Men's 400m Split Times - by time

LAST UPDATE: 29-Sep-23

van Niekerk, Wayde (RSA) (1992)
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	6.01	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	

Johnson, Michael (USA) (1967)
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	11.10	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	

Reynolds, Harry (Butch) (USA) (1964)
FINAL - 1988 Weltklasse (Zurich, SUI)
Vazel (2016) - How van Niekerk broke the 400m world record

	50m	100m	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	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	

Johnson, Michael (USA) (1967)
FINAL - 1995 IAAF World Championships (Göteborg, SWE)
Pariente (2003) - la fabuleuse histoire de l'athletisme

	50m	100m	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		11.13		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	

Johnson, Michael (USA) (1967)
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		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	

Wariner, Jeremy (USA) (1984)
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	6.01	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	

van Niekerk, Wayde (RSA) (1992)
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	6.02	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	

Gardiner, Steven (BAH) (1995)
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	6.22	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	

Johnson, Michael (USA) (1967)
FINAL - 1996 Olympic Games (Atlanta, GA)
Urtebise (1996) - Atlanta 1996 : 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 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		21.22	10.58	11.69	21.22	22.27	1.05
velocity				9.43		9.45		8.55	9.20	180.7		9.43	9.45	8.55	9.43	8.98	

Watts, Quincy (USA) (1970)
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				20.8		31.4		43.50	43.50	4 / 1							
reaction time interval						10.60		12.1	OR	# of strides		20.80	10.60	12.10	20.80	22.70	1.90
velocity				9.62		9.43		8.26	9.20	170.2		9.62	9.43	8.26	9.62	8.81	

Norman, Michael (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	6.02	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	

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	

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) 50m 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 - 1995 USATF National Championships (Sacramento, CA) *ferrari (2009) - Split 100 metri uomini e donne (www.noivelocisti.net/forum?func=view&catid=9&id=1813)*

date	16-Jun-95	time			21.46			43.66	43.66	/ 1								
reaction time		interval						22.20		# of strides					21.46	22.20	0.74	
		velocity			9.32			9.01	9.16						9.32	9.01		

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

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) — 50m 100m 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	21.6		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) — 50m 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 - 2017 NCAA Championships - West Preliminary (Austin, TX) *Vazel (2018) - historical analysis and coaching commentary - biomechanical report - London 2017 - Men's 400m*

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		

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

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) — 50m 100m 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		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) — 50m 100m 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	21.2		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		

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	

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	

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	

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

		velocity	8.88	9.85	9.33	8.52	9.12		8.88	9.85	9.33	8.52	9.34	8.90	

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	

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			21.3		32.0		43.9	43.94	5 / 1							
reaction time 0.163	interval					10.70		11.90	AR	# of strides		21.30	10.70	11.90	21.30	22.60	1.30
	velocity			9.39		9.35		8.40	9.10	157.7		4.69	9.35	8.40	9.39	8.85	

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

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		21.50	11.10	11.30	21.50	22.40	0.90
	velocity			9.30		9.01		8.85	9.10			9.30	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)										*Hymans (2020) - history of the US olympic trials - track and field*							
date 03-Jul-16	time			21.2		32.1		43.97	43.97	5 / 1							
reaction time 0.210	interval					10.90		11.87		# of strides		21.20	10.90	11.87	21.20	22.77	1.57
	velocity			9.43		9.17		8.42	9.10			4.72	9.17	8.42	9.43	8.78	

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

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

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)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
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		21.50	10.70	11.80	21.50	22.50	1.00
	velocity			9.30		9.35		8.47	9.09			4.65	9.35	8.47	9.30	8.89	

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)										*USATF Women's Sprint Development with HPC (2008)*							
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	

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

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

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	

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

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

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) — *Omega Timing (2022) - diamond league race analysis*																	
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	

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

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) — *Omega Timing (2021) - diamond league race analysis*																	
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	

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 - 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	

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		

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	

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) — *USTFCCCA (2017) - NCAA DI outdoor championship history*																	
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		

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 2 - 1988 USA Olympic Trials (Indianapolis, IN) — *Quercentani (2000) - athletics: a history of modern track and field athletics (1860-2000)*																	
date	18-Jul-88	time			20.8			44.11	44.11	/ 1							
reaction time		interval						23.3	WJR	# of strides		20.80		44.11	20.80	23.31	2.51

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

		velocity				9.62				8.58	9.07			4.81		2.27	9.62	8.58	

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 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	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)

			50m	100m	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	6.36	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)

			50m	100m	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	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)

			50m	100m	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	6.01	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)

			50m	100m	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		32.4		44.12	44.12	6 / 1							
reaction time	0.264	interval						10.60		11.72		# of strides		21.80	10.60	11.72	21.80	22.32	0.52
		velocity				9.17		9.43		8.53	9.07			4.59	9.43	8.53	9.17	8.96	

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

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

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 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				44.0	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		21.40	10.70	12.10	21.40	22.80	1.40
		velocity				9.35		9.35		8.26	9.06			4.67	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	

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	

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		

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		21.10	10.70	12.50	21.10	23.20	2.10
velocity				9.48		9.35		8.00	9.05			9.48	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
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	

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	

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)										*Seiko Timing (2023) - world championship race analysis*							
date 24-Aug-23 time		11.35		23.76				44.22	44.22	7 / 1							
reaction time 0.165 interval				12.41				20.46		# of strides	11.35	12.41			23.76	20.46	-3.30
velocity		8.81		8.06				9.78	9.05	167.0	8.81	8.06			8.42	9.78	

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	

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		21.50	10.80	12.00	21.50	22.80	1.30
velocity				9.30		9.26		8.33	9.04			9.30	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		21.70	10.80	11.80	21.70	22.60	0.90
velocity				9.22		9.26		8.47	9.04			9.22	9.26	8.47	9.22	8.85	

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	

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	
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		21.70	10.80	11.80	21.70	22.60	0.90
		velocity				9.22		9.26		8.47	9.04			9.22	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	
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	
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-Jun-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	
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	
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	

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

date	24-Aug-23	time		11.08		21.06		31.97		44.31	44.31	5 / 2						
reaction time	0.151	interval				9.98		10.91		12.34		# of strides	11.08	9.98	10.91	12.34	21.06	23.25	2.19
		velocity		9.03		10.02		9.17		8.10	9.03	163.5	9.03	10.02	9.17	8.10	9.50	8.60	

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 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	6.06	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	

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

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)

	50m	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		11.39		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	

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

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)

	50m	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 USATF National Championships (Sacramento, CA) *Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/*

date	24-Jun-17	time		11.24		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)

	50m	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		10.85		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	

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)* *Hymans (2015) - progression of IAAF world records - 2015 edition*

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	

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	

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	

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

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

		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
		velocity	7.96	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)															*Seiko Timing (2023) - world championship race analysis*				
date	24-Aug-23	time		11.39		21.57		32.51		44.37	44.37	6 / 3							
reaction time	0.192	interval				10.18		10.94		11.86	**PB**	# of strides	11.39	10.18	10.94	11.86	21.57	22.80	1.23
		velocity		8.78		9.82		9.14		8.43	9.02	160.0	8.78	9.82	9.14	8.43	9.27	8.77	
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	
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	
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
		velocity	8.06	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
		velocity	8.06	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	
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**
FINAL - 1996 USA Olympic Trials (Atlanta, GA)															*USATF Women's Sprint Development (1996)*				
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)			**50m**	**100m**	**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	6.07	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)			**50m**	**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	6.12	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)

	50m	100m	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		11.20		21.36		32.38		44.39	44.39	8 / 4							
reaction time 0.163 interval				10.16		11.02		12.01		# of strides	11.20	10.16	11.02	12.01	21.36	23.03	1.67
velocity		8.93		9.84		9.07		8.33	9.01	175.0	8.93	9.84	9.07	8.33	9.36	8.68	

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
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				21.4		32.4		44.4	44.40	4 / 2							
reaction time interval						11.00		12.00		# of strides		21.40	11.00	12.00	21.40	23.00	1.60
velocity				9.35		9.09		8.33	9.01	168.2		9.35	9.09	8.33	9.35	8.70	

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 - 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		21.8		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)

	50m	100m	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		21.7		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)

	50m	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	6.15	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	

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

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		21.50	10.90	12.00	21.50	22.90	1.40
velocity				9.30		9.17		8.33	9.00			4.65	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

Harrison, Alvin (USA) (1974)

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		11.39		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
		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

Borlée, Jonathan (BEL) (1988)

Heat 3 - 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	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)

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		21.3		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

Smith, John (USA) (1950)

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			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	

Hall, Quincy (USA) (1998)

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	6.25	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

Brown, Chris (BAH) (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	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)

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*

		50m	100m	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-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)

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	6.16	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

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				21.4		32.2		44.5	44.46	7 / 2						
reaction time	0.185	interval						10.80		12.30		# of strides		21.40	10.80	12.30	21.40	23.10	1.70
		velocity				9.35		9.26		8.13	9.00	186.5		4.67	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)

50m	100m	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	6.16	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	

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-Jun-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	

McQuay, Tony (USA) (1990)

