, Kyoya (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)											*Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data collection*						
date 29-Jul-17	time	6.90	12.76	18.70	25.03	31.22	37.12	43.05	49.18	49.18	6 / 7						
reaction time 0.273	interval		5.86	5.94	6.33	6.19	5.90	5.93	6.13		# of strides	12.76	12.27	12.09	12.06	25.03	24.15	-0.88
	velocity	7.25	8.53	8.42	7.90	8.08	8.47	8.43	8.16	8.13		7.84	8.15	8.27	8.29	7.99	8.28	

Okuda, Keisuke (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2022 Michitaka Kinami Memorial (Osaka, JPN)											*Takefu (2023) - performance analyisis of decathlon athletes in the 2022 season*						
date 30-Apr-22	time	6.32	11.65	17.08	22.79	28.73	34.97	41.67	49.18	49.18	3 / 1						
reaction time 0.146	interval		5.33	5.43	5.71	5.94	6.24	6.70	7.51		# of strides	11.65	11.14	12.18	14.21	22.79	26.39	3.60
	velocity	7.91	9.38	9.21	8.76	8.42	8.01	7.46	6.66	8.13		8.58	8.98	8.21	7.04	8.78	7.58	

Gahne, Gustav (SWE) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)											*Omega Timing (2024) - diamond league race analysis*						
date 02-Jun-24	time	6.51	11.88	17.39	23.12	29.15	35.57	42.16	49.19	49.19	1 / 8						
reaction time 0.177	interval		5.37	5.51	5.73	6.03	6.42	6.59	7.03		# of strides	11.88	11.24	12.45	13.62	23.12	26.07	2.95
	velocity	7.68	9.31	9.07	8.73	8.29	7.79	7.59	7.11	8.13		8.42	8.90	8.03	7.34	8.65	7.67	

Matsuo, Ruhei (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)											*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*						
date 10-Oct-16	time	6.63	12.26	18.00	23.92	30.16	36.52	42.76	49.21	49.21	9 / 8						
reaction time 0.172	interval		5.63	5.74	5.92	6.24	6.36	6.24	6.45		# of strides	12.26	11.66	12.60	12.69	23.92	25.29	1.37
	velocity	7.54	8.88	8.71	8.45	8.01	7.86	8.01	7.75	8.13		8.16	8.58	7.94	7.88	8.36	7.91	

Yamane, Kota (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 2 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)											*(2017) - tfdata-store.com/2017/06/02/post-835/*						
date 26-May-17	time		12.05		23.30		35.46		49.22	49.22	3 / 6						
reaction time	interval				11.25		12.16		13.76		# of strides	12.05	11.25	12.16	13.76	23.30	25.92	2.62
	velocity		8.30		8.89		8.22		7.27	8.13	190.7	8.30	8.89	8.22	7.27	8.58	7.72	

Nakazawa, Shunsuke (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)											*(2017) - tfdata-store.com/2017/10/12/post-1100/*						
date 08-Oct-17	time		11.83		23.19		35.51		49.24	49.24	8 / 7						
reaction time 0.188	interval				11.36		12.32		13.73		# of strides	11.83	11.36	12.32	13.73	23.19	26.05	2.86
	velocity		8.45		8.80		8.12		7.28	8.12	185.2	8.45	8.80	8.12	7.28	8.62	7.68	

Matsuura, Taiga (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Shimane High School Championships (Izumo, JPN)											*Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis*						
date 11-Jul-20	time		11.38		22.73		35.41		49.24	49.24	6 / 1						
reaction time	interval				11.35		12.68		13.83		# of strides	11.38	11.35	12.68	13.83	22.73	26.51	3.78
	velocity		8.79		8.81		7.89		7.23	8.12		8.79	8.81	7.89	7.23	8.80	7.54	

Garland, Kyle (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2023 World Athletics Championships (Budapest, HUN)											*Seiko Timing (2023) - world championship race analysis*						
date 25-Aug-23	time		11.76		23.34		35.89		49.24	49.24	5 / 5						
reaction time 0.156	interval				11.58		12.55		13.35		# of strides	11.76	11.58	12.55	13.35	23.34	25.90	2.56
	velocity		8.50		8.64		7.97		7.49	8.12		8.50	8.64	7.97	7.49	8.57	7.72	

Mullings, Ken (BAH) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2022 World Athletics Championships (Eugene, OR)											*Timing by Seiko (2022) - world athletics championships race analysis*						
date 23-Jul-22	time		11.87		23.64		36.13		49.25	49.25	5 / 2						
reaction time 0.137	interval				11.77		12.49		13.12		# of strides	11.87	11.77	12.49	13.12	23.64	25.61	1.97
	velocity		8.42		8.50		8.01		7.62	8.12	181.0	8.42	8.50	8.01	7.62	8.46	7.81	

Mfomkpa, Alain-Hervé (SUI) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2021 Athletissima (Lausanne, SUI)											*Omega Timing (2021) - diamond league race analysis*						
date 26-Aug-21	time	6.5	12.0	17.6	23.5	29.5	35.7	42.2	49.27	49.27	6 / 4						
reaction time 0.149	interval		5.50	5.60	5.90	6.00	6.20	6.50	7.07		# of strides	12.00	11.50	12.20	13.57	23.50	25.77	2.27
	velocity	7.69	9.09	8.93	8.47	8.33	8.06	7.69	7.07	8.12		8.33	8.70	8.20	7.37	8.51	7.76	

Victor, Lindon (GRN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2022 World Athletics Championships (Eugene, OR)											*Timing by Seiko (2022) - world athletics championships race analysis*						
date 23-Jul-22	time		11.70		23.50		35.68		49.27	49.27	3 / 2						
reaction time 0.141	interval				11.80		12.18		13.59		# of strides	11.70	11.80	12.18	13.59	23.50	25.77	2.27
	velocity		8.55		8.47		8.21		7.36	8.12	180.0	8.55	8.47	8.21	7.36	8.51	7.76	

Junya, Nagahisa (JPN)

FINAL - 2007 Japanese National High School Championships (Saga, JPN)

Hitorara (2007) - 60st high school championships: JAF scientific committee - biomechanics data collection

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-07	time	6.60	12.29	18.25	24.28	30.37	36.41	42.63	49.29	49.29	/ 2							
reaction time		interval		5.69	5.96	6.03	6.09	6.04	6.22	6.66		# of strides	12.29	11.99	12.13	12.88	24.28	25.01	0.73
		velocity	7.58	8.79	8.39	8.29	8.21	8.28	8.04	7.51	8.12		8.14	8.34	8.24	7.76	8.24	8.00	

Ouyamna, Abdelaali (MAR) (2004)

National FINAL - 2022 Meeting International Mohammed VI d'Athlétime (Rabat, MAR)

Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Jun-22	time	6.56	12.04	17.73	23.53	29.73	36.20	42.57	49.29	49.29	7 / 6							
reaction time	0.205	interval		5.48	5.69	5.80	6.20	6.47	6.37	6.72		# of strides	12.04	11.49	12.67	13.09	23.53	25.76	2.23
		velocity	7.62	9.12	8.79	8.62	8.06	7.73	7.85	7.44	8.12		8.31	8.70	7.89	7.64	8.50	7.76	

Sýkora, Jiří (CZE) (1995)

Decathlon - Heat 2 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jul-22	time		12.13		23.72		35.97		49.29	49.29	1 / 3							
reaction time	0.145	interval				11.59		12.25		13.32		# of strides	12.13	11.59	12.25	13.32	23.72	25.57	1.85
		velocity		8.24		8.63		8.16		7.51	8.12		8.24	8.63	8.16	7.51	8.43	7.82	

Yu, Satomi (JPN)

FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN)

(2017) - tfdata-store.com/2017/04/07/post-249/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Apr-17	time				23.02		35.47		49.30	49.30	2 / 8							
reaction time		interval						12.45		13.83		# of strides			12.45	13.83	23.02	26.28	3.26
		velocity				8.69		8.03		7.23	8.11				8.03	7.23	8.69	7.61	

Saito, Jona (JPN)

FINAL - 2019 Shimane High School Championships (Izumo, JPN)

Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-May-19	time		12.09		23.71		36.00		49.30	49.30	6 / 1							
reaction time		interval				11.62		12.29		13.30		# of strides	12.09	11.62	12.29	13.30	23.71	25.59	1.88
		velocity		8.27		8.61		8.14		7.52	8.11		8.27	8.61	8.14	7.52	8.44	7.82	

Ferreira Santana, Jose (BRA) (1999)

Decathlon - Heat 1 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Aug-23	time		12.16		23.67		36.03		49.31	49.31	6 / 3							
reaction time	0.147	interval				11.51		12.36		13.28		# of strides	12.16	11.51	12.36	13.28	23.67	25.64	1.97
		velocity		8.22		8.69		8.09		7.53	8.11		8.22	8.69	8.09	7.53	8.45	7.80	

Sysoyev, Aleksey (RUS) (1985)

Decathlon - Heat 1 - 2009 IAAF World Championships (Berlin, GER)

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Aug-09	time		11.79		23.23		35.48		49.32	49.32	5 / 2							
reaction time	0.141	interval				11.44		12.25		13.84		# of strides	11.79	11.44	12.25	13.84	23.23	26.09	2.86
		velocity		8.48		8.74		8.16		7.23	8.11		8.48	8.74	8.16	7.23	8.61	7.67	

Nishida, Takumitsu (JPN)

Division 2 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)

(2017) - tfdata-store.com/2017/06/02/post-835/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.97		23.10		35.22		49.32	49.32	7 / 7							
reaction time		interval				11.13		12.12		14.10		# of strides	11.97	11.13	12.12	14.10	23.10	26.22	3.12
		velocity		8.35		8.98		8.25		7.09	8.11	190.2	8.35	8.98	8.25	7.09	8.66	7.63	

Kazmirek, Kai (GER) (1991)

Decathlon - Heat 2 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jul-22	time		11.60		22.68		35.14		49.33	49.33	7 / 4							
reaction time	0.145	interval				11.08		12.46		14.19		# of strides	11.60	11.08	12.46	14.19	22.68	26.65	3.97
		velocity		8.62		9.03		8.03		7.05	8.11	174.2	8.62	9.03	8.03	7.05	8.82	7.50	

Dieterle, Cédric (SUI) (2000)

B Race - 2021 Athletissima (Lausanne, SUI)

Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-21	time	6.4	11.8	17.5	23.4	29.5	35.7	42.3	49.36	49.36	1 / 5							
reaction time	0.165	interval		5.40	5.70	5.90	6.10	6.20	6.60	7.06		# of strides	11.80	11.60	12.30	13.66	23.40	25.96	2.56
		velocity	7.81	9.26	8.77	8.47	8.20	8.06	7.58	7.08	8.10		8.47	8.62	8.13	7.32	8.55	7.70	

Kawauchi, Mitsuki (JPN) (1997)

U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Oct-15	time	6.66	12.10	17.63	23.39	29.44	35.63	42.22	49.38	49.38	/ 7							
reaction time		interval		5.44	5.53	5.76	6.05	6.19	6.59	7.16		# of strides	12.10	11.29	12.24	13.75	23.39	25.99	2.60
		velocity	7.51	9.19	9.04	8.68	8.26	8.08	7.59	6.98	8.10		8.26	8.86	8.17	7.27	8.55	7.70	

Nakamura, Akihiko (JPN) (1990)

Decathlon - Heat 3 - 2020 Japanese Multi-Event National Championships (Nagano, JPN)

Matsubayashi (2020) - research on athlete performance and technique- 2020 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Sep-20	time	6.52	12.00	17.68	23.52	29.55	35.83	42.38	49.39	49.39	5 / 6							
reaction time		interval		5.48	5.68	5.84	6.03	6.28	6.55	7.01		# of strides	12.00	11.52	12.31	13.56	23.52	25.87	2.35
		velocity	7.67	9.12	8.80	8.56	8.29	7.96	7.63	7.13	8.10		8.33	8.68	8.12	7.37	8.50	7.73	

Mayer, Kevin (FRA) (1992)

Decathlon - Heat 2 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jul-22	time		12.07		23.74		36.09		49.40	49.40	6 / 5							
reaction time	0.164	interval				11.67		12.35		13.31		# of strides	12.07	11.67	12.35	13.31	23.74	25.66	1.92
		velocity		8.29		8.57		8.10		7.51	8.10	168.5	8.29	8.57	8.10	7.51	8.42	7.79	

Coquoz, Samuel (SUI) (1996)

B Race - 2024 Athletissima (Lausanne, SUI)

Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-24	time	6.36	11.69	17.21	22.95	29.02	35.44	42.19	49.42	49.42	1 / 7							
reaction time	0.182	interval		5.33	5.52	5.74	6.07	6.42	6.75	7.23		# of strides	11.69	11.26	12.49	13.98	22.95	26.47	3.52
		velocity	7.86	9.38	9.06	8.71	8.24	7.79	7.41	6.92	8.09		8.55	8.88	8.01	7.15	8.71	7.56	

Mullings, Ken (BAH) (1997)

Decathlon - Heat 1 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	02-Aug-24	time	6.30	11.52	13.97	22.75	28.86	35.23	42.04	49.43	49.43	7 / 4						
reaction time	0.177	interval		5.22	2.45	8.78	6.11	6.37	6.81	7.39		# of strides	11.52	11.23	12.48	14.20	22.75	26.68	3.93
		velocity	7.94	9.58	20.41	5.69	8.18	7.85	7.34	6.77	8.09	180.0	8.68	8.90	8.01	7.04	8.79	7.50	

Golubovic, Daniel (AUS) (1993)

Decathlon - Heat 2 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jul-22	time		12.05		23.73		36.08		49.44	49.44	2 / 6							
reaction time	0.149	interval				11.68		12.35		13.36		# of strides	12.05	11.68	12.35	13.36	23.73	25.71	1.98
		velocity		8.30		8.56		8.10		7.49	8.09		8.30	8.56	8.10	7.49	8.43	7.78	

Karpov, Dmitriy (KAZ) (1981)

Decathlon - Heat 5 - 2009 IAAF World Championships (Berlin, GER)

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Aug-09	time		11.89		23.17		35.47		49.45	49.45	7 / 1							
reaction time	0.127	interval				11.28		12.30		13.98		# of strides	11.89	11.28	12.30	13.98	23.17	26.28	3.11
		velocity		8.41		8.87		8.13		7.15	8.09		8.41	8.87	8.13	7.15	8.63	7.61	

Ishii, Yuto (JPN) (1990)

FINAL - 2017 Nanbu Memorial Meeting (Sapporo, JPN)