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				21.6		32.4		44.49	44.49	5 / 2							
reaction time	0.206	interval						10.80		12.09		# of strides		21.60	10.80	12.09	21.60	22.89	1.29
		velocity				9.26		9.26		8.27	8.99			4.63	9.26	8.27	9.26	8.74	

Cameron, Bert (JAM) (1959)

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		11.20		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)

FINAL - 2003 IAAF World Championships (Paris, FRA) *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	26-Aug-03	time				21.4		32.1		44.50	44.50	6 / ~~1~~							
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)

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		11.21		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	

Nellum, Bryshon (USA) (1989)

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		11.09		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)

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		11.0		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	

Smith, LaMont (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		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)

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	6.16	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	

Wariner, Jeremy (USA) (1984)

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		11.12		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)

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		11.04		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)

Semi-Final 1 - 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		10.73		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)

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		21.4		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		21.20	10.80	12.60	21.20	23.40	2.20
		velocity				9.43		9.26		7.94	8.98			9.43	9.26	7.94	9.43	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 - 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				21.6		32.5		44.5	44.52	4 / 3							
reaction time	0.159	interval						10.90		12.00	PB	# of strides		21.60	10.90	12.00	21.60	22.90	1.30
		velocity				9.26		9.17		8.33	8.98	160.7		4.63	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		21.76	10.74	12.03	21.76	22.77	1.01
		velocity				9.19		9.31		8.31	8.98			9.19	9.31	8.31	9.19	8.78	
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	
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	
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		21.60	10.80	12.20	21.60	23.00	1.40
		velocity				9.26		9.26		8.20	8.98			9.26	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)

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	6.09	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)

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		21.4		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)

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	6.18	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)

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		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

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

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

Pettigrew, Antonio (USA) (1967)

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		11.35		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)

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	6.30	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)

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	11.3	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

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

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		11.12		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	

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)

	50m	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 - 2012 Olympic Games (London, GBR)										Hadley (2012) - uka 2012 olympic games report: 400m, 4x 400m							
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	

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 - 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		32.6		44.6	44.60	2 / 1							
reaction time 0.173	interval					11.4		12.00	NR	# of strides		21.20	11.40	12.00	21.20	23.40	2.20
	velocity			9.43		8.77		8.33	8.97	175.0		9.43	8.77	8.33	9.43	8.55	

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
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	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)

	50m	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	11.31		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)

	50m	100m	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	6.01	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)

	50m	100m	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			21.6		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)

	50m	100m	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	11.1	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	

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

	50m	100m	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	6.20	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)

	50m	100m	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 South Eastern Conference Championships (College Station, TX)										*Vazel (2021) - https://twitter.com/pjvazel/status/1393829441172803591?s=21*							
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)

	50m	100m	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	16.2	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)

	50m	100m	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	6.12	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
	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)

	50m	100m	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	6.12	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	

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 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		11.00		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)

	50m	100m	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				21.41		32.4		44.62	44.62	1 / 4						
reaction time	0.237	interval						10.99		12.22		# of strides		21.41	10.99	12.22	21.41	23.21	1.80
		velocity				9.34		9.10		8.18	8.96			9.34	9.10	8.18	9.34	8.62	

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

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)

	50m	100m	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		11.61	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)

	50m	100m	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		11.4		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)

	50m	100m	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		11.18		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)

	50m	100m	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		32.5		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)

	50m	100m	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				21.5		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	

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

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)

	50m	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 USATF National Championships (Sacramento, CA) *Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/*

date	24-Jun-17	time		11.08		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

	50m	100m	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		21.5		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	

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

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)

	50m	100m	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	6.1	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	

Smith, Tommie (USA) (1944)

	50m	100m	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 Invitaional (San Jose, CA) (*yards*) *Drake (1967) - der schnellste sprint der geschichte*

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

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

		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)			**50m**	**100m**	**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 NCAA Championships (Eugene, OR)												*Robinson (1974) - modern techniques of track and field*							
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)			**50m**	**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	11.20	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)			**50m**	**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		11.03		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	
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**
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)												*USATF Women's Sprint Development (1996)*							
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	
Richardson, Mark (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 - 1999 IAAF World Championships (Sevilla, ESP)												*Ferro (2001) - biomechanical analysis of the 7th world championships in athletics seville 1999*							
date	26-Aug-99	time	6.08	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
		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	
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 Olympic Games (Munich, FRG)												*Sultanov (1982) - probleme der vorbereitung für den 400m-lauf*							
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)			**50m**	**100m**	**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		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)			**50m**	**100m**	**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		32.5		44.7	44.66	8 / 4							
reaction time	0.352	interval						11.1		12.2		# of strides		21.40	11.10	12.20	21.40	23.30	1.90
		velocity				9.35		9.01		8.20	8.96			4.67	9.01	8.20	9.35	8.58	
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 2 - 2008 USA Olympic Trials (Eugene, OR)												*USATF Women's Sprint Development with HPC (2008)*							
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	
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 IAAF World Championships (London, GBR)												*Yamanaka (2017) - male and female 400m analysis in the 2017 season*							
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)			**50m**	**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	6.07	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)			**50m**	**100m**	**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	6.12	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			**50m**	**100m**	**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-Jun-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)			**50m**	**100m**	**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	6.3	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	

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

	50m	100m	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	11.38		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)

	50m	100m	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	11.08		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)

	50m	100m	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	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	

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
FINAL - 2015 IAAF World Championships (Beijing, CHN)																*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*	
date 26-Aug-15	time	6.28	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)

	50m	100m	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	6.28	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	

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)										*USTFCCCA (2017) - NCAA DI outdoor championship history*							
date 09-Jun-17	time			20.8				44.7	44.69	6 / 2							
reaction time	interval							23.90		# of strides					20.80	23.90	3.10
	velocity			9.62				8.37	8.95	165.2					9.62	8.37	

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	

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		21.30	11.10	12.30	21.30	23.40	2.10
	velocity			9.39		9.01		8.13	8.95			9.39	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	
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		21.80	10.90	12.10	21.80	23.00	1.20
		velocity				9.17		9.17		8.26	8.95			9.17	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	
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	
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
		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)			**50m**	**100m**	**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	6.13	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)			**50m**	**100m**	**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		32.2		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			**50m**	**100m**	**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	6.20	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	
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 - 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	
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 - 2016 USA Olympic Trials (Eugene, OR) *Hymans (2020) - history of the US olympic trials - track and field*

date	03-Jul-16	time			21.0		32.1		44.73	44.73	6 / 2					
reaction time	0.171	interval					11.10		12.63		# of strides	21.00	11.10	12.63	21.00	23.73	2.73
		velocity			9.52		9.01		7.92	8.94		4.76	9.01	7.92	9.52	8.43	

Lendore, Deon (TTO) (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	6.3	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*

			50m	100m	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	6.19	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	

Plummer, Adolph (USA) (1938)

FINAL - 1963 Western Athletic Conference Championships (Tempe, AZ) (*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	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*

			50m	100m	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		11.11		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*

			50m	100m	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				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*

			50m	100m	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		11.15		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	

Borlée, Kevin (BEL) (1988)

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*

			50m	100m	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	6.07	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

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		10.81		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	

Nene, Zakhiti (RSA) (1998)

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	6.08	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)

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	6.07	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)

FINAL - 1984 Olympic Games (Los Angeles, CA) *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	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		21.20	11.10	12.50	21.20	23.60	2.40
		velocity				9.43		9.01		8.00	8.94			9.43	9.01	8.00	9.43	8.47	

Nix, Sunder (USA) (1961)

FINAL - 1984 Olympic Games (Los Angeles, CA) *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	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		21.60	10.90	12.30	21.60	23.20	1.60
		velocity				9.26		9.17		8.13	8.94			9.26	9.17	8.13	9.26	8.62	

Grindley, David (GBR) (1972)

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				21.3		32.2		44.8	44.75	3 / 6							
reaction time		interval						10.90		12.60		# of strides		21.30	10.90	12.60	21.30	23.50	2.20
		velocity				9.39		9.17		7.94	8.94			9.39	9.17	7.94	9.39	8.51	

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		21.60	10.80	12.30	21.60	23.10	1.50

		velocity				9.26		9.26		8.13	8.94			4.63	9.26	8.13	9.26	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**
Semi-Final 2 - 2008 USA Olympic Trials (Eugene, OR)																	*USATF Women's Sprint Development with HPC (2008)*		
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)			**50m**	**100m**	**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	16.7	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	
Rouser, Jason (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 2 - 1996 USA Olympic Trials (Atlanta, GA)																	*USATF Women's Sprint Development (1996)*		
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)			**50m**	**100m**	**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		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	
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 - 2003 IAAF World Championships (Paris, FRA)																	*Bonvin (2003) - Compte-rendu 400m et relais 4x 400m*		
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)			**50m**	**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	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)			**50m**	**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	6.26	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)			**50m**	**100m**	**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)																	*USTFCCCA (2017) - NCAA DI outdoor championship history*		
date	09-Jun-17	time				22.0				44.8	44.77	3 / 3							
reaction time		interval								22.80		# of strides					22.00	22.80	0.80
		velocity				9.09				8.77	8.93	163.5					9.09	8.77	
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**
Semi-Final 3 - 2019 IAAF World Championships (Doha, QAT)												*Yamanaka (2019) - race analysis of men and women 400m competition*							
date	02-Oct-19	time	6.24	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-Jun-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)			**50m**	**100m**	**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	6.09	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	
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 2 - 1996 USA Olympic Trials (Atlanta, GA)																	*USATF Women's Sprint Development (1996)*		
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)			**50m**	**100m**	**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	6.10	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	
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**
National FINAL - 2022 Weltklasse (Zürich, SUI)																	*Omega Timing (2022) - diamond league race analysis*		
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	
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 USATF National Championships (Palo Alto, CA) *USATF Women's Sprint Development (2003)*

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)

	50m	100m	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		21.8		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)

	50m	100m	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		21.5		32.4		44.8	44.79	6 / 4							
reaction time 0.166		interval				10.90		12.40		# of strides		21.50	10.90	12.40	21.50	23.30	1.80
		velocity		9.30		9.17		8.06	8.93	187.7		4.65	9.17	8.06	9.30	8.58	

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 - 2022 Prefontaine Classic (Eugene, OR) *Omega Timing (2022) - diamond league race analysis*																	
date 28-May-22	5.98	time	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
	8.36	velocity	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)

	50m	100m	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		21.4		32.5		44.8	44.80	3 / 2							
reaction time		interval				11.10		12.30		# of strides		21.40	11.10	12.30	21.40	23.40	2.00
		velocity		9.35		9.01		8.13	8.93	176.7		9.35	9.01	8.13	9.35	8.55	

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 - 1987 IAAF World Championship (Rome, ITA) *Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*																	
date 03-Sep-87		time	11.22	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)

	50m	100m	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		32.4		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)

	50m	100m	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		21.1		31.7		44.8	44.80	9 / 3							
reaction time 0.293		interval				10.60		13.10		# of strides		21.10	10.60	13.10	21.10	23.70	2.60
		velocity		9.48		9.43		7.63	8.93	166.2		9.48	9.43	7.63	9.48	8.44	

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
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER) *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*																	
date 19-Aug-09		time	11.32	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)

	50m	100m	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		21.9		32.9		44.80	44.80	7 / 3							
reaction time 0.225		interval				11.00		11.90		# of strides		21.90	11.00	11.90	21.90	22.90	1.00
		velocity		9.13		9.09		8.40	8.93			4.57	9.09	8.40	9.13	8.73	

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	6.5	time	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
	7.69	velocity	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	

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				21.9		32.8		44.8	44.81	9 / 5							
reaction time	0.151	interval						10.90		12.00		# of strides		21.90	10.90	12.00	21.90	22.90	1.00
		velocity				9.13		9.17		8.33	8.93	173.2		4.57	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	
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)												*USTFCCCA (2017) - NCAA DI outdoor championship history*							
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)												*Hymans (2020) - history of the US olympic trials - track and field*							
date	03-Jul-16	time				21.6		32.6		44.82	44.82	4 / 3							
reaction time	0.203	interval						11.00		12.22		# of strides		21.60	11.00	12.22	21.60	23.22	1.62
		velocity				9.26		9.09		8.18	8.92			4.63	9.09	8.18	9.26	8.61	
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	
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		21.40	11.20	12.23	21.40	23.43	2.03
		velocity				9.35		8.93		8.18	8.92			9.35	8.93	8.18	9.35	8.54	
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		21.70	11.00	12.10	21.70	23.10	1.40
		velocity				9.22		9.09		8.26	8.92			4.61	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				21.6		32.6		44.8	44.83	2 / 6							
reaction time	0.173	interval						11.00		12.20		# of strides		21.60	11.00	12.20	21.60	23.20	1.60
		velocity				9.26		9.09		8.20	8.92	172.7		4.63	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)

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	6.2	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)

FINAL - 1947 (Long Beach, NJ) *(440y Straightaway)* *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 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)

FINAL - 1971 USA National Championships (Eugene, OR) *(yards)* *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 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)

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				21.8		33.0		44.9	44.84	4 / 2							
reaction time 0.152 interval						11.2		11.90		# of strides		21.80	11.20	11.90	21.80	23.10	1.30
velocity				9.17		8.93		8.40	8.92	171.0		9.17	8.93	8.40	9.17	8.66	

Brown, Chris (BAH) (1978)

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				21.3		31.9		44.8	44.84	5 / 4							
reaction time 0.231 interval						10.60		12.90		# of strides		21.30	10.60	12.90	21.30	23.50	2.20
velocity				9.39		9.43		7.75	8.92	186.0		9.39	9.43	7.75	9.39	8.51	

Roberts, Gil (USA) (1989)

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		10.68		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)

FINAL - 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 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)

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	6.1	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	

McDonald, Rusheen (JAM) (1992)

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	6.17	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)

FINAL - 2004 USA Olympic Trials (Atlanta, GA) *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		11.40		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)

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	6.18	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)

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		21.2		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
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)

FINAL - 1984 Olympischen Tag (Potsdam, GDR) *Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazyklus 1981/84*

	50m	100m	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-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)

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				21.51				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	
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		21.20	11.20	12.50	21.20	23.70	2.50
		velocity				9.43		8.93		8.00	8.91	173.0		9.43	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	
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)												*Butler (2010) -1st/IAAF VTB bank continental cup, IAAF statistics handbook - split 2010*							
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			
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)												*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*							
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	
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)												*Hymans (2020) - history of the US olympic trials - track and field*							
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		21.70	10.90	12.28	21.70	23.18	1.48
		velocity				9.22		9.17		8.14	8.91			4.61	9.17	8.14	9.22	8.63	
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)												*USTFCCCA (2017) - NCAA DI outdoor championship history*							
date	09-Jun-17	time				20.8				44.9	44.88	7 / 4							
reaction time		interval								24.10	PB	# of strides					20.80	24.10	3.30
		velocity				9.62				8.30	8.91						9.62	8.30	
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)												*Yamanaka (2017) - male and female 400m analysis in the 2017 season*							
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	
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)												*Omega Timing (2023) - diamond league race analysis*							
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	
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)												*Lamare (1976) - les jeux de la XXI olympia, Montreal 1976*							
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	
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)												*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
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	
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)												*Longines Timing (2022) - commonwealth games race analysis*							
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	
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**

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	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)

	50m	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	11.51	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	

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

	50m	100m	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	6.10	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	

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 European Cup (Frankfurt, GER) *Federle (2003) - http://www.fgs.uni-halle.de*																	
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	

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 Leichtathletik Team Challenge (Munich, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*																	
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)

	50m	100m	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	21.8	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	

Sang, Julius (KEN) (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 - 1972 Olympic Games (Munich, FRG) *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*																	
date	07-Sep-72	time			21.6	32.7	45.0	44.92	5 / 3								
reaction time		interval				11.10	12.30		# of strides			21.60	11.10	12.30	21.60	23.40	1.80
		velocity			9.26	9.01	8.13	8.90	180.0			9.26	9.01	8.13	9.26	8.55	

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 IAAF World Athletic Final (Stuttgart, GER) *Graubner (2007) - http://www.fgs.uni-halle.de*																	
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)

	50m	100m	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	6.20	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	

Uti, Sunday (NGR) (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 - 1984 Olympic Games (Los Angeles, CA) *Adams (1984) - 1984 olympic games - 200m & 400m*																	
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	

Collazo, William (CUB) (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		10.97	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)

	50m	100m	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		11.3	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)

	50m	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	21.6	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)

	50m	100m	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	6.11	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

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 USA Olympic Trials (Echo Summit, CA) (*Altitude*)										*Hymans (2008) - history of the US olympic trials - track and field*							
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)

	50m	100m	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				21.4				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)

	50m	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 - 1987 IAAF World Championship (Rome, ITA)										*Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*							
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
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)

	50m	100m	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		11.22		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)

	50m	100m	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				21.6		32.7		44.9	44.94	2 / 7							
reaction time 0.178 interval						11.1		12.2		# of strides		21.60	11.10	12.20	21.60	23.30	1.70
velocity				9.26		9.01		8.20	8.90			4.63	9.01	8.20	9.26	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
FINAL - 2023 Athletissima (Lausanne, SUI)										*Omega Timing (2023) - diamond league race analysis*							
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	

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		21.60	11.20	12.20	21.60	23.40	1.80
velocity				9.26		8.93		8.20	8.90	169.2		9.26	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	

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	

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	21.20	11.10	12.66	21.20	23.76	2.56
		velocity			9.43		9.01		7.90	8.90		4.72	9.01	7.90	9.43	8.42	

Igbokwe, Obi (USA) (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	6.1	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)

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	6.0	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)

FINAL - 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	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	

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	

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	

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-Jun-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	

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)

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*

			50m	100m	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	6.17	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)

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	6.57	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	

Scotch, Leungo (BOT) (1996)

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	6.09	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	

Hernández, Roberto (CUB) (1967)

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		11.07		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		21.37	11.33	12.29	21.37	23.62	2.25
		velocity				9.36		8.83		8.14	8.89			9.36	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	

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	

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	

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	

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		21.70	11.20	12.10	21.70	23.30	1.60
		velocity				9.22		8.93		8.26	8.89			9.22	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	

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	

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	

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		22.50	10.50	12.02	22.50	22.52	0.02
	velocity			8.89		19.05		8.32	8.88			4.44	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	