(2017) - tfdata-store.com/2017/07/11/post-1010/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jul-17	time		11.88		23.00		35.37		49.45	49.45	9 / 7							
reaction time		interval				11.12		12.37		14.08		# of strides	11.88	11.12	12.37	14.08	23.00	26.45	3.45
		velocity		8.42		8.99		8.08		7.10	8.09	201.2	8.42	8.99	8.08	7.10	8.70	7.56	

Maruyama, Yuma (JPN) (1998)

Decathlon - Heat 2 - 2023 Japanese Multi-Event National Championsips (Akita, JPN)

Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Jun-23	time	6.57	11.96	17.64	23.47	29.44	35.73	42.36	49.47	49.47	6 / 2							
reaction time		interval		5.39	5.68	5.83	5.97	6.29	6.63	7.11		# of strides	11.96	11.51	12.26	13.74	23.47	26.00	2.53
		velocity	7.61	9.28	8.80	8.58	8.38	7.95	7.54	7.03	8.09		8.36	8.69	8.16	7.28	8.52	7.69	

Amherd, Fabian (SUI) (2001)

B Race - 2021 Athletissima (Lausanne, SUI)

Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-21	time	6.6	12.1	17.7	23.7	29.7	36.1	42.6	49.49	49.49	7 / 6							
reaction time	0.150	interval		5.50	5.60	6.00	6.00	6.40	6.50	6.89		# of strides	12.10	11.60	12.40	13.39	23.70	25.79	2.09
		velocity	7.58	9.09	8.93	8.33	8.33	7.81	7.69	7.26	8.08		8.26	8.62	8.06	7.47	8.44	7.75	

Yamade, Masaki (JPN)

Division 2 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)

(2017) - tfdata-store.com/2017/06/02/post-835/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		11.68		22.64		35.21		49.53	49.53	8 / 8							
reaction time		interval				10.96		12.57		14.32		# of strides	11.68	10.96	12.57	14.32	22.64	26.89	4.25
		velocity		8.56		9.12		7.96		6.98	8.08	173.2	8.56	9.12	7.96	6.98	8.83	7.44	

Ziemek, Zachery (USA) (1993)

Decathlon - Heat 1 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jul-22	time		11.58		22.98		35.45		49.56	49.56	4 / 3							
reaction time	0.185	interval				11.40		12.47		14.11		# of strides	11.58	11.40	12.47	14.11	22.98	26.58	3.60
		velocity		8.64		8.77		8.02		7.09	8.07	167.2	8.64	8.77	8.02	7.09	8.70	7.52	

Ito, Chikki (JPN)

FINAL - 2018 Shimane High School Championships (Izumo, JPN)

Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-May-18	time		12.43		24.50		36.71		49.60	49.60	6 / 1							
reaction time		interval				12.07		12.21		12.89		# of strides	12.43	12.07	12.21	12.89	24.50	25.10	0.60
		velocity		8.05		8.29		8.19		7.76	8.06		8.05	8.29	8.19	7.76	8.16	7.97	

Bregenzer, Pierre-Yves (SUI) (2000)

B Race - 2024 Athletissima (Lausanne, SUI)

Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-24	time	6.39	11.71	17.23	23.04	29.07	35.51	42.35	49.60	49.60	6 / 8							
reaction time	0.172	interval		5.32	5.52	5.81	6.03	6.44	6.84	7.25		# of strides	11.71	11.33	12.47	14.09	23.04	26.56	3.52
		velocity	7.82	9.40	9.06	8.61	8.29	7.76	7.31	6.90	8.06		8.54	8.83	8.02	7.10	8.68	7.53	

Kawauchi, Shogo (JPN) (2003)

FINAL - 2021 Japanese High School National Championships (Fukui, JPN)

Shibayama (2021) - national high school and U20 national championhsips

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jul-21	time	6.70	12.42	18.30	24.31	30.40	36.61	42.90	49.61	49.61	7 / 8							
reaction time	0.183	interval		5.72	5.88	6.01	6.09	6.21	6.29	6.71		# of strides	12.42	11.89	12.30	13.00	24.31	25.30	0.99
		velocity	7.46	8.74	8.50	8.32	8.21	8.05	7.95	7.45	8.06		8.05	8.41	8.13	7.69	8.23	7.91	

Ozawa, Yohei (JPN) (2007)

FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)

Takashima (2024) - national high school sports festival - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jul-24	time		12.06		22.62		34.83		49.63	49.63	4 / 8							
reaction time	0.280	interval				10.56		12.21		14.80		# of strides	12.06	10.56	12.21	14.80	22.62	27.01	4.39
		velocity		8.29		9.47		8.19		6.76	8.06		8.29	9.47	8.19	6.76	8.84	7.40	

Kajima, Ayato (JPN) (2003)

FINAL - 2021 Shimane High School Championships (Izumo, JPN)

Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-21	time		12.15		23.47		35.67		49.64	49.64	4 / 1							
reaction time		interval				11.32		12.20		13.97		# of strides	12.15	11.32	12.20	13.97	23.47	26.17	2.70
		velocity		8.23		8.83		8.20		7.16	8.06		8.23	8.83	8.20	7.16	8.52	7.64	

Garland, Kyle (USA) (2000)

Decathlon - Heat 2 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jul-22	time		11.71		23.58		36.07		49.64	49.64	5 / 7							
reaction time	0.152	interval				11.87		12.49		13.57		# of strides	11.71	11.87	12.49	13.57	23.58	26.06	2.48
		velocity		8.54		8.42		8.01		7.37	8.06	179.0	8.54	8.42	8.01	7.37	8.48	7.67	

Ushiro, Keisuke (JPN) (1986)

Decathlon - Heat 2 - 2014 Japanese Multi-Event Naitonal Championships (Nagano, JPN)

Takeo (2014) - decathletes sprint ability & relationship of individual event performance

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	31-May-14	time	6.45	11.90	17.55	23.38	29.51	35.98	42.57	49.66	49.66	4 / 3							
reaction time		interval		5.45	5.65	5.83	6.13	6.47	6.59	7.09	PB	# of strides	11.90	11.48	12.60	13.68	23.38	26.28	2.90
		velocity	7.75	9.17	8.85	8.58	8.16	7.73	7.59	7.05	8.05		8.40	8.71	7.94	7.31	8.55	7.61	

Taue, Shun (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2023 Japanese Multi-Event National Championsips (Akita, JPN)											*Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season*						
date 10-Jun-23 time	6.56	11.97	17.56	23.33	29.42	35.84	42.49	49.69	49.69	7 / 4							
reaction time interval		5.41	5.59	5.77	6.09	6.42	6.65	7.20		# of strides	11.97	11.36	12.51	13.85	23.33	26.36	3.03
velocity	7.62	9.24	8.94	8.67	8.21	7.79	7.52	6.94	8.05		8.35	8.80	7.99	7.22	8.57	7.59	

Morimoto, Kimihito (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2018 Japanese National Multi-Event Championships (Nagano, JPN)											*Matsubayashi (2018) - research on athlete performance and technique- 2018 data book*						
date 16-Jun-18 time	6.41	11.89	17.63	23.71	30.01	36.41	42.93	49.70	49.70	5 / 3							
reaction time interval		5.48	5.74	6.08	6.30	6.40	6.52	6.77		# of strides	11.89	11.82	12.70	13.29	23.71	25.99	2.28
velocity	7.80	9.12	8.71	8.22	7.94	7.81	7.67	7.39	8.05		8.41	8.46	7.87	7.52	8.44	7.70	

Ziemek, Zachery (USA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2024 USA Olympic Trials (Eugene, OR)											*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*						
date 21-Jun-24 time		11.29		22.17		34.86		49.72	49.72	6 / 1							
reaction time interval				10.88		12.69		14.86		# of strides	11.29	10.88	12.69	14.86	22.17	27.55	5.38
velocity		8.86		9.19		7.88		6.73	8.05		8.86	9.19	7.88	6.73	9.02	7.26	

Taue, Shun (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2022 Michitaka Kinami Memorial (Osaka, JPN)											*Takefu (2023) - performance analyisis of decathlon athletes in the 2022 season*						
date 30-Apr-22 time	6.58	11.88	17.33	23.11	29.21	35.65	42.43	49.74	49.74	8 / 2							
reaction time 0.138 interval		5.30	5.45	5.78	6.10	6.44	6.78	7.31		# of strides	11.88	11.23	12.54	14.09	23.11	26.63	3.52
velocity	7.60	9.43	9.17	8.65	8.20	7.76	7.37	6.84	8.04		8.42	8.90	7.97	7.10	8.65	7.51	

Otobe, Takumi (JPN) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2014 Nittai University Distance Meeting (Wakayama, JPN)											*Matsuo (2014) - research on athlete performance and technique- 2014 data book*						
date 26-Apr-14 time	6.34	11.78	17.52	23.48	29.68	36.02	42.58	49.75	49.75	5 / 3							
reaction time interval		5.44	5.74	5.96	6.20	6.34	6.56	7.17		# of strides	11.78	11.70	12.54	13.73	23.48	26.27	2.79
velocity	7.89	9.19	8.71	8.39	8.06	7.89	7.62	6.97	8.04		8.49	8.55	7.97	7.28	8.52	7.61	

Stølen, Lars Gausemel (NOR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Bislett Games (Olso, NOR)											*Omega Timing (2019) - diamond league race analysis*						
date 13-Jun-19 time		11.8		23.0		35.6		49.75	49.75	7 / 7							
reaction time 0.171 interval				11.2		12.6		14.2		# of strides	11.80	11.20	12.60	14.15	23.00	26.75	3.75
velocity		8.47		8.93		7.94		7.07	8.04		8.47	8.93	7.94	7.07	8.70	7.48	

Hamano, Junpei (JPN) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 Japanese National High School Championships (Saga, JPN)											*Hitorara (2007) - 60st high school championships: JAF scientific committee - biomechanics data*						
date 02-Aug-07 time	6.25	11.77	17.78	24.08	30.28	36.34	42.64	49.76	49.76	/ 3							
reaction time interval		5.52	6.01	6.30	6.20	6.06	6.30	7.12		# of strides	11.77	12.31	12.26	13.42	24.08	25.68	1.60
velocity	8.00	9.06	8.32	7.94	8.06	8.25	7.94	7.02	8.04		8.50	8.12	8.16	7.45	8.31	7.79	

Skotheim, Sander (NOR) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2022 World Athletics Championships (Eugene, OR)											*Timing by Seiko (2022) - world athletics championships race analysis*						
date 23-Jul-22 time		11.95		23.40		35.89		49.80	49.80	8 / 8							
reaction time 0.154 interval				11.45		12.49		13.91		# of strides	11.95	11.45	12.49	13.91	23.40	26.40	3.00
velocity		8.37		8.73		8.01		7.19	8.03	181.0	8.37	8.73	8.01	7.19	8.55	7.58	

Gendre, Vincent (SUI) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2021 Athletissima (Lausanne, SUI)											*Omega Timing (2021) - diamond league race analysis*						
date 26-Aug-21 time	6.7	12.3	17.9	23.8	30.0	36.4	42.9	49.81	49.81	8 / 7							
reaction time 0.166 interval		5.60	5.60	5.90	6.20	6.40	6.50	6.91		# of strides	12.30	11.50	12.60	13.41	23.80	26.01	2.21
velocity	7.46	8.93	8.93	8.47	8.06	7.81	7.69	7.24	8.03		8.13	8.70	7.94	7.46	8.40	7.69	

Ikeda, Daisuke (JPN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2009 Japanese National Championships (Hiroshima, JPN)											*Hisashi (2010) - the run performance analysis in the decathlon sprint events*						
date 25-Jun-09 time	6.78	12.66	18.57	24.58	30.70	36.92	43.24	49.82	49.82	1 / 3							
reaction time interval		5.88	5.91	6.01	6.12	6.22	6.32	6.58		# of strides	12.66	11.92	12.34	12.90	24.58	25.24	0.66
velocity	7.37	8.50	8.46	8.32	8.17	8.04	7.91	7.60	8.03		7.90	8.39	8.10	7.75	8.14	7.92	

Ushiro, Keisuke (JPN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2014 Nittai University Distance Meeting (Wakayama, JPN)											*Takeo (2014) - decathletes sprint ability & relationship of individual event performance*						
date 26-Apr-14 time	6.55	12.00	17.65	23.55	29.68	36.09	42.69	49.84	49.84	5 / 3							
reaction time interval		5.45	5.65	5.90	6.13	6.41	6.60	7.15	PB	# of strides	12.00	11.55	12.54	13.75	23.55	26.29	2.74
velocity	7.63	9.17	8.85	8.47	8.16	7.80	7.58	6.99	8.03		8.33	8.66	7.97	7.27	8.49	7.61	

Hasnaoui, Farid (MAR) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)											*Omega Timing (2023) - diamond league race analysis*						
date 28-May-23 time	6.62	12.13	17.80	23.71	29.81	36.09	42.63	49.85	49.85	1 / 8							
reaction time 0.147 interval		5.51	5.67	5.91	6.10	6.28	6.54	7.22		# of strides	12.13	11.58	12.38	13.76	23.71	26.14	2.43
velocity	7.55	9.07	8.82	8.46	8.20	7.96	7.65	6.93	8.02		8.24	8.64	8.08	7.27	8.44	7.65	

Golubovic, Daniel (AUS) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2023 World Athletics Championships (Budapest, HUN)											*Seiko Timing (2023) - world championship race analysis*						
date 25-Aug-23 time		12.09		23.60		36.22		49.87	49.87	3 / 6							
reaction time 0.180 interval				11.51		12.62		13.65		# of strides	12.09	11.51	12.62	13.65	23.60	26.27	2.67
velocity		8.27		8.69		7.92		7.33	8.02		8.27	8.69	7.92	7.33	8.47	7.61	

Tanaka, Hiromasa (JPN) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2009 Gunma Relays (Maebashi, JPN)											*Hisashi (2010) - the run performance analysis in the decathlon sprint events*						
date 10-Oct-09 time	6.52	12.15	18.00	23.94	30.06	36.38	42.90	49.89	49.89	6 / 2							
reaction time interval		5.63	5.85	5.94	6.12	6.32	6.52	6.99		# of strides	12.15	11.79	12.44	13.51	23.94	25.95	2.01
velocity	7.67	8.88	8.55	8.42	8.17	7.91	7.67	7.15	8.02		8.23	8.48	8.04	7.40	8.35	7.71	

Kirihara, Yuto (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Shimane High School Championships (Izumo, JPN)											*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*						

date	26-May-17	time	12.28		23.87		36.82		49.89	49.89	7 / 1						
reaction time		interval			11.59		12.95		13.07		# of strides	12.28	11.59	12.95	13.07	23.87	26.02	2.15
		velocity	8.14		8.63		7.72		7.65	8.02		8.14	8.63	7.72	7.65	8.38	7.69	

Mitsukiya, Kakeki (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Shimane High School Championships (Izumo, JPN)										*Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*							
date 26-May-23	time	11.57		22.73		35.34		49.89	49.89	6 / 1							
reaction time	interval			11.16		12.61		14.55		# of strides	11.57	11.16	12.61	14.55	22.73	27.16	4.43
	velocity	8.64		8.96		7.93		6.87	8.02		8.64	8.96	7.93	6.87	8.80	7.36	

Ikeda, Daisuke (JPN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2009 Wakayama Athletics Meeting (Wakayama, JPN)										*Hisashi (2010) - the run performance analysis in the decathlon sprint events*							
date 18-Apr-09	time	6.69	12.09	17.63	23.50	29.59	35.87	42.35	49.91	49.91	8 / 1						
reaction time	interval		5.40	5.54	5.87	6.09	6.28	6.48	7.56		# of strides	12.09	11.41	12.37	14.04	23.50	26.41	2.91
	velocity	7.47	9.26	9.03	8.52	8.21	7.96	7.72	6.61	8.01		8.27	8.76	8.08	7.12	8.51	7.57	

Kotake, Rion (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)										*(2017) - tfdata-store.com/2017/10/12/post-1100/*							
date 09-Oct-17	time		11.88		23.68		36.31		49.92	49.92	2 / 8						
reaction time 0.148	interval				11.80		12.63		13.61		# of strides	11.88	11.80	12.63	13.61	23.68	26.24	2.56
	velocity		8.42		8.47		7.92		7.35	8.01	184.7	8.42	8.47	7.92	7.35	8.45	7.62	

Tveit, Espen (NOR) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Bislett Games (Olso, NOR)										*Omega Timing (2019) - diamond league race analysis*							
date 13-Jun-19	time		12.2		23.9		36.4		49.92	49.92	2 / 8						
reaction time 0.194	interval				11.7		12.5		13.5		# of strides	12.20	11.70	12.50	13.52	23.90	26.02	2.12
	velocity		8.20		8.55		8.00		7.40	8.01		8.20	8.55	8.00	7.40	8.37	7.69	

Vos, Ingmar (NED) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2009 IAAF World Championships (Berlin, GER)										*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*							
date 19-Aug-09	time		11.68		22.90		35.21		49.99	49.99	6 / 5						
reaction time 0.155	interval				11.22		12.31		14.78		# of strides	11.68	11.22	12.31	14.78	22.90	27.09	4.19
	velocity		8.56		8.91		8.12		6.77	8.00		8.56	8.91	8.12	6.77	8.73	7.38	

Maruyama, Yuma (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2019 Japanese National Multi-Event Championships (Nagano, JPN)										*Matsubayashi (2019) - research on athlete performance and technique- 2019 data book*							
date 08-Jun-19	time	6.41	11.81	17.38	23.29	29.49	35.85	42.65	49.99	49.99	5 / 1						
reaction time	interval		5.40	5.57	5.91	6.20	6.36	6.80	7.34		# of strides	11.81	11.48	12.56	14.14	23.29	26.70	3.41
	velocity	7.80	9.26	8.98	8.46	8.06	7.86	7.35	6.81	8.00		8.47	8.71	7.96	7.07	8.59	7.49	

Arai, Iori (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Shimane High School Championships (Izumo, JPN)										*Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*							
date 26-May-22	time		12.18		24.05		36.61		49.99	49.99	8 / 1						
reaction time	interval				11.87		12.56		13.38		# of strides	12.18	11.87	12.56	13.38	24.05	25.94	1.89
	velocity		8.21		8.42		7.96		7.47	8.00		8.21	8.42	7.96	7.47	8.32	7.71	

Nishikori, Yushin (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Shimane High School Championships (Izumo, JPN)										*Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*							
date 24-May-24	time		12.13		23.93		36.49		49.99	49.99	8 / 3						
reaction time	interval				11.80		12.56		13.50		# of strides	12.13	11.80	12.56	13.50	23.93	26.06	2.13
	velocity		8.24		8.47		7.96		7.41	8.00		8.24	8.47	7.96	7.41	8.36	7.67	

Yamane, Yusuke (JPN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Shimane High School Championships (Izumo, JPN)										*Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis*							
date 28-May-21	time		12.05		23.38		35.76		50.00	50.00	3 / 2						
reaction time	interval				11.33		12.38		14.24		# of strides	12.05	11.33	12.38	14.24	23.38	26.62	3.24
	velocity		8.30		8.83		8.08		7.02	8.00		8.30	8.83	8.08	7.02	8.55	7.51	

Spejcher, Daniel (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2024 USA Olympic Trials (Eugene, OR)										*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date 21-Jun-24	time		11.56		22.85		35.71		50.00	50.00	8 / 2						
reaction time	interval				11.29		12.86		14.29		# of strides	11.56	11.29	12.86	14.29	22.85	27.15	4.30
	velocity		8.65		8.86		7.78		7.00	8.00		8.65	8.86	7.78	7.00	8.75	7.37	

Mishima, Sota (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Shimane High School Championships (Izumo, JPN)										*Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*							
date 26-May-22	time		12.12		24.00		26.56		50.03	50.03	4 / 2						
reaction time	interval				11.88		2.56		23.47		# of strides	12.12	11.88	2.56	23.47	24.00	26.03	2.03
	velocity		8.25		8.42		39.06		4.26	8.00		8.25	8.42	39.06	4.26	8.33	7.68	

Flood, Jack (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2024 USA Olympic Trials (Eugene, OR)										*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date 21-Jun-24	time		11.99		23.25		35.81		50.03	50.03	5 / 3						
reaction time	interval				11.26		12.56		14.22		# of strides	11.99	11.26	12.56	14.22	23.25	26.78	3.53
	velocity		8.34		8.88		7.96		7.03	8.00		8.34	8.88	7.96	7.03	8.60	7.47	

Nakamura, Akihiko (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 3 - 2019 Japanese National Multi-Event Championships (Nagano, JPN)										*Matsubayashi (2019) - research on athlete performance and technique- 2019 data book*							
date 08-Jun-19	time	6.45	11.90	17.48	23.39	29.57	35.95	42.67	50.06	50.06	7 / 4						
reaction time	interval		5.45	5.58	5.91	6.18	6.38	6.72	7.39		# of strides	11.90	11.49	12.56	14.11	23.39	26.67	3.28
	velocity	7.75	9.17	8.96	8.46	8.09	7.84	7.44	6.77	7.99		8.40	8.70	7.96	7.09	8.55	7.50	

Tanaka, Hiromasa (JPN) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2009 Wakayama Athletics Meeting (Wakayama, JPN)										*Hisashi (2010) - the run performance analysis in the decathlon sprint events*							
date 18-Apr-09	time	6.35	11.73	17.27	23.20	29.30	35.55	42.09	50.08	50.08	6 / 3						
reaction time	interval		5.38	5.54	5.93	6.10	6.25	6.54	7.99		# of strides	11.73	11.47	12.35	14.53	23.20	26.88	3.68
	velocity	7.87	9.29	9.03	8.43	8.20	8.00	7.65	6.26	7.99		8.53	8.72	8.10	6.88	8.62	7.44	

Saito, Jona (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Shimane High School Championships (Izumo, JPN)													*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*						
date	25-May-18	time		12.26		24.27		39.63		50.08	50.09	5 / 2							
reaction time		interval				12.01		15.36		10.45		# of strides	12.26	12.01	15.36	10.45	24.27	25.81	1.54
		velocity		8.16		8.33		6.51		9.57	7.99		8.16	8.33	6.51	9.57	8.24	7.75	

Newdick, Brent (NZL) (1985)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*						
date	19-Aug-09	time		11.76		23.29		35.62		50.10	50.10	8 / 6							
reaction time	0.158	interval				11.53		12.33		14.48		# of strides	11.76	11.53	12.33	14.48	23.29	26.81	3.52
		velocity		8.50		8.67		8.11		6.91	7.98		8.50	8.67	8.11	6.91	8.59	7.46	

Tanaka, Rui (2000)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Shimane High School Championships (Izumo, JPN)													*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*						
date	25-May-18	time		12.43		24.47		36.93		50.13	50.13	4 / 3							
reaction time		interval				12.04		12.46		13.20		# of strides	12.43	12.04	12.46	13.20	24.47	25.66	1.19
		velocity		8.05		8.31		8.03		7.58	7.98		8.05	8.31	8.03	7.58	8.17	7.79	

Shimato, Shin (JPN) (2004)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)													*Kishima (2022) - national high school championships biomechanics data collection*						
date	03-Aug-22	time		11.67		23.09		36.04		50.14	50.14	5 / 8							
reaction time	0.196	interval				11.42		12.95		14.10		# of strides	11.67	11.42	12.95	14.10	23.09	27.05	3.96
		velocity		8.57		8.76		7.72		7.09	7.98		8.57	8.76	7.72	7.09	8.66	7.39	

Katayama, Kazuya (JPN) (1995)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - FINAL - 2022 Japanese Multi-Event National Championsips (Akita, JPN)													*Takefu (2023) - performance analyisis of decathlon athletes in the 2022 season*						
date	04-Jun-22	time	6.56	11.94	17.50	23.44	29.70	36.16	42.89	50.15	50.15	2 / 4							
reaction time		interval		5.38	5.56	5.94	6.26	6.46	6.73	7.26		# of strides	11.94	11.50	12.72	13.99	23.44	26.71	3.27
		velocity	7.62	9.29	8.99	8.42	7.99	7.74	7.43	6.89	7.98		8.38	8.70	7.86	7.15	8.53	7.49	

Musa, Mubarak Abdulkarim (QAT) (2(

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Doha Diamond League (Doha, QAT)													*Omega Timing (2023) - diamond league race analysis*						
date	05-May-23	time	6.85	12.63	18.93	25.04	31.06	36.98	43.33	50.20	50.20	6 / 6							
reaction time	0.230	interval		5.78	6.30	6.11	6.02	5.92	6.35	6.87		# of strides	12.63	12.41	11.94	13.22	25.04	25.16	0.12
		velocity	7.30	8.65	7.94	8.18	8.31	8.45	7.87	7.28	7.97		7.92	8.06	8.38	7.56	7.99	7.95	

Ushiro, Keisuke (JPN) (1986)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2014 Asian Games (Incheon, KOR)													*Takeo (2014) - decathletes sprint ability & relationship of individual event performance*						
date	30-Sep-14	time	6.52	11.88	17.63	23.82	30.12	36.58	43.23	50.25	50.25	/ 4							
reaction time		interval		5.36	5.75	6.19	6.30	6.46	6.65	7.02		# of strides	11.88	11.94	12.76	13.67	23.82	26.43	2.61
		velocity	7.67	9.33	8.70	8.08	7.94	7.74	7.52	7.12	7.96		8.42	8.38	7.84	7.32	8.40	7.57	

Nakamura, Akihiko (JPN) (1990)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2022 Michitaka Kinami Memorial (Osaka, JPN)													*Takefu (2023) - performance analyisis of decathlon athletes in the 2022 season*						
date	30-Apr-22	time	6.58	12.16	17.78	23.69	29.84	36.29	43.05	50.26	50.26	4 / 4							
reaction time	0.139	interval		5.58	5.62	5.91	6.15	6.45	6.76	7.21		# of strides	12.16	11.53	12.60	13.97	23.69	26.57	2.88
		velocity	7.60	8.96	8.90	8.46	8.13	7.75	7.40	6.93	7.96		8.22	8.67	7.94	7.16	8.44	7.53	

Pogorelov, Aleksandr (RUS) (1980)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 5 - 2009 IAAF World Championships (Berlin, GER)													*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*						
date	19-Aug-09	time		12.05		23.81		36.41		50.27	50.27	4 / 3							
reaction time	0.171	interval				11.76		12.60		13.86		# of strides	12.05	11.76	12.60	13.86	23.81	26.46	2.65
		velocity		8.30		8.50		7.94		7.22	7.96		8.30	8.50	7.94	7.22	8.40	7.56	

Maruyama, Yuma (JPN) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2018 Japanese National Multi-Event Championships (Nagano, JPN)													*Matsubayashi (2018) - research on athlete performance and technique- 2018 data book*						
date	16-Jun-18	time	6.56	12.15	17.93	24.05	30.38	36.85	43.37	50.27	50.27	3 / 5							
reaction time		interval		5.59	5.78	6.12	6.33	6.47	6.52	6.90		# of strides	12.15	11.90	12.80	13.42	24.05	26.22	2.17
		velocity	7.62	8.94	8.65	8.17	7.90	7.73	7.67	7.25	7.96		8.23	8.40	7.81	7.45	8.32	7.63	

Ushiro, Keisuke (JPN) (1986)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat ?? - 2011 Japanese Multi-Event National Championships (Kawasaki, JPN)													*Takeo (2014) - decathletes sprint ability & relationship of individual event performance*						
date	04-Jun-11	time	6.69	12.20	17.87	23.93	30.05	36.41	43.08	50.28	50.28	???							
reaction time		interval		5.51	5.67	6.06	6.12	6.36	6.67	7.20	PB	# of strides	12.20	11.73	12.48	13.87	23.93	26.35	2.42
		velocity	7.47	9.07	8.82	8.25	8.17	7.86	7.50	6.94	7.96		8.20	8.53	8.01	7.21	8.36	7.59	

Han Zhiyu (CHN) (2004)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2023 Chinese National Grand Prix 4 (Chongqing, CHN)													*Shandong Athletics Sport Science (2023)*						
date	02-Jun-23	time		12.05		23.41		36.04	42.93	50.33	50.33	2 / 8							
reaction time		interval				11.36		12.63	6.89	7.40		# of strides	12.05	11.36	12.63	14.29	23.41	26.92	3.51
		velocity		8.30		8.80		7.92	7.26	6.76	7.95	174.7	8.30	8.80	7.92	7.00	8.54	7.43	

Golubovic, Daniel (AUS) (1993)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2024 Olympic Games (Paris, FRA)													*Paris 2024 Olympic Games - Results Book (2024)*						
date	02-Aug-24	time	6.68	12.12	17.82	23.72	29.99	36.55	43.35	50.37	50.37	8 / 5							
reaction time	0.165	interval		5.44	5.70	5.90	6.27	6.56	6.80	7.02		# of strides	12.12	11.60	12.83	13.82	23.72	26.65	2.93
		velocity	7.49	9.19	8.77	8.47	7.97	7.62	7.35	7.12	7.94		8.25	8.62	7.79	7.24	8.43	7.50	