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)																*USTFCCCA (2017) - NCAA DI outdoor championship history*	
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	

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	

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	

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	

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		21.80	10.80	12.50	21.80	23.30	1.50
		velocity				9.17		9.26		8.00	8.88	170.0		9.17	9.26	8.00	9.17	8.58	
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	
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**
FINAL - 1983 IAAF World Championships (Helsinki, FIN)																	*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*		
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)			**50m**	**100m**	**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				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)			**50m**	**100m**	**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				21.59		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)			**50m**	**100m**	**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 Jamaica Invitational (Kingston, JAM)																	*Vazel (2015) - Van Niekerk and Merritt were on for the record at 300m*		
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						
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 - 2020 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2020) - diamond league race analysis*		
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)			**50m**	**100m**	**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	6.21	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	
Redmond, Derek (GBR) (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 IAAF World Championship (Rome, ITA)																	*Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*		
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	
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 - 2004 DLV-Gala (Erfurt, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*		
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)										*USTFCCCA (2017) - NCAA DI outdoor championship history*							
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	

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	

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)										*USTFCCCA (2017) - NCAA DI outdoor championship history*							
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	

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	

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	

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	

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		21.50	11.40	12.20	21.50	23.60	2.10

		velocity			9.30		8.77		8.20	8.87	159.0		9.30	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		22.30	10.60	12.19	22.30	22.79	0.49
	velocity			8.97		18.87		8.20	8.87			4.48	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	

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)										*Hymans (2020) - history of the US olympic trials - track and field*							
date 03-Jul-16	time			22.0		33.0		45.09	45.09	3 / 4							
reaction time 0.174	interval					11.00		12.09		# of strides		22.00	11.00	12.09	22.00	23.09	1.09
	velocity			9.09		9.09		8.27	8.87			4.55	9.09	8.27	9.09	8.66	

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		21.10	11.30	12.70	21.10	24.00	2.90
	velocity			9.48		8.85		7.87	8.87	173.0		9.48	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		22.60	11.70	10.80	22.60	22.50	-0.10
	velocity			8.85		8.55		9.26	8.87			4.42	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		21.40	11.10	12.60	21.40	23.70	2.30
	velocity			9.35		9.01		7.94	8.87			9.35	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	

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)										*USTFCCCA (2017) - NCAA DI outdoor championship history*							
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	

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		21.50	10.70	12.90	21.50	23.60	2.10
velocity				9.30		9.35		7.75	8.87	166.5		9.30	9.35	7.75	9.30	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 - 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	

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	

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		21.50	10.60	13.00	21.50	23.60	2.10
velocity				9.30		9.43		7.69	8.87	167.2		9.30	9.43	7.69	9.30	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
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	

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		21.70	11.20	12.30	21.70	23.50	1.80
velocity				9.22		8.93		8.13	8.86			9.22	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	

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	
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	4 /							
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
		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				21.9		32.9		45.1	45.14	3 / 8							
reaction time	0.143	interval						11.00		12.20		# of strides		21.90	11.00	12.20	21.90	23.20	1.30
		velocity				9.13		9.09		8.20	8.86	169.7		4.57	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	
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	
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	
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	
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
		velocity	8.20	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
		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)

	50m	100m	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	6.10	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	

Noirot, Oliver (FRA) (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 - 1991 European Cup (Frankfurt, GER)																	*Federle (2003) - http://www.fgs.uni-halle.de*
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)

	50m	100m	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 French National Championships (Narbonne, FRA)																	*Belloc (1992) - Diagana: 45.18 / 48.13 : 3" d'ecart; incompressibles?*
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)

	50m	100m	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				21.9		32.9		45.2	45.18	8 / 8					
reaction time		interval						11.00		12.30		# of strides		21.90	11.00	12.30	21.90	23.30	1.40
		velocity				9.13		9.09		8.13	8.85			9.13	9.09	8.13	9.13	8.58	

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 1 - 1996 USA Olympic Trials (Atlanta, GA)																	*USATF Women's Sprint Development (1996)*
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	

Baulch, Jamie (GBR) (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	6.14	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	

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 Weltklasse (Zürich, SUI)																	*Omega Timing (2018) - diamond league race analysis*
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	

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 Meeting de Paris (Paris, FRA)																	*Omega Timing (2022) - diamond league race analysis*
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	

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	

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	
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	
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		# 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	
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 - 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)			**50m**	**100m**	**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	6.08	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)			**50m**	**100m**	**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				21.7		32.6		45.2	45.22	2 / 7							
reaction time	0.201	interval						10.90		12.60		# of strides		21.70	10.90	12.60	21.70	23.50	1.80
		velocity				9.22		9.17		7.94	8.85	190.5		9.22	9.17	7.94	9.22	8.51	
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 - 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	
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**
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	
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 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	

Borlée, Jonathan (BEL) (1988) — *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*

Semi-Final 3 - 2017 IAAF World Championships (London, GBR)

	50m	100m	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	10.91		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) — *Yamanaka (2017) - male and female 400m analysis in the 2017 season*

FINAL - 2017 IAAF World Championships (London, GBR)

	50m	100m	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	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) — *Omega Timing (2019) - diamond league race analysis*

FINAL - 2019 Müller Anniversary Games (London, GBR)

	50m	100m	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		21.6		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

Larrabee, Mike (USA) (1933) — *Sultanov (1982) - probleme der vorbereitung für den 400m-lauf*

FINAL - 1964 Olympic Games (Toyko, 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 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) — *Robinson (1974) - modern techniques of track and field*

FINAL - 1970 French National Championships (Colombes, 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 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) — *Hymans (2008) - history of the US olympic trials - track and field*

FINAL - 1972 USA Olympic Trials (Eugene, OR)

	50m	100m	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			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) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

FINAL - 1976 Olympic Games (Montreal, 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
date 29-Jul-76	time			21.8		32.7		45.3	45.24	7 / 5							
reaction time	interval					10.90		12.60		# of strides		21.80	10.90	12.60	21.80	23.50	1.70
	velocity			9.17		9.17		7.94	8.84	160.5		9.17	9.17	7.94	9.17	8.51	

Nix, Sunder (USA) (1961) — *Butler (2013) - IAAF world championships statistics handbook- moscow 2013*

FINAL - 1983 IAAF World Championships (Helsinki, FIN)

	50m	100m	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			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) — *Graubner (2009) - http://www.fgs.uni-halle.de*

FINAL - 2002 European Championships (Munich, GER)

	50m	100m	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-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) — *USATF Women's Sprint Development (2003)*

Semi-Final 1 - 2003 USATF National Championships (Palo Alto, CA)

	50m	100m	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		32.82	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) — *Hymans (2020) - history of the US olympic trials - track and field*

FINAL - 2012 USA Olympic Trials (Eugene, OR)

	50m	100m	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		33.2		45.24	45.24	2 / 6							
reaction time 0.231	interval					11.40		12.04		# of strides		21.80	11.40	12.04	21.80	23.44	1.64
	velocity			9.17		8.77		8.31	8.84			4.59	8.77	8.31	9.17	8.53	

Maslák, Pavel (CZE) (1991) — *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Men's 400m*

Semi-Final 3 - 2017 IAAF World Championships (London, GBR)

	50m	100m	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		11.05		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	

Cherry, Michael (USA) (1995) — *Omega Timing (2022) - diamond league race analysis*

FINAL - 2022 Golden Gala Pietro Mennea (Rome, ITA)

	50m	100m	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	6.05	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	

Smith, Miles (USA) (1984) — *USATF Women's Sprint Development (2005)*

FINAL - 2005 USATF National Championships (Carson, CA)

	50m	100m	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		11.51	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	

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	

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	

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	

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	

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	

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	

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	

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	

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	

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-Jun-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	

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	

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)																	*Hymans (2020) - history of the US olympic trials - track and field*
date 03-Jul-16	time			21.6		32.6		45.30	45.30	7 / 5							
reaction time 0.203	interval					11.00		12.70		# of strides		21.60	11.00	12.70	21.60	23.70	2.10
	velocity			9.26		9.09		7.87	8.83			4.63	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-Jun-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	

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		21.70	11.30	12.40	21.70	23.70	2.00
	velocity			9.22		8.85		8.06	8.83			9.22	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	

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

	50m	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		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

	50m	100m	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	6.06	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

Jellinghaus, Martin (FRG) (1944)

	50m	100m	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				22.0		33.2		45.3	45.33	3 / 5							
reaction time interval						11.20		12.10		# of strides		22.00	11.20	12.10	22.00	23.30	1.30
velocity				9.09		8.93		8.26	8.82			9.09	8.93	8.26	9.09	8.58	

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 - 1956 USA Olympic Trials (Los Angeles, CA)										*Hymans (2008) - history of the US olympic trials - track and field*							
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)

	50m	100m	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				21.6		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)

	50m	100m	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		11.41		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	

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	

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 - 1984 Olympic Games (Los Angeles, CA)										*Adams (1984) - 1984 olympic games - 200m & 400m*							
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	

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
Semi-Final 1 - 2002 European Championships (Munich, GER)										*Graubner (2009) - http://www.fgs.uni-halle.de*							
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	

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 Japanese National Championships (Nagoya, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 25-Jun-16 time	6.01	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)