Uibo, Maicel (EST) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2022 World Athletics Championships (Eugene, OR)													*Timing by Seiko (2022) - world athletics championships race analysis*						
date	23-Jul-22	time		11.94		23.55		36.29		50.38	50.38	7 / 4							
reaction time	0.197	interval				11.61		12.74		14.09		# of strides	11.94	11.61	12.74	14.09	23.55	26.83	3.28
		velocity		8.38		8.61		7.85		7.10	7.94	177.0	8.38	8.61	7.85	7.10	8.49	7.45	

Nakamura, Akihiko (JPN) (1990)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2023 Japanese Multi-Event National Championsips (Akita, JPN)													*Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season*						

date	10-Jun-23	time	6.85	12.49	18.31	24.37	30.65	37.13	43.65	50.40	50.40	7 / 2						
reaction time		interval		5.64	5.82	6.06	6.28	6.48	6.52	6.75		# of strides	12.49	11.88	12.76	13.27	24.37	26.03	1.66
		velocity	7.30	8.87	8.59	8.25	7.96	7.72	7.67	7.41	7.94		8.01	8.42	7.84	7.54	8.21	7.68	

Šebrle, Roman (CZE) (1974) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Decathlon - Heat 1 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	19-Aug-09	time		11.99		23.55		36.11		50.42	50.42	2 / 7						
reaction time	0.164	interval				11.56		12.56		14.31		# of strides	11.99	11.56	12.56	14.31	23.55	26.87	3.32
		velocity		8.34		8.65		7.96		6.99	7.93		8.34	8.65	7.96	6.99	8.49	7.44	

Umeiuchi, Eiichi (JPN) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

B FINAL - 2017 Nanbu Memorial Meeting (Sapporo, JPN) — *(2017) - tfdata-store.com/2017/07/11/post-1010/*

date	09-Jul-17	time		11.95		23.58		36.04		50.42	50.42	8 / 3						
reaction time		interval				11.63		12.46		14.38		# of strides	11.95	11.63	12.46	14.38	23.58	26.84	3.26
		velocity		8.37		8.60		8.03		6.95	7.93	189.7	8.37	8.60	8.03	6.95	8.48	7.45	

Ushiro, Keisuke (JPN) (1986) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Decathlon - Heat 1 - 2013 Japanese Multi-Event National Championship (Nagano, JPN) — *Takeo (2014) - decathletes sprint ability & relationship of individual event performance*

date	01-Jun-13	time	6.66	12.23	17.88	23.85	30.04	36.41	43.16	50.43	50.43	6 / 4						
reaction time		interval		5.57	5.65	5.97	6.19	6.37	6.75	7.27		# of strides	12.23	11.62	12.56	14.02	23.85	26.58	2.73
		velocity	7.51	8.98	8.85	8.38	8.08	7.85	7.41	6.88	7.93		8.18	8.61	7.96	7.13	8.39	7.52	

Armadi, Daoud Ismail (SUD) (2006) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 2023 Doha Diamond League (Doha, QAT) — *Omega Timing (2023) - diamond league race analysis*

date	05-May-23	time	6.59	11.86	17.54	23.58	30.03	36.57	43.26	50.50	50.50	1 / 7						
reaction time	0.241	interval		5.27	5.68	6.04	6.45	6.54	6.69	7.24		# of strides	11.86	11.72	12.99	13.93	23.58	26.92	3.34
		velocity	7.59	9.49	8.80	8.28	7.75	7.65	7.47	6.91	7.92		8.43	8.53	7.70	7.18	8.48	7.43	

Jones, Hunter (USA) (2000) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Decathlon - Heat 2 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

date	21-Jun-24	time		11.71		23.14		36.09		50.51	50.51	9 / 4						
reaction time		interval				11.43		12.95		14.42		# of strides	11.71	11.43	12.95	14.42	23.14	27.37	4.23
		velocity		8.54		8.75		7.72		6.93	7.92		8.54	8.75	7.72	6.93	8.64	7.31	

Arai, Iori (JPN) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 2021 Shimane High School Championships (Izumo, JPN) — *Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis*

date	28-May-21	time		12.45		24.48		36.88		50.52	50.52	5 / 3						
reaction time		interval				12.03		12.40		13.64		# of strides	12.45	12.03	12.40	13.64	24.48	26.04	1.56
		velocity		8.03		8.31		8.06		7.33	7.92		8.03	8.31	8.06	7.33	8.17	7.68	

Funo, Shintaro (JPN) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 2023 Shimane High School Championships (Izumo, JPN) — *Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*

date	26-May-23	time		12.70		24.83		37.47		50.52	50.52	3 / 2						
reaction time		interval				12.13		12.64		13.05		# of strides	12.70	12.13	12.64	13.05	24.83	25.69	0.86
		velocity		7.87		8.24		7.91		7.66	7.92		7.87	8.24	7.91	7.66	8.05	7.79	

Mitsunari, Reo (JPN) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

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

date	24-May-19	time		12.82		24.82		37.25		50.53	50.53	5 / 2						
reaction time		interval				12.00		12.43		13.28		# of strides	12.82	12.00	12.43	13.28	24.82	25.71	0.89
		velocity		7.80		8.33		8.05		7.53	7.92		7.80	8.33	8.05	7.53	8.06	7.78	

Feng Yibo (CHN) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

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

date	03-May-25	time	6.73	12.28	17.94	23.90	30.10	36.69	43.44	50.53	50.53	3 / 1						
reaction time	0.194	interval		5.55	5.66	5.96	6.20	6.59	6.75	7.09		# of strides	12.28	11.62	12.79	13.84	23.90	26.63	2.73
		velocity	7.43	9.01	8.83	8.39	8.06	7.59	7.41	7.05	7.92		8.14	8.61	7.82	7.23	8.37	7.51	

Arai, Yuta (JPN) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

FINAL - 2022 Shimane High School Championships (Izumo, JPN) — *Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*

date	26-May-22	time		12.28		23.93		36.68		50.54	50.54	5 / 3						
reaction time		interval				11.65		12.75		13.86		# of strides	12.28	11.65	12.75	13.86	23.93	26.61	2.68
		velocity		8.14		8.58		7.84		7.22	7.91		8.14	8.58	7.84	7.22	8.36	7.52	

Ushiro, Keisuke (JPN) (1986) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Decathlon - Heat ?? - 2010 Japanese Multi-Event National Championships (Kawasaki, JPN) — *Hisashi (2012) - perfromance analysis of Japanese record holder Keisuke Ushiro*

date	12-Jun-10	time	6.80	12.45	18.22	24.18	30.15	36.48	43.26	50.58	50.58	???						
reaction time		interval		5.65	5.77	5.96	5.97	6.33	6.78	7.32	PB	# of strides	12.45	11.73	12.30	14.10	24.18	26.40	2.22
		velocity	7.35	8.85	8.67	8.39	8.38	7.90	7.37	6.83	7.91		8.03	8.53	8.13	7.09	8.27	7.58	

Ushiro, Keisuke (JPN) (1986) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Decathlon - Heat 1 - 2012 Japanese Multi-Event National Championships (Nagano, JPN) — *Takeo (2014) - decathletes sprint ability & relationship of individual event performance*

date	02-Jun-12	time	6.66	12.17	17.76	23.64	29.70	36.15	43.01	50.58	50.58	6 / 4						
reaction time		interval		5.51	5.59	5.88	6.06	6.45	6.86	7.57		# of strides	12.17	11.47	12.51	14.43	23.64	26.94	3.30
		velocity	7.51	9.07	8.94	8.50	8.25	7.75	7.29	6.61	7.91		8.22	8.72	7.99	6.93	8.46	7.42	

Hasnaoui, Farid (MAR) (2005) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

National FINAL - 2022 Meeting International Mohammed VI d'Athlétime (Rabat, MAR) — *Omega Timing (2022) - diamond league race analysis*

date	05-Jun-22	time	6.72	12.35	18.27	24.40	30.75	37.27	43.80	50.49	50.59	1 / 7						
reaction time	0.144	interval		5.63	5.92	6.13	6.35	6.52	6.53	6.69		# of strides	12.35	12.05	12.87	13.22	24.40	26.09	1.69
		velocity	7.44	8.88	8.45	8.16	7.87	7.67	7.66	7.47	7.91		8.10	8.30	7.77	7.56	8.20	7.67	

Ushiro, Keisuke (JPN) (1986) — **50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential**

Decathlon - Heat 2 - 2009 Wakayama Athletics Meeting (Wakayama, JPN) — *Hisashi (2010) - the run performance analysis in the decathlon sprint events*

date	18-Apr-09	time	6.92	12.57	18.17	24.06	30.13	36.38	42.93	50.60	50.60	9 / 3						
reaction time		interval		5.65	5.60	5.89	6.07	6.25	6.55	7.67	PB	# of strides	12.57	11.49	12.32	14.22	24.06	26.54	2.48
		velocity	7.23	8.85	8.93	8.49	8.24	8.00	7.63	6.52	7.91		7.96	8.70	8.12	7.03	8.31	7.54	

Ushiro, Keisuke (JPN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2010 Wakayama Athletics Meeting (Wakayama, JPN)											*Hisashi (2012) - perfromance analysis of Japanese record holder Keisuke Ushiro*						
date 24-Apr-10 time	7.01	12.69	18.55	24.50	30.63	36.91	43.52	50.61	50.61	8 / 4							
reaction time interval		5.68	5.86	5.95	6.13	6.28	6.61	7.09		# of strides	12.69	11.81	12.41	13.70	24.50	26.11	1.61
velocity	7.13	8.80	8.53	8.40	8.16	7.96	7.56	7.05	7.90		7.88	8.47	8.06	7.30	8.16	7.66	

Tanaka, Hiromasa (JPN) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2009 Japanese National Championships (Hiroshima, JPN)											*Hisashi (2010) - the run performance analysis in the decathlon sprint events*						
date 25-Jun-09 time	6.52	12.28	18.29	24.38	30.61	37.03	43.62	50.65	50.65	2 / 5							
reaction time interval		5.76	6.01	6.09	6.23	6.42	6.59	7.03		# of strides	12.28	12.10	12.65	13.62	24.38	26.27	1.89
velocity	7.67	8.68	8.32	8.21	8.03	7.79	7.59	7.11	7.90		8.14	8.26	7.91	7.34	8.20	7.61	

Taue, Shun (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2024 Japanese National Multi-Event Championships (Gifu, JPN)											*Matsubayashi (2025) - performance analysis of decathlon athletes in the 2024 season*						
date 22-Jun-24 time	6.70	12.21	17.96	23.92	30.16	36.67	43.43	50.65	50.65	6 / 4							
reaction time interval		5.51	5.75	5.96	6.24	6.51	6.76	7.22		# of strides	12.21	11.71	12.75	13.98	23.92	26.73	2.81
velocity	7.46	9.07	8.70	8.39	8.01	7.68	7.40	6.93	7.90		8.19	8.54	7.84	7.15	8.36	7.48	

Tobita, Riku (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Shimane High School Championships (Izumo, JPN)											*Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis*						
date 11-Jul-20 time		11.81		23.50		36.53		50.72	50.72	7 / 2							
reaction time interval				11.69		13.03		14.19		# of strides	11.81	11.69	13.03	14.19	23.50	27.22	3.72
velocity		8.47		8.55		7.67		7.05	7.89		8.47	8.55	7.67	7.05	8.51	7.35	

Miyahiro, Mitsuki (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Shimane High School Championships (Izumo, JPN)											*Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*						
date 24-May-24 time		12.67		24.57		37.21		50.72	50.72	6 / 4							
reaction time interval				11.90		12.64		13.51		# of strides	12.67	11.90	12.64	13.51	24.57	26.15	1.58
velocity		7.89		8.40		7.91		7.40	7.89		7.89	8.40	7.91	7.40	8.14	7.65	

Shimizu, Tsuyoshi (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2018 Tokyo Combined Event Meeting (Tokyo, JPN)											*Matsubayashi (2018) - research on athlete performance and technique- 2018 data book*						
date 21-Apr-18 time	6.56	12.12	17.77	23.61	29.71	36.22	43.13	50.73	50.73	4 / 3							
reaction time interval		5.56	5.65	5.84	6.10	6.51	6.91	7.60		# of strides	12.12	11.49	12.61	14.51	23.61	27.12	3.51
velocity	7.62	8.99	8.85	8.56	8.20	7.68	7.24	6.58	7.88		8.25	8.70	7.93	6.89	8.47	7.37	

Steinmann, Matthias (SUI) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2021 Athletissima (Lausanne, SUI)											*Omega Timing (2021) - diamond league race analysis*						
date 26-Aug-21 time	6.7	12.1	17.9	23.8	29.8	36.3	43.1	50.73	50.73	2 / 8							
reaction time 0.144 interval		5.40	5.80	5.90	6.00	6.50	6.80	7.63		# of strides	12.10	11.70	12.50	14.43	23.80	26.93	3.13
velocity	7.46	9.26	8.62	8.47	8.33	7.69	7.35	6.55	7.88		8.26	8.55	8.00	6.93	8.40	7.43	

Maruyama, Yuma (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2023 World Athletics Championships (Budapest, HUN)											*Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season*						
date 25-Aug-23 time	6.51	11.93	17.58	23.56	29.75	36.26	43.18	50.75	50.75	5 / 4							
reaction time 0.157 interval		5.42	5.65	5.98	6.19	6.51	6.92	7.57		# of strides	11.93	11.63	12.70	14.49	23.56	27.19	3.63
velocity	7.68	9.23	8.85	8.36	8.08	7.68	7.23	6.61	7.88		8.38	8.60	7.87	6.90	8.49	7.36	

Ushiro, Keisuke (JPN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2009 Japanese National Championships (Hiroshima, JPN)											*Hisashi (2010) - the run performance analysis in the decathlon sprint events*						
date 25-Jun-09 time	6.93	12.85	18.82	24.85	31.07	37.35	43.83	50.77	50.77	4 / 6							
reaction time interval		5.92	5.97	6.03	6.22	6.28	6.48	6.94		# of strides	12.85	12.00	12.50	13.42	24.85	25.92	1.07
velocity	7.22	8.45	8.38	8.29	8.04	7.96	7.72	7.20	7.88		7.78	8.33	8.00	7.45	8.05	7.72	