	50m	100m	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	6.4	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)

	50m	100m	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	6.33	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)

	50m	100m	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	6.19	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)

	50m	100m	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	6.13	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	

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

	50m	100m	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				21.7		33.1		45.36	45.36	1 / 7							
reaction time 0.230 interval						11.40		12.26		# of strides		21.70	11.40	12.26	21.70	23.66	1.96
velocity				9.22		8.77		8.16	8.82			4.61	8.77	8.16	9.22	8.45	

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

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	

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)

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	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	

Omelko, Rafał (POL) (1989)

Semi-Final 1 - 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		11.05		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	

Taylor, Christopher (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	6.05	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	

Takano, Susumu (JPN) (1961)

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				21.41				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)

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				21.4		32.3		45.4	45.39	3 / 8							
reaction time	0.218	interval						10.90		13.10		# of strides		21.40	10.90	13.10	21.40	24.00	2.60
		velocity				9.35		9.17		7.63	8.81	177.0		9.35	9.17	7.63	9.35	8.33	

Clemons, Kyle (USA) (1990)

FINAL - 2016 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	03-Jul-16	time				21.9		33.0		45.39	45.39	2 / 6							
reaction time	0.206	interval						11.10		12.39		# of strides		21.90	11.10	12.39	21.90	23.49	1.59
		velocity				9.13		9.01		8.07	8.81			4.57	9.01	8.07	9.13	8.51	

London, Wil (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		11.41		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	

Borlée, Dylan (BEL) (1992)

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		11.25		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)

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	6.19	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
		velocity	8.08	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)

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	6.14	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
		velocity	8.14	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	

Mitchell, Richard (AUS) (1955)

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				22.2		33.6		45.4	45.40	6 / 6							
reaction time		interval						11.40		11.80		# of strides		22.20	11.40	11.80	22.20	23.20	1.00
		velocity				9.01		8.77		8.47	8.81	170.0		9.01	8.77	8.47	9.01	8.62	

Plawgo, Marek (POL) (1981)

FINAL - 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	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		22.60	10.50	12.30	22.60	22.80	0.20
		velocity				8.85		19.05		8.13	8.81			4.42	9.52	8.13	8.85	8.77	
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*							
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	
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	
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		21.90	11.20	12.30	21.90	23.50	1.60
		velocity				9.13		8.93		8.13	8.81			9.13	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		21.70	11.50	12.20	21.70	23.70	2.00
		velocity				9.22		8.70		8.20	8.81			9.22	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	
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	
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)

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	6.03	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)

FINAL - 1971 European Championships (Helsinki, FIN) *(1971) - Walerij Borsow - ein souveräner Europameister*

			50m	100m	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				21.3		32.4		45.45	45.45	/ 1							
reaction time		interval						11.1		13.1	CR/NR/PB	# of strides		21.30	11.10	13.05	21.30	24.15	2.85
		velocity				9.39		9.01		7.66	8.80			4.69	9.01	7.66	9.39	8.28	

Rooney, Martyn (GBR) (1987)

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		11.48		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) *USTFCCCA (2017) - NCAA DI outdoor championship history*

			50m	100m	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	45.45	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	

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	

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	

Garner, Mark (AUS) (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 - 1991 IAAF World Championships (Tokyo, JPN)												*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*							
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)			**50m**	**100m**	**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		22.02		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)			**50m**	**100m**	**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 World Championships (Berlin, GER)												*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*							
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)			**50m**	**100m**	**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	6.03	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	

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**
B Race - 2023 Memorial van Damme (Brussels, BEL)												*Omega Timing (2023) - diamond league race analysis*							
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	

Davis, Howard (JAM) (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 - 1988 Olympic Games (Seoul, KOR)												*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*							
date	26-Sep-88	time		11.34		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		21.30	11.10	13.08	21.30	24.18	2.88
		velocity				9.39		9.01		7.65	8.80			4.69	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)												*Hymans (2020) - history of the US olympic trials - track and field*							
date	03-Jul-16	time				21.9		32.8		45.48	45.48	8 / 7							
reaction time	0.190	interval						10.90		12.68		# of strides		21.90	10.90	12.68	21.90	23.58	1.68
		velocity				9.13		9.17		7.89	8.80			4.57	9.17	7.89	9.13	8.48	

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		21.80	11.20	12.50	21.80	23.70	1.90
		velocity				9.17		8.93		8.00	8.79	169.5		9.17	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	

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	

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	

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	

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
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	

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	

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)

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	6.18	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)

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	6.25	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)

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	6.14	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)

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	6.37	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

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

Schultz, Ingo (GER) (1975)

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		11.08		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	

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)

	50m	100m	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 ???? (Berlin, FRG) *Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)*																	
date	24-Jul-60	time		21.9				45.4	45.4	/ 1							
reaction time		interval						23.5	AR	# of strides		21.90		45.40	21.90	23.50	1.60
		velocity		9.13				8.51	8.81			4.57		2.20	9.13	8.51	

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
FiNAL - 1971 USA National Championships (Eugene, OR) (yards) *Hymans (2015) - progression of IAAF world records - 2015 edition*																	
date	26-Jun-71	time		22.0				45.4	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)

	50m	100m	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		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)

	50m	100m	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	11.70	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)

	50m	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 University of West Indies Invitational (Kingston, JAM) *Vazel (2009) - http://futuranterieur.files.wordpress.com*																	
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)

	50m	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	21.67	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)

	50m	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	11.11	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	

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		21.40	11.30	12.90	21.40	24.20	2.80
		velocity			9.35		8.85		7.75	8.78			9.35	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*

		50m	100m	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		45.6	45.55	1 / 8							
reaction time	0.218	interval					11.1		12.9		# of strides		21.60	11.10	12.90	21.60	24.00	2.40
		velocity			9.26		9.01		7.75	8.78			4.63	9.01	7.75	9.26	8.33	

Larry, Lionel (USA) (1986)
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	11.04	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)
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	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)
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		21.66		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)
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	11.09		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)
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					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)
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					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
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	11.3		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)
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	11.0	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	

McDonald, Rusheen (JAM) (1992)

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	6.28	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	

Jenkins, David (GBR) (1952)

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		32.4		45.6	45.56	8 / 7							
reaction time	0.169	interval						11.2		13.20		# of strides		21.20	11.20	13.20	21.20	24.40	3.20
		velocity				9.43		8.93		7.58	8.78			9.43	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		22.40	10.60	12.56	22.40	23.16	0.76
		velocity				8.93		18.87		7.96	8.78			4.46	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	

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	

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		21.90	11.00	12.70	21.90	23.70	1.80
		velocity				9.13		9.09		7.87	8.78	173.0		9.13	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	

Smith, Calvin (USA) (1987)

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		11.39	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)

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		11.22		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	

Hudson-Smith, Matthew (GBR) (1994

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	6.22	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	

Parks, Maxie (USA) (1951)

FINAL - 1976 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	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	
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 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)																	*Omega Timing (2023) - diamond league race analysis*		
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	
Fiasconaro, Marcello (ITA) (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 European Championships (Helsinki, FIN)																	*Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)*		
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)			**50m**	**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						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			
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 Müller Grand Prix (Birmingham, GBR)																	*Omega Timing (2018) - diamond league race analysis*		
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)			**50m**	**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	6.36	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)			**50m**	**100m**	**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		11.2		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)			**50m**	**100m**	**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	16.3	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)			**50m**	**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	6.31	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)			**50m**	**100m**	**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	6.18	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	
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)																	*Omega Timing (2023) - diamond league race analysis*		
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	
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)																	*Graubner (2009) - http://www.fgs.uni-halle.de*		
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	
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) *USATF Women's Sprint Development (2005)*

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	

Brown, Chris (BAH) (1978)

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		11.09		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	

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	

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	

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	

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	

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				

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 - 2018 Seiko Golden Grand Prix (Osaka, JPN) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

date	20-May-18	time	6.10	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)

50m	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 Asian Games (Jakarta, INA) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

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

50m	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	6.2	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	

Lea, Jim (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 - 1956 California Relays (Modesto, CA) (yards) — *Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)*

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)

50m	100m	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 Big 10 Championships (Lafayette, IN) (*yards*) — *Hymans (2015) - progression of IAAF world records - 2015 edition*

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	

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

Semi-Final 1 - 1960 Olympic Games (Rome, ITA) — *Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)*

date	06-Sep-60	time				22.5				45.5	45.5	/ 1						
reaction time		interval								23.0	**OR**	# of strides		22.50		45.50	22.50	23.00	0.50
		velocity				8.89				8.70	8.79	*(45.62)*		4.44		2.20	8.89	8.70	

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 - 1960 Olympic Games (Rome, ITA) — *Khomenkov (1982) - a textbook for a track and field coach*

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)

50m	100m	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				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)

50m	100m	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		11.15		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)

50m	100m	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		11.23		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)

50m	100m	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		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)

50m	100m	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				22.36		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)

50m	100m	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		11.16	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)

50m	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		11.07		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	

Kiprotich, Geoffrey (KEN) (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	6.42	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	

Kemboi, Simon (KEN) (1967)

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				22.42				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)

Semi-Final 1 - 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	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)

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	6.24	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)

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		11.2		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	