Ushiro, Keisuke (JPN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2012 Olympic Games (London, GBR)											*Takeo (2014) - decathletes sprint ability & relationship of individual event performance*						
date 08-Aug-12 time	6.70	12.34	18.12	24.13	30.39	36.87	43.61	50.78	50.78	7 / 4							
reaction time 0.190 interval		5.64	5.78	6.01	6.26	6.48	6.74	7.17		# of strides	12.34	11.79	12.74	13.91	24.13	26.65	2.52
velocity	7.46	8.87	8.65	8.32	7.99	7.72	7.42	6.97	7.88	179.5	8.10	8.48	7.85	7.19	8.29	7.50	

Naruto, Ueki (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Shimane High School Championships (Izumo, JPN)											*Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*						
date 24-May-24 time		12.77		24.93		37.51		50.78	50.78	2 / 5							
reaction time interval				12.16		12.58		13.27		# of strides	12.77	12.16	12.58	13.27	24.93	25.85	0.92
velocity		7.83		8.22		7.95		7.54	7.88		7.83	8.22	7.95	7.54	8.02	7.74	

Ziemek, Zachery (USA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2024 Olympic Games (Paris, FRA)											*Paris 2024 Olympic Games - Results Book (2024)*						
date 02-Aug-24 time	6.37	11.45	16.83	22.39	28.37	35.01	42.39	50.79	50.79	3 / 6							
reaction time 0.172 interval		5.08	5.38	5.56	5.98	6.64	7.38	8.40		# of strides	11.45	10.94	12.62	15.78	22.39	28.40	6.01
velocity	7.85	9.84	9.29	8.99	8.36	7.53	6.78	5.95	7.88	171.5	8.73	9.14	7.92	6.34	8.93	7.04	

Ushiro, Keisuke (JPN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2011 Wakayama Athletics Meeting (Wakayama, JPN)											*Hisashi (2012) - perfromance analysis of Japanese record holder Keisuke Ushiro*						
date 23-Apr-11 time	6.73	12.42	18.30	24.45	30.74	37.19	43.75	50.80	50.80	6 / 3							
reaction time interval		5.69	5.88	6.15	6.29	6.45	6.56	7.05		# of strides	12.42	12.03	12.74	13.61	24.45	26.35	1.90
velocity	7.43	8.79	8.50	8.13	7.95	7.75	7.62	7.09	7.87		8.05	8.31	7.85	7.35	8.18	7.59	

Ushiro, Keisuke (JPN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2018 Tokyo Combined Event Meeting (Tokyo, JPN)											*Matsubayashi (2018) - research on athlete performance and technique- 2018 data book*						
date 21-Apr-18 time	6.62	12.10	17.72	23.67	29.84	36.37	43.28	50.80	50.80	5 / 5							
reaction time interval		5.48	5.62	5.95	6.17	6.53	6.91	7.52		# of strides	12.10	11.57	12.70	14.43	23.67	27.13	3.46
velocity	7.55	9.12	8.90	8.40	8.10	7.66	7.24	6.65	7.87		8.26	8.64	7.87	6.93	8.45	7.37	

Ushiro, Keisuke (JPN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2018 Japanese National Multi-Event Championships (Nagano, JPN)											*Matsubayashi (2018) - research on athlete performance and technique- 2018 data book*						

date	16-Jun-18	time	6.55	12.17	17.95	24.06	30.33	36.76	43.49	50.80	50.80	5 / 5						
reaction time		interval		5.62	5.78	6.11	6.27	6.43	6.73	7.31		# of strides	12.17	11.89	12.70	14.04	24.06	26.74	2.68
		velocity	7.63	8.90	8.65	8.18	7.97	7.78	7.43	6.84	7.87		8.22	8.41	7.87	7.12	8.31	7.48	

Ibukun, Hisashiyo (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Shimane High School Championships (Izumo, JPN)										*Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis*							
date 11-Jul-20	time		12.14		24.08		36.83		50.80	50.80	4 / 3							
reaction time	interval				11.94		12.75		13.97		# of strides	12.14	11.94	12.75	13.97	24.08	26.72	2.64
	velocity		8.24		8.38		7.84		7.16	7.87		8.24	8.38	7.84	7.16	8.31	7.49	

Tsuchie, Ryu (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shimane High School Championships (Izumo, JPN)										*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*							
date 24-May-19	time		12.34		24.27		37.01		50.82	50.82	2 / 3							
reaction time	interval				11.93		12.74		13.81		# of strides	12.34	11.93	12.74	13.81	24.27	26.55	2.28
	velocity		8.10		8.38		7.85		7.24	7.87		8.10	8.38	7.85	7.24	8.24	7.53	

Ushiro, Keisuke (JPN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2009 Gunma Relays (Maebashi, JPN)										*Hisashi (2010) - the run performance analysis in the decathlon sprint events*							
date 10-Oct-09	time	6.95	12.75	18.68	24.69	30.77	37.09	43.73	50.88	50.88	3 / 5							
reaction time	interval		5.80	5.93	6.01	6.08	6.32	6.64	7.15		# of strides	12.75	11.94	12.40	13.79	24.69	26.19	1.50
	velocity	7.19	8.62	8.43	8.32	8.22	7.91	7.53	6.99	7.86		7.84	8.38	8.06	7.25	8.10	7.64	

Miyamura, Yushi (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Shimane High School Championships (Izumo, JPN)										*Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*							
date 24-May-24	time		12.65		24.77		37.50		50.88	50.88	3 / 6							
reaction time	interval				12.12		12.73		13.38		# of strides	12.65	12.12	12.73	13.38	24.77	26.11	1.34
	velocity		7.91		8.25		7.86		7.47	7.86		7.91	8.25	7.86	7.47	8.07	7.66	

Maruyama, Yuma (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 2 - 2024 Japanese National Multi-Event Championships (Gifu, JPN)										*Matsubayashi (2025) - performance analysis of decathlon athletes in the 2024 season*							
date 22-Jun-24	time	6.57	12.11	17.87	23.90	30.08	36.63	43.47	50.88	50.88	8 / 5							
reaction time	interval		5.54	5.76	6.03	6.18	6.55	6.84	7.41		# of strides	12.11	11.79	12.73	14.25	23.90	26.98	3.08
	velocity	7.61	9.03	8.68	8.29	8.09	7.63	7.31	6.75	7.86		8.26	8.48	7.86	7.02	8.37	7.41	

Sugitate, Yasuharu (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Shimane High School Championships (Izumo, JPN)										*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*							
date 25-May-18	time		12.08		23.98		36.49		50.92	50.92	3 / 4							
reaction time	interval				11.90		12.51		14.43		# of strides	12.08	11.90	12.51	14.43	23.98	26.94	2.96
	velocity		8.28		8.40		7.99		6.93	7.86		8.28	8.40	7.99	6.93	8.34	7.42	

Nakamura, Akihiko (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - FINAL - 2022 Japanese Multi-Event National Championsips (Akita, JPN)										*Takefu (2023) - performance analyisis of decathlon athletes in the 2022 season*							
date 04-Jun-22	time	6.37	11.78	17.33	23.26	29.55	36.19	43.17	50.94	50.94	4 / 7							
reaction time	interval		5.41	5.55	5.93	6.29	6.64	6.98	7.77		# of strides	11.78	11.48	12.93	14.75	23.26	27.68	4.42
	velocity	7.85	9.24	9.01	8.43	7.95	7.53	7.16	6.44	7.85		8.49	8.71	7.73	6.78	8.60	7.23	

Nowak, Tim (GER) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2022 World Athletics Championships (Eugene, OR)										*Timing by Seiko (2022) - world athletics championships race analysis*							
date 23-Jul-22	time		11.86		23.17		36.03		50.94	50.94	2 / 5							
reaction time 0.161	interval				11.31		12.86		14.91		# of strides	11.86	11.31	12.86	14.91	23.17	27.77	4.60
	velocity		8.43		8.84		7.78		6.71	7.85	186.0	8.43	8.84	7.78	6.71	8.63	7.20	

Sakamoto, Yuto (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shimane High School Championships (Izumo, JPN)										*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*							
date 24-May-19	time		12.90		25.36		38.03		50.97	50.97	7 / 4							
reaction time	interval				12.46		12.67		12.94		# of strides	12.90	12.46	12.67	12.94	25.36	25.61	0.25
	velocity		7.75		8.03		7.89		7.73	7.85		7.75	8.03	7.89	7.73	7.89	7.81	

Matsubara, Shuichiro (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date 29-Jul-15	time	6.55	12.04	17.72	23.65	29.93	36.59	43.58	50.98	50.98	/ 8							
reaction time	interval		5.49	5.68	5.93	6.28	6.66	6.99	7.40		# of strides	12.04	11.61	12.94	14.39	23.65	27.33	3.68
	velocity	7.63	9.11	8.80	8.43	7.96	7.51	7.15	6.76	7.85		8.31	8.61	7.73	6.95	8.46	7.32	

Tobita, Riku (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shimane High School Championships (Izumo, JPN)										*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*							
date 24-May-19	time		12.09		24.21		37.47		50.99	50.99	8 / 5							
reaction time	interval				12.12		13.26		13.52		# of strides	12.09	12.12	13.26	13.52	24.21	26.78	2.57
	velocity		8.27		8.25		7.54		7.40	7.84		8.27	8.25	7.54	7.40	8.26	7.47	

Mizunara, Oba (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shimane High School Championships (Izumo, JPN)										*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*							
date 24-May-19	time		12.37		24.36		37.35		51.03	51.03	3 / 6							
reaction time	interval				11.99		12.99		13.68		# of strides	12.37	11.99	12.99	13.68	24.36	26.67	2.31
	velocity		8.08		8.34		7.70		7.31	7.84		8.08	8.34	7.70	7.31	8.21	7.50	

Fujimoto, Takashi (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Shimane High School Championships (Izumo, JPN)										*Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*							
date 26-May-23	time		12.35		24.32		37.11		51.04	51.04	8 / 3							
reaction time	interval				11.97		12.79		13.93		# of strides	12.35	11.97	12.79	13.93	24.32	26.72	2.40
	velocity		8.10		8.35		7.82		7.18	7.84		8.10	8.35	7.82	7.18	8.22	7.49	

Horinishi, Koji (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shimane High School Championships (Izumo, JPN)										*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*							
date 24-May-19	time		12.65		25.04		38.05		51.05	51.05	4 / 7							
reaction time	interval				12.39		13.01		13.00		# of strides	12.65	12.39	13.01	13.00	25.04	26.01	0.97
	velocity		7.91		8.07		7.69		7.69	7.84		7.91	8.07	7.69	7.69	7.99	7.69	

Ushiro, Keisuke (JPN) (1986)
Decathlon - Heat 1 - 2013 Wakayama Athletics Meeting (Wakayama, JPN)
Takeo (2014) - decathletes sprint ability & relationship of individual event performance

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Apr-13	time	6.66	12.23	17.92	23.90	30.22	36.76	43.66	51.11	51.11	6 / 4							
reaction time		interval		5.57	5.69	5.98	6.32	6.54	6.90	7.45		# of strides	12.23	11.67	12.86	14.35	23.90	27.21	3.31
		velocity	7.51	8.98	8.79	8.36	7.91	7.65	7.25	6.71	7.83		8.18	8.57	7.78	6.97	8.37	7.35	

Ushiro, Keisuke (JPN) (1986)
Decathlon - Heat 2 - 2010 Asian Games (Guangzhou, CHN)
Takeo (2014) - decathletes sprint ability & relationship of individual event performance

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Nov-10	time	6.80	12.54	18.50	24.70	31.04	37.49	44.12	51.14	51.14	/ 4							
reaction time		interval		5.74	5.96	6.20	6.34	6.45	6.63	7.02		# of strides	12.54	12.16	12.79	13.65	24.70	26.44	1.74
		velocity	7.35	8.71	8.39	8.06	7.89	7.75	7.54	7.12	7.82		7.97	8.22	7.82	7.33	8.10	7.56	

Arai, Yuta (JPN)
FINAL - 2021 Shimane High School Championships (Izumo, JPN)
Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-21	time		13.13		25.37		37.73		51.15	51.15	8 / 4							
reaction time		interval				12.24		12.36		13.42		# of strides	13.13	12.24	12.36	13.42	25.37	25.78	0.41
		velocity		7.62		8.17		8.09		7.45	7.82		7.62	8.17	8.09	7.45	7.88	7.76	

Ushiro, Keisuke (JPN) (1986)
Decathlon - Heat ?? - 2012 Tokyo Athletics Championships (Chofu, JPN)
Takeo (2014) - decathletes sprint ability & relationship of individual event performance

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Apr-12	time	6.59	12.16	17.88	23.89	30.10	36.68	43.67	51.16	51.16	???							
reaction time		interval		5.57	5.72	6.01	6.21	6.58	6.99	7.49		# of strides	12.16	11.73	12.79	14.48	23.89	27.27	3.38
		velocity	7.59	8.98	8.74	8.32	8.05	7.60	7.15	6.68	7.82		8.22	8.53	7.82	6.91	8.37	7.33	

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		12.43		24.47		37.57		51.18	51.18	9 / 2							
reaction time		interval				12.04		13.10		13.61		# of strides	12.43	12.04	13.10	13.61	24.47	26.71	2.24
		velocity		8.05		8.31		7.63		7.35	7.82		8.05	8.31	7.63	7.35	8.17	7.49	

Mishima, Sota (JPN)
FINAL - 2021 Shimane High School Championships (Izumo, JPN)
Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-21	time		12.80		25.55		37.90		51.20	51.20	6 / 5							
reaction time		interval				12.75		12.35		13.30		# of strides	12.80	12.75	12.35	13.30	25.55	25.65	0.10
		velocity		7.81		7.84		8.10		7.52	7.81		7.81	7.84	8.10	7.52	7.83	7.80	

Kageyama, Hiromasa (JPN)
FINAL - 2024 Shimane High School Championships (Izumo, JPN)
Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-May-24	time		12.15		24.03		37.16		51.20	51.20	4 / 7							
reaction time		interval				11.88		13.13		14.04		# of strides	12.15	11.88	13.13	14.04	24.03	27.17	3.14
		velocity		8.23		8.42		7.62		7.12	7.81		8.23	8.42	7.62	7.12	8.32	7.36	

Higo, Akiteru (JPN)
FINAL - 2024 Shimane High School Championships (Izumo, JPN)
Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-May-24	time		12.80		24.90		37.57		51.32	51.32	9 / 8							
reaction time		interval				12.10		12.67		13.75		# of strides	12.80	12.10	12.67	13.75	24.90	26.42	1.52
		velocity		7.81		8.26		7.89		7.27	7.79		7.81	8.26	7.89	7.27	8.03	7.57	