Spitz, Lionel (SUI) (2001)

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		11.16		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)

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	6.44	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	

Byrd, Leonard (USA) (1975)

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				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	

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		21.80	11.40	12.50	21.80	23.90	2.10
		velocity				9.17		8.77		8.00	8.76	174.5		9.17	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)			50m	100m	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				22.30				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	

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 - 2009 ISTAF (Berlin, GER)													*Graubner (2009) - http://www.fgs.uni-halle.de*						
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)			50m	100m	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	6.07	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)			50m	100m	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	6.05	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	172.5	9.03	9.51	8.83	7.82	9.27	8.30	

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 ISTAF (Berlin, GER)													*Graubner (2009) - http://www.fgs.uni-halle.de*						
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)			50m	100m	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	6.18	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)			50m	100m	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)													*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*						
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)			50m	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)													*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*						
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	

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
Heat 1 - 2002 European Championships (Munich, GER)													*Graubner (2009) - http://www.fgs.uni-halle.de*						
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)			50m	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				21.84		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	

Barberi, Andrea (ITA) (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 European Championships (Göteborg, SWE)													*Behm (2006) - Championnats d'Europe Göteborg 2006… Le 400m avec ou sans obstacles*						
date	09-Aug-06	time				22.9		33.4		45.70	45.70	/ 5							
reaction time		interval						10.50		12.30		# of strides		22.90	10.50	12.30	22.90	22.80	-0.10
		velocity				8.73		19.05		8.13	8.75			4.37	9.52	8.13	8.73	8.77	

Abbas, Abdulrahman Khamis (BRN)			50m	100m	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)													*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*						
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	

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	

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	

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			

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	

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	

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	

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		21.70	12.10	11.80	21.70	23.90	2.20
	velocity				9.22		8.26		8.47	8.77			9.22	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	

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	

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	

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	
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**
Semi-Final 1 - 2008 USA Olympic Trials (Eugene, OR)																*USATF Women's Sprint Development with HPC (2008)*			
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)			**50m**	**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		11.21		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)			**50m**	**100m**	**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	6.14	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)			**50m**	**100m**	**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		11.4		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	
Horigome, Yoshihiro (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**
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	11.3	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	
Marciniszyn, Marcin (POL) (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 2 - 2009 IAAF World Championships (Berlin, GER)																*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*			
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)			**50m**	**100m**	**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	6.29	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)			**50m**	**100m**	**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	6.30	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	
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 Bauhaus Galan (Stockholm, SWE)																*Omega Timing (2023) - diamond league race analysis*			
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)			**50m**	**100m**	**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	6.44	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)			**50m**	**100m**	**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		11.48		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	
Taylor, Christian (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 - 2018 Müller Grand Prix (Birmingham, GBR)																*Omega Timing (2018) - diamond league race analysis*			
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)			**50m**	**100m**	**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	11.4	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	
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**

FINAL - 2022 Memorial van Damme (Brussels, BEL) *Omega Timing (2022) - diamond league race analysis*

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)

	50m	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 - 2002 European Championships (Munich, GER)																*Graubner (2009) - http://www.fgs.uni-halle.de*	
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	

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 - 2019 Seiko Golden Grand Prix (Osaka, JPN)																*Hirokawa (2019) - research on athlete performance and technique- 2019 data book*	
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)

	50m	100m	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		11.2		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)

	50m	100m	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	6.32	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	

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	

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	

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	

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 - 2018 Müller Grand Prix (Birmingham, GBR)																*Omega Timing (2018) - diamond league race analysis*	
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	

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

	50m	100m	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		11.57		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)			**50m**	**100m**	**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	6.31	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)			**50m**	**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 - 2018 Shizuoka International Meeting (Fukuroi, JPN)														*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*					
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	
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**
FINAL - 2022 Memorial van Damme (Brussels, BEL)														*Omega Timing (2022) - diamond league race analysis*					
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)			**50m**	**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	6.28	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	
Plawgo, Marek (POL) (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 - 2002 European Championships (Munich, GER)														*Graubner (2009) - http://www.fgs.uni-halle.de*					
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)			**50m**	**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		11.19		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)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL (*original*) - 1977 IAAF World Cup (Düsseldorf, FRG)														*Butler (2010) -1st/IAAF VTB bank continental cup, IAAF statistics handbook - split 2010*					
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)			**50m**	**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 - 2018 Asian Games (Jakarta, INA)														*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*					
date	25-Aug-18	time	6.13	11.11	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)			**50m**	**100m**	**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	6.04	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	
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 Weltklasse (Zürich, SUI)														*Omega Timing (2023) - diamond league race analysis*					
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	
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 - 1948 Pacific Association Championships (Berkeley, CA) (*yards*)																		*Track & Field News (1963)*	
date	06-Jun-48	time				21.4				45.7	45.7	/ 1							
reaction time		interval								24.3	**WR** yards	# of strides					21.40	24.30	2.90
		velocity				9.35				8.23	8.75	*(46.0/440y)*					9.35	8.23	
Lea, Jim (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 - 1956 USA Olympic Trials (Los Angeles, CA)														*Hymans (2008) - history of the US olympic trials - track and field*					
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)			**50m**	**100m**	**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				21.8		34.1		45.7	45.7	6 / 4							
reaction time		interval						12.30		11.60	*(45.75)*	# of strides		21.80	12.30	11.60	21.80	23.90	2.10
		velocity				9.17		8.13		8.62	8.75			9.17	8.13	8.62	9.17	8.37	
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**
Heat 2 - 1987 IAAF World Championship (Rome, ITA)														*Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*					
date	30-Aug-87	time		11.32		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)			**50m**	**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	11.63	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)

	50m	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		22.46		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

	50m	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	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)

	50m	100m	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	6.31	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)

	50m	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		11.39		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)

	50m	100m	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) *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*																	
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)

	50m	100m	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	6.4	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)

	50m	100m	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		11.09		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)

	50m	100m	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	6.27	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	

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	

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	

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

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

		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	
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	
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	
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	
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	
Horigome, Yoshihiro (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**
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		11.47		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)			**50m**	**100m**	**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		33.2		45.89	45.89	/ 6							
reaction time		interval						10.60		12.69		# of strides		22.60	10.60	12.69	22.60	23.29	0.69
		velocity				8.85		18.87		7.88	8.72			4.42	9.43	7.88	8.85	8.59	
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 - 2018 IAAF World Junior Championships (Tampere, FIN)																*Koyama (2018) - research on athlete performance and technique- 2018 data book*			
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)			**50m**	**100m**	**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)																*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*			
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)			**50m**	**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	39.3	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	

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	

Berry, Mike (USA) (1991)

FINAL - 2016 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	03-Jul-16	time				22.1		33.4		45.90	45.90	1 / 8							
reaction time	0.249	interval						11.30		12.50		# of strides		22.10	11.30	12.50	22.10	23.80	1.70
		velocity				9.05		8.85		8.00	8.71			4.52	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	

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	

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	

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	

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	
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	
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	
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)																	*Omega Timing (2022) - continental tour race analysis*		
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	
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)																	*Omega Timing (2022) - diamond league race analysis*		
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	
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)																	*Drake (1967) - der schnellste sprint der geschichte*		
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	
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 ???? (Köln, FRG) (500m track)																	*Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)*		
date	19-Sep-59	time				22.3				45.8	45.8	/ 1							
reaction time		interval								23.5	**AR**	# of strides		22.30		45.80	22.30	23.50	1.20
		velocity				8.97				8.51	8.73			4.48		2.18	8.97	8.51	
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)																	*Graubner (2009) - http://www.fgs.uni-halle.de*		
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	
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)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*		
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	
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) *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

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	

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) *Yamanaka (2020) - 400m race analysis of men and women during 2020 season*

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	

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) *Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*

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	

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) *Omega Timing (2022) - diamond league race analysis*

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	

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

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	

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	

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		
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	
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)			**50m**	**100m**	**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				22.4		33.0		45.97	45.97	/ 7							
reaction time		interval						10.60		12.97		# of strides		22.40	10.60	12.97	22.40	23.57	1.17
		velocity				8.93		18.87		7.71	8.70			4.46	9.43	7.71	8.93	8.49	
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 - 2009 ISTAF (Berlin, GER)												*Graubner (2009) - http://www.fgs.uni-halle.de*							
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	
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 - 2018 Japanese National Championships (Yamaguchi, JPN)												*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
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	
Dimótsios, Stilianós (GRE) (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 - 2002 European Championships (Munich, GER)												*Graubner (2009) - http://www.fgs.uni-halle.de*							
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)			**50m**	**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 Shizuoka International Athletics Meeting (Fukuori, JPN)												*Matsuo (2010) - 63rd high school championships: JAF scientific committee - biomechanics data*							
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	
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 Shizuoka International Athletics Meeting (Fukuori, JPN)												*Maho (2014) - race analysis of men's 400m run in the 2014 season*							
date	03-May-14	time	6.12	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)			**50m**	**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 - 2018 Shizuoka International Meeting (Fukuroi, JPN)												*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
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)			**50m**	**100m**	**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	6.23	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	
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**
Quarter-Final 3 - 1976 Olympic Games (Montreal, CAN)												*Lamare (1976) - les jeux de la XXI olympia, Montreal 1976*							
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	
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)