Tenkawa, Ten (JPN)
FINAL - 2023 Shimane High School Championships (Izumo, JPN)
Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-23	time		12.93		25.30		38.06		51.33	51.33	4 / 4							
reaction time		interval				12.37		12.76		13.27		# of strides	12.93	12.37	12.76	13.27	25.30	26.03	0.73
		velocity		7.73		8.08		7.84		7.54	7.79		7.73	8.08	7.84	7.54	7.91	7.68	

Nilsson, Marcus (SWE) (1991)
Decathlon - Heat 1 - 2023 World Athletics Championships (Budapest, HUN)
Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Aug-23	time		12.33		24.09		37.17		51.36	51.36	3 / 5							
reaction time	0.204	interval				11.76		13.08		14.19		# of strides	12.33	11.76	13.08	14.19	24.09	27.27	3.18
		velocity		8.11		8.50		7.65		7.05	7.79		8.11	8.50	7.65	7.05	8.30	7.33	

Zakaria, Abdulmajid (QAT)
National FINAL - 2019 Doha (Doha, QAT)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-19	time		12.5		24.5		37.7		51.44	51.44	1 / 5							
reaction time	0.164	interval				12.0		13.2		13.7		# of strides	12.50	12.00	13.20	13.74	24.50	26.94	2.44
		velocity		8.00		8.33		7.58		7.28	7.78		8.00	8.33	7.58	7.28	8.16	7.42	

Hazzard, Aiden (AIA) (1998)
Heat 6 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		11.75		23.40		36.39		51.44	51.44	3 / 7							
reaction time	0.128	interval				11.65		12.99		15.05		# of strides	11.75	11.65	12.99	15.05	23.40	28.04	4.64
		velocity		8.51		8.58		7.70		6.64	7.78		8.51	8.58	7.70	6.64	8.55	7.13	

Ushiro, Keisuke (JPN) (1986)
Decathlon - Heat 1 - 2019 Japanese National Multi-Event Championships (Nagano, JPN)
Matsubayashi (2019) - research on athlete performance and technique- 2019 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jun-19	time	6.65	12.28	18.05	24.15	30.54	36.97	43.85	51.46	51.46	6 / 4							
reaction time		interval		5.63	5.77	6.10	6.39	6.43	6.88	7.61		# of strides	12.28	11.87	12.82	14.49	24.15	27.31	3.16
		velocity	7.52	8.88	8.67	8.20	7.82	7.78	7.27	6.57	7.77		8.14	8.42	7.80	6.90	8.28	7.32	

Ishibashi, Naoaki (JPN)
FINAL - 2023 Shimane High School Championships (Izumo, JPN)
Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-23	time		12.20		24.17		37.08		51.54	51.54	7 / 5							
reaction time		interval				11.97		12.91		14.46		# of strides	12.20	11.97	12.91	14.46	24.17	27.37	3.20
		velocity		8.20		8.35		7.75		6.92	7.76		8.20	8.35	7.75	6.92	8.27	7.31	

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	26-May-17	time	12.53		24.27		37.73		51.56	51.56	5 / 3						
reaction time		interval			11.74		13.46		13.83		# of strides	12.53	11.74	13.46	13.83	24.27	27.29	3.02
		velocity	7.98		8.52		7.43		7.23	7.76		7.98	8.52	7.43	7.23	8.24	7.33	

Aoki, Haruka (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Shimane High School Championships (Izumo, JPN)										*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*							
date 25-May-18	time	12.48		24.75		37.33		51.69	51.69	2 / 5							
reaction time	interval			12.27		12.58		14.36		# of strides	12.48	12.27	12.58	14.36	24.75	26.94	2.19
	velocity	8.01		8.15		7.95		6.96	7.74		8.01	8.15	7.95	6.96	8.08	7.42	

Ryotaro, Masaki (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shimane High School Championships (Izumo, JPN)										*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*							
date 24-May-19	time	13.04		25.66		38.71		51.72	51.72	9 / 8							
reaction time	interval			12.62		13.05		13.01		# of strides	13.04	12.62	13.05	13.01	25.66	26.06	0.40
	velocity	7.67		7.92		7.66		7.69	7.73		7.67	7.92	7.66	7.69	7.79	7.67	

Nakao, Hyousei (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Shimane High School Championships (Izumo, JPN)										*Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis*							
date 28-May-21	time	12.95		25.03		37.79		51.79	51.79	1 / 6							
reaction time	interval			12.08		12.76		14.00		# of strides	12.95	12.08	12.76	14.00	25.03	26.76	1.73
	velocity	7.72		8.28		7.84		7.14	7.72		7.72	8.28	7.84	7.14	7.99	7.47	

Yamane, Yusuke (JPN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Shimane High School Championships (Izumo, JPN)										*Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis*							
date 11-Jul-20	time	11.91		24.00		37.41		51.85	51.85	8 / 4							
reaction time	interval			12.09		13.41		14.44		# of strides	11.91	12.09	13.41	14.44	24.00	27.85	3.85
	velocity	8.40		8.27		7.46		6.93	7.71		8.40	8.27	7.46	6.93	8.33	7.18	

Miyazaki, Yumeta (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Shimane High School Championships (Izumo, JPN)										*Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*							
date 26-May-22	time	12.43		24.33		37.48		51.85	51.85	9 / 4							
reaction time	interval			11.90		13.15		14.37		# of strides	12.43	11.90	13.15	14.37	24.33	27.52	3.19
	velocity	8.05		8.40		7.60		6.96	7.71		8.05	8.40	7.60	6.96	8.22	7.27	

Tenkawa, Ten (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Shimane High School Championships (Izumo, JPN)										*Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*							
date 26-May-22	time	12.97		25.43		38.28		51.99	51.99	7 / 5							
reaction time	interval			12.46		12.85		13.71		# of strides	12.97	12.46	12.85	13.71	25.43	26.56	1.13
	velocity	7.71		8.03		7.78		7.29	7.69		7.71	8.03	7.78	7.29	7.86	7.53	

Ushiro, Keisuke (JPN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Decathlon - Heat 1 - 2020 Japanese Multi-Event National Championships (Nagano, JPN)										*Matsubayashi (2020) - research on athlete performance and technique- 2020 data book*							
date 26-Sep-20	time	6.71	12.34	18.17	24.30	30.61	37.24	44.30	52.11	52.11	5 / 6						
reaction time	interval		5.63	5.83	6.13	6.31	6.63	7.06	7.81		# of strides	12.34	11.96	12.94	14.87	24.30	27.81	3.51
	velocity	7.45	8.88	8.58	8.16	7.92	7.54	7.08	6.40	7.68		8.10	8.36	7.73	6.72	8.23	7.19	

Fujimoto, Takashi (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Shimane High School Championships (Izumo, JPN)										*Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*							
date 26-May-22	time	12.65		24.70		38.16		52.16	52.16	2 / 6							
reaction time	interval			12.05		13.46		14.00		# of strides	12.65	12.05	13.46	14.00	24.70	27.46	2.76
	velocity	7.91		8.30		7.43		7.14	7.67		7.91	8.30	7.43	7.14	8.10	7.28	

Hashiwata, Hibiki (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Shimane High School Championships (Izumo, JPN)										*Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*							
date 26-May-23	time	12.57		24.92		38.23		52.28	52.28	5 / 6							
reaction time	interval			12.35		13.31		14.05		# of strides	12.57	12.35	13.31	14.05	24.92	27.36	2.44
	velocity	7.96		8.10		7.51		7.12	7.65		7.96	8.10	7.51	7.12	8.03	7.31	

Wang Xingwei (CHN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Sport School FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)										*Omega Timing (2025) - diamond league race analysis*							
date 03-May-25	time	6.75	12.52	18.46	24.62	31.03	37.72	44.78	52.31	52.31	5 / 2						
reaction time 0.190	interval		5.77	5.94	6.16	6.41	6.69	7.06	7.53		# of strides	12.52	12.10	13.10	14.59	24.62	27.69	3.07
	velocity	7.41	8.67	8.42	8.12	7.80	7.47	7.08	6.64	7.65		7.99	8.26	7.63	6.85	8.12	7.22	

Morinaga, Natsuno (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Shimane High School Championships (Izumo, JPN)										*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*							
date 25-May-18	time	12.83		25.33		38.28		52.33	52.33	8 / 6							
reaction time	interval			12.50		12.95		14.05		# of strides	12.83	12.50	12.95	14.05	25.33	27.00	1.67
	velocity	7.79		8.00		7.72		7.12	7.64		7.79	8.00	7.72	7.12	7.90	7.41	

Li Siyuan (CHN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Sport School FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)										*Omega Timing (2025) - diamond league race analysis*							
date 03-May-25	time	6.72	12.29	18.27	24.59	31.26	38.14	45.15	52.44	52.44	2 / 3						
reaction time 0.231	interval		5.57	5.98	6.32	6.67	6.88	7.01	7.29		# of strides	12.29	12.30	13.55	14.30	24.59	27.85	3.26
	velocity	7.44	8.98	8.36	7.91	7.50	7.27	7.13	6.86	7.63		8.14	8.13	7.38	6.99	8.13	7.18	

Ma Peng (CHN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Sport School FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)										*Omega Timing (2025) - diamond league race analysis*							
date 03-May-25	time	7.10	12.98	19.09	25.47	32.04	38.71	45.52	52.53	52.53	1 / 4						
reaction time 0.246	interval		5.88	6.11	6.38	6.57	6.67	6.81	7.01		# of strides	12.98	12.49	13.24	13.82	25.47	27.06	1.59
	velocity	7.04	8.50	8.18	7.84	7.61	7.50	7.34	7.13	7.61		7.70	8.01	7.55	7.24	7.85	7.39	

Natsuki, Senimoto (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Shimane High School Championships (Izumo, JPN)										*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*							
date 25-May-18	time	12.47		24.95		38.23		52.57	52.57	1 / 7							
reaction time	interval			12.48		13.28		14.34		# of strides	12.47	12.48	13.28	14.34	24.95	27.62	2.67
	velocity	8.02		8.01		7.53		6.97	7.61		8.02	8.01	7.53	6.97	8.02	7.24	

Ushiro, Keisuke (JPN) (1986)
Decathlon - FINAL - 2022 Japanese Multi-Event National Championsips (Akita, JPN)
Takefu (2023) - performance analyisis of decathlon athletes in the 2022 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Jun-22	time	6.69	12.21	17.97	24.07	30.54	37.37	44.64	52.57	52.57	3 / 9							
reaction time		interval		5.52	5.76	6.10	6.47	6.83	7.27	7.93		# of strides	12.21	11.86	13.30	15.20	24.07	28.50	4.43
		velocity	7.47	9.06	8.68	8.20	7.73	7.32	6.88	6.31	7.61		8.19	8.43	7.52	6.58	8.31	7.02	

Ushiro, Keisuke (JPN) (1986)
Decathlon - Heat 1 - 2023 Michitaka Kinami Memorial (Osaka, JPN)
Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-May-23	time	6.84	12.47	18.00	24.41	30.80	37.57	44.75	52.61	52.61	7 / 5							
reaction time	0.187	interval		5.63	5.53	6.41	6.39	6.77	7.18	7.86		# of strides	12.47	11.94	13.16	15.04	24.41	28.20	3.79
		velocity	7.31	8.88	9.04	7.80	7.82	7.39	6.96	6.36	7.60		8.02	8.38	7.60	6.65	8.19	7.09	

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-25	time	7.03	12.91	18.91	25.18	31.70	38.32	45.24	52.62	52.62	4 / 5							
reaction time	0.219	interval		5.88	6.00	6.27	6.52	6.62	6.92	7.38		# of strides	12.91	12.27	13.14	14.30	25.18	27.44	2.26
		velocity	7.11	8.50	8.33	7.97	7.67	7.55	7.23	6.78	7.60		7.75	8.15	7.61	6.99	7.94	7.29	

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		12.87		25.50		39.03		52.70	52.70	4 / 4							
reaction time		interval				12.63		13.53		13.67		# of strides	12.87	12.63	13.53	13.67	25.50	27.20	1.70
		velocity		7.77		7.92		7.39		7.32	7.59		7.77	7.92	7.39	7.32	7.84	7.35	

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		12.47		24.87		38.63		52.73	52.73	6 / 5							
reaction time		interval				12.40		13.76		14.10		# of strides	12.47	12.40	13.76	14.10	24.87	27.86	2.99
		velocity		8.02		8.06		7.27		7.09	7.59		8.02	8.06	7.27	7.09	8.04	7.18	

Higashihara, Shun (JPN)
FINAL - 2023 Shimane High School Championships (Izumo, JPN)
Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-23	time		12.67		25.25		38.73		52.77	52.77	2 / 7							
reaction time		interval				12.58		13.48		14.04		# of strides	12.67	12.58	13.48	14.04	25.25	27.52	2.27
		velocity		7.89		7.95		7.42		7.12	7.58		7.89	7.95	7.42	7.12	7.92	7.27	

Ushiro, Keisuke (JPN) (1986)
Decathlon - Heat 1 - 2022 Michitaka Kinami Memorial (Osaka, JPN)
Takefu (2023) - performance analyisis of decathlon athletes in the 2022 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Apr-22	time	6.75	12.37	18.11	24.23	30.62	37.43	44.83	52.93	52.93	5 / 5							
reaction time	0.174	interval		5.62	5.74	6.12	6.39	6.81	7.40	8.10		# of strides	12.37	11.86	13.20	15.50	24.23	28.70	4.47
		velocity	7.41	8.90	8.71	8.17	7.82	7.34	6.76	6.17	7.56		8.08	8.43	7.58	6.45	8.25	6.97	

Kitamura, Yasukazu (JPN)
FINAL - 2021 Shimane High School Championships (Izumo, JPN)
Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-21	time		12.80		24.93		37.83		52.99	52.99	2 / 7							
reaction time		interval				12.13		12.90		15.16		# of strides	12.80	12.13	12.90	15.16	24.93	28.06	3.13
		velocity		7.81		8.24		7.75		6.60	7.55		7.81	8.24	7.75	6.60	8.02	7.13	

Mukuno, Ryosuke (JPN)
FINAL - 2023 Shimane High School Championships (Izumo, JPN)
Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-23	time		13.20		26.37		39.57		53.21	53.21	1 / 8							
reaction time		interval				13.17		13.20		13.64		# of strides	13.20	13.17	13.20	13.64	26.37	26.84	0.47
		velocity		7.58		7.59		7.58		7.33	7.52		7.58	7.59	7.58	7.33	7.58	7.45	

Timbaci, Obediah (VAN) (2003)
Heat 3 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		12.30		24.49		37.87		53.32	53.32	4 / 7							
reaction time	0.209	interval				12.19		13.38		15.45		# of strides	12.30	12.19	13.38	15.45	24.49	28.83	4.34
		velocity		8.13		8.20		7.47		6.47	7.50		8.13	8.20	7.47	6.47	8.17	6.94	

Haroun, Mohamed Darm (QAT)
National FINAL - 2019 Doha (Doha, QAT)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-19	time		13.0		25.9		39.4		53.47	53.47	8 / 6							
reaction time	0.163	interval				12.9		13.5		14.1		# of strides	13.00	12.90	13.50	14.07	25.90	27.57	1.67
		velocity		7.69		7.75		7.41		7.11	7.48		7.69	7.75	7.41	7.11	7.72	7.25	

Kanetsuki, Satoshi (JPN)
FINAL - 2021 Shimane High School Championships (Izumo, JPN)
Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-21	time		13.53		26.72		40.22		54.01	54.01	7 / 8							
reaction time		interval				13.19		13.50		13.79		# of strides	13.53	13.19	13.50	13.79	26.72	27.29	0.57
		velocity		7.39		7.58		7.41		7.25	7.41		7.39	7.58	7.41	7.25	7.49	7.33	

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

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-25	time	7.12	13.12	19.39	26.02	32.91	39.96	47.17	54.62	54.62	6 / 6							
reaction time	0.217	interval		6.00	6.27	6.63	6.89	7.05	7.21	7.45		# of strides	13.12	12.90	13.94	14.66	26.02	28.60	2.58
		velocity	7.02	8.33	7.97	7.54	7.26	7.09	6.93	6.71	7.32		7.62	7.75	7.17	6.82	7.69	6.99	

Nishikori, Yushin (JPN)
FINAL - 2022 Shimane High School Championships (Izumo, JPN)
Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-22	time		12.65		25.30		39.29		54.68	54.68	3 / 7							
reaction time		interval				12.65		13.99		15.39		# of strides	12.65	12.65	13.99	15.39	25.30	29.38	4.08
		velocity		7.91		7.91		7.15		6.50	7.32		7.91	7.91	7.15	6.50	7.91	6.81	

Ushiro, Keisuke (JPN) (1986)
Decathlon - Heat 1 - 2023 Japanese Multi-Event National Championsips (Akita, JPN)
Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season

date	10-Jun-23	time	6.72	12.36	18.22	24.51	31.32	38.75	46.58	55.13	55.13	9 / 7						
reaction time		interval		5.64	5.86	6.29	6.81	7.43	7.83	8.55		# of strides	12.36	12.15	14.24	16.38	24.51	30.62	6.11
		velocity	7.44	8.87	8.53	7.95	7.34	6.73	6.39	5.85	7.26		8.09	8.23	7.02	6.11	8.16	6.53	

Matsumura, Kohei (JPN) — **FINAL** - 2018 Shimane High School Championships (Izumo, JPN)

Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 25-May-18	time	13.18		26.18		39.98		55.21	55.21	7 / 8							
reaction time	interval			13.00		13.80		15.23		# of strides	13.18	13.00	13.80	15.23	26.18	29.03	2.85
	velocity	7.59		7.69		7.25		6.57	7.25		7.59	7.69	7.25	6.57	7.64	6.89	

Hashiwata, Hibiki (JPN) — **FINAL** - 2022 Shimane High School Championships (Izumo, JPN)

Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 26-May-22	time	12.40		24.72		39.39		56.79	56.79	6 / 8							
reaction time	interval			12.32		14.67		17.40		# of strides	12.40	12.32	14.67	17.40	24.72	32.07	7.35
	velocity	8.06		8.12		6.82		5.75	7.04		8.06	8.12	6.82	5.75	8.09	6.24	

Zeng Shuheng (CHN) — **Sport School FINAL** - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)

Omega Timing (2025) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 03-May-25	time	6.91	12.61	18.96	25.99	33.77	42.32	51.58	61.47	61.47	7 / 7						
reaction time 0.185	interval		5.70	6.35	7.03	7.78	8.55	9.26	9.89		# of strides	12.61	13.38	16.33	19.15	25.99	35.48	9.49
	velocity	7.24	8.77	7.87	7.11	6.43	5.85	5.40	5.06	6.51		7.93	7.47	6.12	5.22	7.70	5.64	

Xu Junhao (CHN) — **Sport School FINAL** - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)

Omega Timing (2025) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 03-May-25	time	6.99	13.07	19.72	26.89	34.68	43.10	52.52	63.76	63.76	8 / 8						
reaction time 0.168	interval		6.08	6.65	7.17	7.79	8.42	9.42	11.24		# of strides	13.07	13.82	16.21	20.66	26.89	36.87	9.98
	velocity	7.15	8.22	7.52	6.97	6.42	5.94	5.31	4.45	6.27		7.65	7.24	6.17	4.84	7.44	5.42	

Doom, Alexander (BEL) (1997) — **Semi-Final 1** - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 06-Aug-24	time	6.26	11.12	16.01	21.09	26.48	32.88			1:55.10	6 / 8						
reaction time 0.150	interval		4.86	4.89	5.08	5.39	6.40				# of strides	11.12	9.97	11.79				
	velocity	7.99	10.29	10.22	9.84	9.28	7.81					8.99	10.03	8.48				

Hudson-Smith, Matthew (GBR) (1994 — **FINAL** - 2024 Memorial van damme (Brussels, BEL)

Omega Timing (2024) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 13-Sep-24	time	6.22	11.18	17.43	27.19					2:37.21	5 / 8						
reaction time 0.164	interval		4.96	6.25	9.76						# of strides	11.18	16.01			27.19		
	velocity	8.04	10.08	8.00	5.12							8.94	6.25			7.36		

Ismail, Ibrahim (QAT) (1972) — **FINAL** - 1996 Olympic Games (Atlanta, GA)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 29-Jul-96	time				21.65					dnf	7 / --						
reaction time 0.365	interval										# of strides					21.65		
	velocity				9.24											9.24		

Alexander, Akeem (USA) (1994) — **FINAL** - 2014 USATF National Championships (Sacramento, CA)

Track Newsletter (2014) - USATF men's championships

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 28-Jun-14	time		11.5		22.5		33.9				/ 8						
reaction time	interval				11.0		11.4			DQ	# of strides	11.50	11.00	11.40				
	velocity		8.70		9.09		8.77					8.70	9.09	8.77				

Gardiner, Steven (BAH) (1995) — **FINAL** - 2018 Weltklasse (Zürich, SUI)

Omega Timing (2018) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 30-Aug-18	time		12.1							dnf	4 / --						
reaction time 0.126	interval										# of strides	12.10						
	velocity		8.26									8.26						

Makwala, Isaac (BOT) (1986) — **FINAL** - 2019 Shanghai (Shanghai, CHN)

Omega Timing (2019) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 18-May-19	time		11.9		22.3					dnf	7 / --						
reaction time 0.211	interval				10.4						# of strides	11.90	10.40			22.30		
	velocity		8.40		9.62							8.40	9.62			8.97		

Jones, Jonathan (BAR) (1999) — **FINAL** - 2019 Herculis Meeting International d'Athlétisme (Monaco, MON)

Omega Timing (2019) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 12-Jul-19	time		11.2		21.5		32.6		nt	nt	7 / --						
reaction time	interval				10.3		11.1			DNS	# of strides	11.20	10.30	11.10		21.50		
	velocity		8.93		9.71		9.01					8.93	9.71	9.01		9.30		

did not hear the recall gun for the false start in lane 4

Zambrano, Anthony (COL) (1998) — **FINAL** - 2019 Herculis Meeting International d'Athlétisme (Monaco, MON)

Omega Timing (2019) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 12-Jul-19	time		11.3		21.9				nt	nt	8 / --						
reaction time	interval				10.6					DNS	# of strides	11.30	10.60			21.90		
	velocity		8.85		9.43							8.85	9.43			9.13		

did not hear the recall gun for the false start in lane 4

Makwala, Isaac (BOT) (1986) — **National FINAL** - 2019 Memorial van Damme (Brussels, BEL)

Omega Timing (2019) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 06-Sep-19	time	6.4	11.3	16.5	21.9	27.3	33.1	39.4		???	8 / --						
reaction time	interval		4.9	5.2	5.4	5.4	5.8	6.3		DQ	# of strides	11.30	10.60	11.20		21.90		
	velocity	7.81	10.20	9.62	9.26	9.26	8.62	7.94				8.85	9.43	8.93		9.13		

Cedenio, Machel (TTO) (1995) — **FINAL** - 2021 Golden Gala Pietro Mennea (Florence, ITA)

Omega Timing (2021) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 10-Jun-21	time	6.3	11.6							dnf	3 / --						
reaction time 0.185	interval		5.30								# of strides	11.60						
	velocity	7.94	9.43									8.62						

Warner, Damian (CAN) (1989)
Decathlon - Heat 3 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jul-22	time		11.15							dnf	1 / --							
reaction time	0.139	interval										# of strides	11.15						
		velocity		8.97									8.97						

Amene, Dubem (NGR) (2002)
Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)
Longines Timing (2022) - commonwealth games race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-22	time	6.4	11.5	17.0	22.8	28.8				dnf	9 / --							
reaction time	0.189	interval		5.10	5.50	5.80	6.00					# of strides	11.50	11.30			22.80		
		velocity	7.81	9.80	9.09	8.62	8.33						8.70	8.85			8.77		

Borlée, Kevin (BEL) (1988)
Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)
European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		11.30							dnf	6 / --							
reaction time	0.166	interval										# of strides	11.30						
		velocity		8.85									8.85						

Litvin, Mikhail (KAZ) (1996)
FINAL - 2023 Doha Diamond League (Doha, QAT)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-May-23	time	6.4	11.6	17.6						dnf	5 / --							
reaction time	0.222	interval		5.20	6.00							# of strides	11.60						
		velocity	7.81	9.62	8.33								8.62						

Hudson-Smith, Matthew (GBR) (1994
FINAL - 2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-May-23	time	6.21								dnf	4 / --							
reaction time	0.156	interval										# of strides							
		velocity	8.05																

Ouceni, Ludovic (FRA) (2001)
Semi-Final 1 - 2023 European Athletics U23 Championships (Espoo, FIN)
European Athletics (2023) - european athletics U23 championships results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jul-23	time		11.43							dnf	3 / --							
reaction time	0.200	interval										# of strides	11.43						
		velocity		8.75									8.75						

Samukonga, Muzala (ZAM) (2002)
FINAL - 2023 Kamila Skolimowska Memorial (Silesia, POL)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Jul-23	time	6.27	11.22	21.80						dnf	3 / --							
reaction time	0.218	interval		4.95	10.58							# of strides	11.22						
		velocity	7.97	10.10	4.73								8.91						

Boyce, Desean (BAR) (2001)
Heat 5 - 2023 World Athletics Championships (Budapest, HUN)
Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		11.14		21.82		33.77			dnf	8 / --							
reaction time	0.168	interval				10.68		11.95				# of strides	11.14	10.68	11.95		21.82		
		velocity		8.98		9.36		8.37					8.98	9.36	8.37		9.17		

Gardiner, Steven (BAH) (1995)
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)
Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-23	time		11.17		21.15		32.57			dnf	6 / --							
reaction time	0.221	interval				9.98		11.42				# of strides	11.17	9.98	11.42		21.15		
		velocity		8.95		10.02		8.76					8.95	10.02	8.76		9.46		

Ndori, Bayapo (BOT) (1999)
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)
Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-23	time		12.69							dnf	8 / --							
reaction time	0.159	interval										# of strides	12.69						
		velocity		7.88									7.88						

Hudson-Smith, Matthew (GBR) (1994
FINAL - 2023 Prefontaine Classic (Eugene, OR)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Sep-23	time	6.17	11.16	17.22						dnf	5 / --							
reaction time	0.166	interval		4.99	6.06							# of strides	11.16						
		velocity	8.10	10.02	8.25								8.96						

Victor, Lindon (GRN) (1993)
Decathlon - Heat 2 - 2024 USA Olympic Trials (Eugene, OR)
USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-24	time		11.22		22.52					dnf	3 / --							
reaction time		interval				11.30						# of strides	11.22	11.30			22.52		
		velocity		8.91		8.85							8.91	8.85			8.88		

Ekwam, Zablon Ekhal (KEN) (1997)
Heat 6 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-24	time	6.09	10.95	15.94	21.50					dnf	6 / --							
reaction time	0.142	interval		4.86	4.99	5.56						# of strides	10.95	10.55					
		velocity	8.21	10.29	10.02	8.99							9.13	9.48					

Bailey, Sean (JAM) (1997)
Repechage 4 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-24	time	6.26	11.36							dnf	5 / 6							
reaction time	0.184	interval		5.10								# of strides	11.36						
		velocity	7.99	9.80									8.80						

Gardiner, Steven (BAH) (1995)
Long Sprints - 2025 Grand Slam Track Miami (Miramar, FL)
Grand Slam Track (2025) - results and splits by race

date	03-May-25	time	11.77	22.76	dnf	4 / 8						
reaction time	0.220	interval		10.99		# of strides	11.77	10.99		22.76		
		velocity	8.50	9.10			8.50	9.10		8.79		

Men's 300m Split Times - by time

van Niekerk, Wayde (RSA) (1992)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2017 Golden Spike (Ostrava, CZE) (300m)								*(2017.07.01) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*							
date	28-Jun-17	time		10.49		19.98		30.81	30.81	5 / 1						**100-300m**
reaction time	0.152	interval				9.49		10.83	**WR**	# of strides	10.49	9.49	10.83		19.98	20.32
		velocity		9.53		10.54		9.23	9.74	121.2	9.53	10.54	9.23		10.01	9.84

Johnson, Michael (USA) (1967)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2000 Engen (Pretoria, RSA) (Altitude) (300m)								*Track Newsletter (2000) - major internationals- pretoria*							
date	24-Mar-00	time		10.68		20.11		30.85	30.85	/ 1						**100-300m**
reaction time		interval				9.43		10.74	**WR**	# of strides	10.68	9.43	10.74		20.11	20.17
		velocity		9.36		10.60		9.31	12.97		9.36	10.60	9.31		9.95	9.92

Merritt, LaShawn (USA) (1986)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2009 Prefontaine Classic (Eugene, OR) (300m)								*Track Newsletter (2009) - prefontaine classic*							
date	07-Jun-09	time				20.5		31.3	31.30	/ 1						
reaction time		interval						10.80	**PB**	# of strides			10.80			
		velocity				9.76		9.26	9.58				9.26			