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				21.44		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)

Semi-Final 2 - 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	11.15	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	

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	

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/*

			50m	100m	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		11.22		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	

McKenley, Herb (JAM) (1922)

FINAL - 1946 Big 10 Championships (Champaign, IL) *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	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)

FINAL - 1947 NCAA Championships (Salt Lake City, UT) (Altitude) *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-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)

Heat 1 - 1948 AAU Championships (Milwaukee, WI) *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	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)

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				22.2				45.9	45.9	6 / 1							
reaction time		interval								23.7	OR	# of strides		22.20		45.90	22.20	23.70	1.50
		velocity				9.01				8.44	8.71	*(46.09)*		4.50		2.18	9.01	8.44	

McKenley, Herb (JAM) (1922)

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				22.7				45.9	45.9	4 / 2							
reaction time		interval								23.2	=OR	# of strides		22.70		45.90	22.70	23.20	0.50
		velocity				8.81				8.62	8.71	*(46.20)*		4.41		2.18	8.81	8.62	

Kinder, Manfred (FRG) (1938)

FINAL - 1960 Olympic Games (Rome, ITA) *Martini (2010) - Ricordi romani (1) - analisi dell distribuzione dello sforzo di Otis Davis*

			50m	100m	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				22.1		33.5		45.9	45.9	6 / 5							
reaction time		interval						11.4		12.4	*(46.04)*	# of strides		22.10	11.40	12.40	22.10	23.80	1.70

		velocity			9.05		8.77		8.06	8.71			9.05	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		22.00	11.10	12.80	22.00	23.90	1.90
		velocity				9.09		9.01		7.81	8.71			9.09	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	
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	
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	
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	
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)			**50m**	**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	11.29	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)

	50m	100m	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	6.18	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	

Whittle, Brian (GBR) (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 - 1988 Olympic Games (Seoul, KOR)										*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*							
date 26-Sep-88	time		11.34	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)

	50m	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		11.36	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)

	50m	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		32.97	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)

	50m	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	6.17	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)

	50m	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	6.29	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)

	50m	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 - 2018 Asian Games (Jakarta, INA)										*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
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)

	50m	100m	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	21.9		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	

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	

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 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	
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	
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	
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	
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**
Semi-Final 2 - 2003 USATF National Championships (Palo Alto, CA)												*USATF Women's Sprint Development (2003)*							
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)			**50m**	**100m**	**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	6.46	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)			**50m**	**100m**	**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-Jun-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)

	50m	100m	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	6.20	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	

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 Internationale Leichtathletik Wettkampf (Frankfurt-am-Main, GER) (*500m track*)																	*Quercetani (2005) - a world history of the one-lap race: 1850-2004*
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)

	50m	100m	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 AAU Championships (Philadelphia, PA)																	*Hymans (2015) - progression of IAAF world records - 2015 edition*
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)

	50m	100m	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 PCC vs Big 10 (Berkeley, CA) (*yards*)																	*Hymans (2015) - progression of IAAF world records - 2015 edition*
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)

	50m	100m	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		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)

	50m	100m	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			22.0		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)

	50m	100m	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 Znamenskiy Memorial (Moscow, URS)																	*Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)*
date 25-Jun-55	time			21.5				46.0	46.0	/ 1							
reaction time	interval							24.5	**AR**	# of strides		21.50		46.00	21.50	24.50	3.00
	velocity			9.30				8.16	8.70			4.65		2.17	9.30	8.16	

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 - 2001 European Cup (Bremen, GER)																	*Graubner (2007) - http://www.fgs.uni-halle.de*
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)

	50m	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		11.53		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)

	50m	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 - 2002 European Championships (Munich, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
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)

	50m	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		11.34		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)

	50m	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		11.40		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)

	50m	100m	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			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)

	50m	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		11.27		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)			**50m**	**100m**	**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	6.23	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)			**50m**	**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		21.80		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)			**50m**	**100m**	**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 World Athletics Trials (Fuji, JPN)												*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*							
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)			**50m**	**100m**	**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	6.02	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)			**50m**	**100m**	**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	6.24	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)			**50m**	**100m**	**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	6.16	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	
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**
FINAL - 2007 IAAF World Athletic Final (Stuttgart, GER)												*Graubner (2007) - http://www.fgs.uni-halle.de*							
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)			**50m**	**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		11.16		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)			**50m**	**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		11.26		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)			**50m**	**100m**	**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	6.18	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)			**50m**	**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		11.18		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)			**50m**	**100m**	**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		11.56		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)			**50m**	**100m**	**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	6.45	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)			**50m**	**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		11.52		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)			**50m**	**100m**	**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	11.7	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)

	50m	100m	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	6.4	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)

	50m	100m	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		11.39		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)

	50m	100m	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	6.5	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	

Wieruszewski, Rafeł (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 - 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	11.6	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)

	50m	100m	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	6.04	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)

	50m	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 - 2018 Shizuoka International Meeting (Fukuroi, JPN) *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*																	
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)

	50m	100m	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	6.22	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	

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
B Race - 2023 Memorial van Damme (Brussels, BEL) *Omega Timing (2023) - diamond league race analysis*																	
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	

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
Semi-Final 2 - 2002 European Championships (Munich, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*																	
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)

	50m	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		11.48		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)

	50m	100m	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	6.18	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	

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	
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	
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	
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)												*Omega Timing (2023) - diamond league race analysis*							
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	
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)												*Graubner (2009) - http://www.fgs.uni-halle.de*							
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	
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)												*Longines Timing (2022) - commonwealth games race analysis*							
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	
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)												*Graubner (2009) - http://www.fgs.uni-halle.de*							
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	
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) *Graubner (2009) - http://www.fgs.uni-halle.de*

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	

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) *Behm (2006) - Championnats d'Europe Göteborg 2006… Le 400m avec ou sans obstacles*																	
date	09-Aug-06	time		22.6		33.2		46.23	46.23	/ 8							
reaction time		interval				10.60		13.03		# of strides		22.60	10.60	13.03	22.60	23.63	1.03
		velocity		8.85		18.87		7.67	8.65			4.42	9.43	7.67	8.85	8.46	

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) *Maho (2013) - race analysis of the men's 400m run in competition*																	
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		interval		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	

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) *Omega Timing (2020) - diamond league race analysis*																	
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	

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) *Omega Timing (2021) - diamond league race analysis*																	
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	

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) *Hymans (2015) - progression of IAAF world records - 2015 edition*																	
date	26-Mar-32	time		21.2				46.1	46.1	/ 1							
reaction time		interval						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	

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) *Hymans (2015) - progression of IAAF world records - 2015 edition*																	
date	31-May-41	time		22.6				46.1	46.1	/ 1							
reaction time		interval						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	

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	
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	
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	

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	

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*	
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	174.7	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	
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	
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	
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	
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	
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	

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	

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	

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)

			50m	100m	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	6.14	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)

			50m	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		11.22		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

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

		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	

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	

Karsten, Kai (GER) (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		11.30		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)
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		11.79		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	

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	

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	

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		22.00	12.10	12.20	22.00	24.30	2.30

		velocity			9.09		8.26		8.20	8.64			9.09	8.26	8.20	9.09	8.23		
Rysiukiewicz, Piotr (POL) (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**
Heat 4 - 2002 European Championships (Munich, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*		
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	
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 - 2009 ISTAF (Berlin, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*		
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)			**50m**	**100m**	**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		11.70		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)			**50m**	**100m**	**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	6.4	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	
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 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2022) - diamond league race analysis*		
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	
Anderson, Nathaniel (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		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	
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 IAAF World Athletic Final (Stuttgart, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*		
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)			**50m**	**100m**	**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	6.06	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)			**50m**	**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		11.20		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)			**50m**	**100m**	**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	6.24	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)			**50m**	**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	6.27	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)			**50m**	**100m**	**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	6.30	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)			**50m**	**100m**	**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	6.15	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)			**50m**	**100m**	**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	6.27	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)			**50m**	**100m**	**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	6.44	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)

	50m	100m	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	6.27	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)

	50m	100m	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	6.36	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)

	50m	100m	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	6.26	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	

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 - 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	6.15	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)

	50m	100m	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	6.43	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	

Semyonov, Andrey (RUS) (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
Semi-Final 2 - 2002 European Championships (Munich, GER) *Graubner (2009) - http://www.fgs.uni-halle.de*																	
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)

	50m	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				22.17		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	

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

	50m	100m	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	6.25	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)

	50m	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 Asian Athletics Championships (Doha, QAT) *Yamanaka (2019) - race analysis of men and women 400m competition*																	
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	

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

	50m	100m	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	6.29	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)

	50m	100m	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	6.16	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)

	50m	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	6.27	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

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 Olympic Games (Los Angeles, CA)												*Quercetani (2005) - a world history of the one-lap race: 1850-2004*							
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)			**50m**	**100m**	**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				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)			**50m**	**100m**	**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		11.70		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)			**50m**	**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		11.65		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)			**50m**	**100m**	**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	6.24	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)			**50m**	**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		11.6		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)			**50m**	**100m**	**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	6.31	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	