Makwala, Isaac (BOT) (1986)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2017 Golden Spike (Ostrava, CZE) (300m)								*(2017.07.01) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*							
date	28-Jun-17	time		10.64		20.39		31.44	31.44	6 / 2						**100-300m**
reaction time	0.217	interval				9.75		11.05	**NR**	# of strides	10.64	9.75	11.05		20.39	*20.80*
		velocity		9.40		10.26		9.05	9.54	133.0	9.40	10.26	9.05		9.81	*9.62*

Munyai, Clarence (RSA) (1998)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2017 Golden Spike (Ostrava, CZE) (300m)								*(2017.07.01) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*							
date	28-Jun-17	time		10.55		20.42		31.61	31.61	3 / 3						**100-300m**
reaction time	0.155	interval				9.87		11.19	**WJR**	# of strides	10.55	9.87	11.19		20.42	*21.06*
		velocity		9.48		10.13		8.94	9.49	136.2	9.48	10.13	8.94		9.79	*9.50*

Fujimitsu, Kenji (JPN) (1986)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2017 Izumo Athletics Games (Izumo, JPN) (300m)								*(2017) - tfdata-store.com/2017/05/17/post-537/*							
date	23-Apr-17	time		10.74		21.02		32.47	32.47	4 / 1						**100-300m**
reaction time		interval				10.28		11.45		# of strides	10.74	10.28	11.45		21.02	*21.73*
		velocity		9.31		9.73		8.73	9.24	137.0	9.31	9.73	8.73		9.51	*9.20*

Sato, Kentaro (JPN) (1994)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)								*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*							
date	15-Oct-23	time	6.29	11.34	16.41	21.64	26.97	32.59	32.59	6 / 1						**100-300m**
reaction time	0.191	interval		5.05	5.07	5.23	5.33	5.62		# of strides	11.34	10.30	10.95		21.64	*21.25*
		velocity	7.95	9.90	9.86	9.56	9.38	8.90	9.21	131.5	8.82	9.71	9.13		9.24	*9.41*

Azuma, Kaiki (JPN) (1993)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2017 Izumo Athletics Games (Izumo, JPN) (300m)								*(2017) - tfdata-store.com/2017/05/17/post-537/*							
date	23-Apr-17	time		10.84		21.24		32.86	32.86	6 / 2						**100-300m**
reaction time		interval				10.40		11.62	**PB**	# of strides	10.84	10.40	11.62		21.24	*22.02*
		velocity		9.23		9.62		8.61	9.13	140.5	9.23	9.62	8.61		9.42	*9.08*

Fujisawa, Rui (JPN) (2003)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)								*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*							
date	15-Oct-23	time	6.33	11.37	16.52	21.87	27.26	32.88	32.88	8 / 2						**100-300m**
reaction time	0.167	interval		5.04	5.15	5.35	5.39	5.62		# of strides	11.37	10.50	11.01		21.87	*21.51*
		velocity	7.90	9.92	9.71	9.35	9.28	8.90	9.12	141.0	8.80	9.52	9.08		9.14	*9.30*

Ekejunia, Ruo (JPN) (2004)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)								*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*							
date	15-Oct-23	time	6.29	11.34	16.42	21.72	27.16	32.90	32.90	4 / 3						**100-300m**
reaction time	0.199	interval		5.05	5.08	5.30	5.44	5.74		# of strides	11.34	10.38	11.18		21.72	*21.56*
		velocity	7.95	9.90	9.84	9.43	9.19	8.71	9.12	135.5	8.82	9.63	8.94		9.21	*9.28*

Mori, Masato (JPN) (2001)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)								*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*							
date	15-Oct-23	time	6.44	11.58	16.60	21.76	27.15	32.98	32.98	1 / 4						**100-300m**
reaction time	0.195	interval		5.14	5.02	5.16	5.39	5.83		# of strides	11.58	10.18	11.22		21.76	*21.40*
		velocity	7.76	9.73	9.96	9.69	9.28	8.58	9.10		8.64	9.82	8.91		9.19	*9.35*

Imaizumi, Kenki (JPN) (2001)	**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)								*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*							
date	15-Oct-23	time	6.23	11.21	16.36	21.77	27.25	32.98	32.98	1 / 4						**100-300m**
reaction time	0.184	interval		4.98	5.15	5.41	5.48	5.73		# of strides	11.21	10.56	11.21		21.77	*21.77*
		velocity	8.03	10.04	9.71	9.24	9.12	8.73	9.10		8.92	9.47	8.92		9.19	*9.19*

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

Kimura, Kazushi (JPN) (1993)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Izumo Athletics Games (Izumo, JPN) (300m)															*(2017) - tfdata-store.com/2017/05/17/post-537/*
date 23-Apr-17	time	11.11		21.54		33.04	33.04	3 / 3							**100-300m**
reaction time	interval			10.43		11.50	**PB**	# of strides	11.11	10.43	11.50		21.54		*21.93*
	velocity	9.00		9.59		8.70	9.08	140.0	9.00	9.59	8.70		9.29		*9.12*

Kimura, Jun (JPN) (1991)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Izumo Athletics Games (Izumo, JPN) (300m)															*(2017) - tfdata-store.com/2017/05/17/post-537/*
date 23-Apr-17	time	11.02		21.50		33.05	33.05	5 / 4							**100-300m**
reaction time	interval			10.48		11.55	**PB**	# of strides	11.02	10.48	11.55		21.50		*22.03*
	velocity	9.07		9.54		8.66	9.08	134.5	9.07	9.54	8.66		9.30		*9.08*

Kinoshita, Yuichi (JPN) (2002)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)															*Kijima (2019) - research on athlete performance and technique- 2019 data book*
date 18-Oct-19	time	11.12		21.58		33.07	33.07	4 / 1							**100-300m**
reaction time 0.159	interval			10.46		11.49		# of strides	11.12	10.46	11.49		21.58		*21.95*
	velocity	8.99		9.56		8.70	9.07	140.0	8.99	9.56	8.70		9.27		*9.11*

Inoue, Futoshi (JPN)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)															*Kijima (2019) - research on athlete performance and technique- 2019 data book*
date 18-Oct-19	time	11.38		21.92		33.46	33.46	5 / 2							**100-300m**
reaction time 0.192	interval			10.54		11.54		# of strides	11.38	10.54	11.54		21.92		*22.08*
	velocity	8.79		9.49		8.67	8.97	135.5	8.79	9.49	8.67		9.12		*9.06*

Hirakawa, Kira (JPN) (2005)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)															*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 23-Oct-21	time	6.23	11.23	16.42	21.80	27.47	33.56	33.56	3 / 1						**100-300m**
reaction time 0.204	interval		5.00	5.19	5.38	5.67	6.09	**PB**	# of strides	11.23	10.57	11.76		21.80	*22.33*
	velocity	8.03	10.00	9.63	9.29	8.82	8.21	8.94	138.0	8.90	9.46	8.50		9.17	*8.96*

Takasu, Fuuto (JPN) (2004)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)															*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 23-Oct-21	time	6.06	11.03	16.31	21.83	27.56	33.64	33.64	9 / 2						**100-300m**
reaction time 0.165	interval		4.97	5.28	5.52	5.73	6.08		# of strides	11.03	10.80	11.81		21.83	*22.61*
	velocity	8.25	10.06	9.47	9.06	8.73	8.22	8.92	132.2	9.07	9.26	8.47		9.16	*8.85*

Yamamoto, Reishin (JPN) (2004)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)															*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 23-Oct-21	time	6.23	11.30	16.53	21.90	27.56	33.68	33.68	6 / 3						**100-300m**
reaction time 0.180	interval		5.07	5.23	5.37	5.66	6.12		# of strides	11.30	10.60	11.78		21.90	*22.38*
	velocity	8.03	9.86	9.56	9.31	8.83	8.17	8.91	129.2	8.85	9.43	8.49		9.13	*8.94*

Takahaski, Yumi (JPN) (1995)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Izumo Athletics Games (Izumo, JPN) (300m)															*(2017) - tfdata-store.com/2017/05/17/post-537/*
date 23-Apr-17	time	11.23		22.00		33.85	33.85	7 / 5							**100-300m**
reaction time	interval			10.77		11.85	**PB**	# of strides	11.23	10.77	11.85		22.00		*22.62*
	velocity	8.90		9.29		8.44	8.86	137.2	8.90	9.29	8.44		9.09		*8.84*

Hirano, Yuki (JPN) (2002)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)															*Kijima (2019) - research on athlete performance and technique- 2019 data book*
date 18-Oct-19	time	11.29		22.23		33.87	33.87	7 / 3							**100-300m**
reaction time 0.187	interval			10.94		11.64		# of strides	11.29	10.94	11.64		22.23		*22.58*
	velocity	8.86		9.14		8.59	8.86	140.0	8.86	9.14	8.59		9.00		*8.86*

Shimizu, Tkeru (JPN) (2004)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)															*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 23-Oct-21	time	6.27	11.31	16.67	22.21	27.86	33.87	33.87	2 / 4						**100-300m**
reaction time 0.205	interval		5.04	5.36	5.54	5.65	6.01	**PB**	# of strides	11.31	10.90	11.66		22.21	*22.56*
	velocity	7.97	9.92	9.33	9.03	8.85	8.32	8.86	135.0	8.84	9.17	8.58		9.00	*8.87*

Hata, Keiichiro (JPN) (1995)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Izumo Athletics Games (Izumo, JPN) (300m)															*(2017) - tfdata-store.com/2017/05/17/post-537/*
date 23-Apr-17	time	11.14		21.91		33.92	33.92	2 / 6							**100-300m**
reaction time	interval			10.77		12.01	**PB**	# of strides	11.14	10.77	12.01		21.91		*22.78*
	velocity	8.98		9.29		8.33	8.84	126.0	8.98	9.29	8.33		9.13		*8.78*

Konishi, Yuta (JPN) (1990)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Izumo Athletics Games (Izumo, JPN) (300m)															*(2017) - tfdata-store.com/2017/05/17/post-537/*
date 23-Apr-17	time	11.64		22.52		33.95	33.95	9 / 7							**100-300m**
reaction time	interval			10.88		11.43	**PB**	# of strides	11.64	10.88	11.43		22.52		*22.31*
	velocity	8.59		9.19		8.75	8.84	131.0	8.59	9.19	8.75		8.88		*8.96*

Mamada, Kodai (JPN) (2002)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)															*Kijima (2019) - research on athlete performance and technique- 2019 data book*
date 18-Oct-19	time	11.39		22.07		34.00	34.00	3 / 4							**100-300m**
reaction time 0.160	interval			10.68		11.93		# of strides	11.39	10.68	11.93		22.07		*22.61*
	velocity	8.78		9.36		8.38	8.82	145,7	8.78	9.36	8.38		9.06		*8.85*

Shibutani, Hiroya (JPN) (2004)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)															*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 23-Oct-21	time	6.13	11.09	16.32	21.81	27.61	34.02	34.02	7 / 5						**100-300m**
reaction time 0.198	interval		4.96	5.23	5.49	5.80	6.41		# of strides	11.09	10.72	12.21		21.81	*22.93*
	velocity	8.16	10.08	9.56	9.11	8.62	7.80	8.82	137.0	9.02	9.33	8.19		9.17	*8.72*

Hirai, Masato (JPN) (2002)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)															*Kijima (2019) - research on athlete performance and technique- 2019 data book*

date	18-Oct-19	time		11.59		22.41		34.25	34.25	6 / 5						**100-300m**
reaction time	0.153	interval				10.82		11.84		# of strides	11.59	10.82	11.84		22.41	*22.66*
		velocity		8.63		9.24		8.45	8.76	138.0	8.63	9.24	8.45		8.92	*8.83*

Morikawa, Hazuki (JPN) (2004)

	50m	**100m**	**150m**	**200m**	**250m**	**300m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)								*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*							
date 23-Oct-21	time	6.36	11.48	16.87	22.52	28.28	34.28	34.28	5 / 6							**100-300m**
reaction time 0.222	interval		5.12	5.39	5.65	5.76	6.00		# of strides	11.48	11.04	11.76		22.52		*22.80*
	velocity	7.86	9.77	9.28	8.85	8.68	8.33	8.75	146.7	8.71	9.06	8.50		8.88		*8.77*

Kirihara, Yuuto (JPN)

	50m	**100m**	**150m**	**200m**	**250m**	**300m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2017 Izumo Athletics Games (Izumo, JPN) (300m)								*(2017) - tfdata-store.com/2017/05/17/post-537/*							
date 23-Apr-17	time		11.83		22.81		34.44	34.44	1 / 8							**100-300m**
reaction time	interval				10.98		11.63		# of strides	11.83	10.98	11.63		22.81		*22.61*
	velocity		8.45		9.11		8.60	8.71	147.7	8.45	9.11	8.60		8.77		*8.85*

Iwagaki, Yuji (JPN)

	50m	**100m**	**150m**	**200m**	**250m**	**300m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)								*Kijima (2019) - research on athlete performance and technique- 2019 data book*							
date 18-Oct-19	time		11.45		22.36		34.79	34.79	2 / 6							**100-300m**
reaction time 0.123	interval				10.91		12.43		# of strides	11.45	10.91	12.43		22.36		*23.34*
	velocity		8.73		9.17		8.05	8.62		8.73	9.17	8.05		8.94		*8.57*

Yamada, Reo (JPN)

	50m	**100m**	**150m**	**200m**	**250m**	**300m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)								*Kijima (2019) - research on athlete performance and technique- 2019 data book*							
date 18-Oct-19	time		11.69		22.96		35.28	35.28	8 / 7							**100-300m**
reaction time 0.204	interval				11.27		12.32		# of strides	11.69	11.27	12.32		22.96		*23.59*
	velocity		8.55		8.87		8.12	8.50		8.55	8.87	8.12		8.71		*8.48*

Nakajima, Yuki Joseph (JPN) (2002)

	50m	**100m**	**150m**	**200m**	**250m**	**300m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)								*Kijima (2019) - research on athlete performance and technique- 2019 data book*							
date 18-Oct-19	time		12.10		23.57		35.70	35.70	1 / 8							**100-300m**
reaction time 0.184	interval				11.47		12.13		# of strides	12.10	11.47	12.13		23.57		*23.60*
	velocity		8.26		8.72		8.24	8.40		8.26	8.72	8.24		8.49		*8.47*

ATHLETEFIRST.ORG