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 - 2017 Shizuoka International Meeting (Fukuroi, JPN)												*Yamanaka (2017) - male and female 400m analysis in the 2017 season*							
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)			**50m**	**100m**	**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	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)			**50m**	**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	6.21	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)			**50m**	**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	6.49	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		interval						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	

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		interval		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) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

FINAL - 2018 Japanese National Championships (Yamaguchi, 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	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) — *Omega Timing (2019) - diamond league race analysis*

FINAL - 2019 The Match - Europe v USA (Minsk, BLR)

			50m	100m	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		11.30		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) — *Yamanaka (2020) - 400m race analysis of men and women during 2020 season*

FINAL - 2020 Japanese National Championships (Niigata, 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-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	

Tamura, Tomoya (JPN) (1992) — *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

FINAL - 2015 Japanese National Championships (Niigata, 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	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) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

FINAL - 2018 Japanese National Championships (Yamaguchi, 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	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) — *Yamanaka (2020) - 400m race analysis of men and women during 2020 season*

FINAL - 2020 Japanese National Championships (Niigata, 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-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) — *Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*

FINAL - 2021 Ready Steady Tokyo (Tokyo, 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	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) — *Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*

FINAL - 2021 Japanese U20 National Championships (Osaka, 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	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	

Sasaki, Yudai (JPN) (1986) — *Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m*

FINAL - 2006 Seiko Super Grand Prix (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	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) — *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

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	6.56	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) — *(2017) - tfdata-store.com/2017/07/08/post-965/*

Heat 2 - 2017 Japanese National Championships (Osaka, 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	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) — *Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*

Final - 2021 Japanese National Championships (Osaka, 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	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) — *Omega Timing (2022) - diamond league race analysis*

B FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)

			50m	100m	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	16.6	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	

Boase, Jordan (USA) (1985) — *USATF Women's Sprint Development with HPC (2008)*

Semi-Final 1 - 2008 USA Olympic Trials (Eugene, OR)

			50m	100m	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		11.42		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	

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 - 2022 Memorial van Damme (Brussels, BEL)																*Omega Timing (2022) - diamond league race analysis*	
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	

Stankulov, Tsvetoslav (BUL) (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 - 1991 European Cup (Frankfurt, GER)																*Federle (2003) - http://www.fgs.uni-halle.de*	
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)

	50m	100m	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	6.48	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)

	50m	100m	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	6.13	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)

	50m	100m	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	6.19	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)

	50m	100m	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	6.43	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)

	50m	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 - 1984 Olympic Games (Los Angeles, CA) (*TV Analysis*)																*Adams (1984) - 1984 olympic games - 200m & 400m*	
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	

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 Shizuoka International Meeting (Fukuroi, JPN)																*Yamanaka (2017) - male and female 400m analysis in the 2017 season*	
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)

	50m	100m	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	11.6	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)

	50m	100m	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	6.4	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	

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

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			22.0			46.50	46.5	5 / 1	(46.66)						
reaction time		interval						24.5		# of strides				46.50	22.00	24.50	2.50
		velocity			9.09			8.16	8.60	189.7				2.15	9.09	8.16	

Wrighton, John (GBR) (1933) — *(1959) - der 400-m-hürdenlauf in stockholm*

FINAL - 1958 European Championships (Stockholm, SWE)

			50m	100m	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	

Hirose, Hideyuki (JPN) (1989) — *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

FINAL - 2016 Japanese National 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	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) — *Omega Timing (2019) - diamond league race analysis*

FINAL - 2019 Bauhaus Galan (Stockholm, SWE)

			50m	100m	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) — *Kijima (2019) - research on athlete performance and technique- 2019 data book*

U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, 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	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) — *Omega Timing (2021) - diamond league race analysis*

FINAL - 2021 Weltklasse (Zürich, SUI)

			50m	100m	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) — *Omega Timing (2022) - diamond league race analysis*

FINAL - 2022 Meeting de Paris (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	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	

Uozato, Yusuke (JPN) (1994) — *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

Race B - 2016 Shizuoka International 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-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) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

Heat 2 - 2018 Japanese National Championships (Yamaguchi, 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	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) — *Omega Timing (2021) - diamond league race analysis*

B Race - 2021 Athletissima (Lausanne, SUI)

			50m	100m	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	

Wakabayashi, Kota (JPN) (1997) — *(2017) - tfdata-store.com/2017/10/12/post-1100/*

Heat 2 - 2017 National Sports Festival (Matsuyama, 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	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) — *Omega Timing (2021) - diamond league race analysis*

FINAL - 2021 Memorial van Damme (Brussels, BEL)

			50m	100m	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) — *Omega Timing (2023) - diamond league race analysis*

FINAL - 2023 Weltklasse (Zürich, SUI)

			50m	100m	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) — *Jung (2003) - http://www.fgs.uni-halle.de*

FINAL - 1997 European Cup (Munich, GER)

			50m	100m	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) — *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

FINAL - 2015 Japanese National Championships (Niigata, 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	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)			**50m**	**100m**	**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	6.53	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)			**50m**	**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		11.64		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)			**50m**	**100m**	**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	6.32	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)			**50m**	**100m**	**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	6.06	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)			**50m**	**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	11.8	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	
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**
Semi-Final 1 - 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	6.46	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	
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)

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	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)

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	6.33	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	

Wakabayashi, Kota (JPN) (1997)

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		11.62		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)

Heat 2 - 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	6.23	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)

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	6.29	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	

Ito, Rikiya (JPN) (1998)

FINAL - 2019 Japanese World Championships Trials (Fujiyoshida, 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	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)

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	6.29	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	

Inoue, Yosuke (JPN) (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		11.33		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)

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		11.29		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	

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	

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)			**50m**	**100m**	**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	11.48	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	
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 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	6.31	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)			**50m**	**100m**	**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		11.42		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	
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 IAAF World Championship (Rome, ITA)												*Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*							
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)			**50m**	**100m**	**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	6.25	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)			**50m**	**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	6.20	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)			**50m**	**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	6.13	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	
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	
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)												*Hymans (2008) - history of the US olympic trials - track and field*							
date	27-Jun-80	time				22.4				46.78	46.78	/ 8							
reaction time		interval								24.4		# of strides					22.40	24.38	1.98
		velocity				8.93				8.20	8.55						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	172.2	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	

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

	50m	100m	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	6.22	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	

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
FINAL - 2023 FBK Games (Hengelo, NED)																*Omega Timing (2023) - continental tour race analysis*	
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)

	50m	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	11.46		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)

	50m	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	6.25	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	

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 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)																*(2017) - tfdata-store.com/2017/10/12/post-1100/*	
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)

	50m	100m	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	6.10	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	

Bain, Andretti (BAH) (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 - 2009 ISTAF (Berlin, GER)																*Graubner (2009) - http://www.fgs.uni-halle.de*	
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)

	50m	100m	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	6.40	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)

	50m	100m	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	11.54		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)

	50m	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	6.31	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	
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		46.70	22.80	23.90	1.10
		velocity				8.77				8.37	8.57			4.39		2.14	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		46.70	22.20	24.50	2.30
		velocity				9.01				8.16	8.57			4.50		2.14	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		22.20	11.70	12.80	22.20	24.50	2.30
		velocity				9.01		8.55		7.81	8.57	183.7		9.01	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	
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	
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)

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	6.20	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)

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	6.48	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	

Rigau, Miguel (GER) (1985)

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		11.38		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)

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	6.33	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)

Heat 1 - 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	6.43	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)

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	6.20	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)

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		11.4		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)

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	6.61	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)

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	6.4	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)

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		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	

Batman, Daniel (AUS) (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	11.0	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)

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		11.73		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)

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	6.54	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	

Motoshio, Ryo (JPN) (1990)

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	6.13	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	
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	
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	
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	
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	

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				46.80	22.10	24.70	2.60
velocity				9.05				8.10	8.55					2.14	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		22.70	11.60	12.50	22.70	24.10	1.40
velocity				8.81		8.62		8.00	8.55	183.2		8.81	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		22.20	11.90	12.70	22.20	24.60	2.40
velocity				9.01		8.40		7.87	8.55			9.01	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	

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	

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	

Reid, Terrence (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		11.83	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)

	50m	100m	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	11.63	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)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Race C - 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	6.41	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)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Race B - 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	6.42	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)

	50m	100m	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	6.5	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	

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	

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	

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)			**50m**	**100m**	**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	6.4	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	
Tkahashi, Yuma (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 - 2021 All Japan Corporate Championships (Osaka, JPN)															*@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633*				
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)			**50m**	**100m**	**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		11.50		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)			**50m**	**100m**	**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		11.66		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)			**50m**	**100m**	**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	6.24	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)			**50m**	**100m**	**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	6.21	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)			**50m**	**100m**	**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	6.42	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)			**50m**	**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		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	
Coleman, Elzie (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				22.79		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)			**50m**	**100m**	**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	6.50	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)			**50m**	**100m**	**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	6.20	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)			**50m**	**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		11.63		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)			**50m**	**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		11.41		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	
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)

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	6.28	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)

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		11.43		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)

Heat 1 - 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	6.24	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	

Yui, Kaisei (JPN) (1996)

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	6.33	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)

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	6.24	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)

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	6.21	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)

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		11.45		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	

Dair, Hamza (MAR) (2002)

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	6.31	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)

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	6.24	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	

Kimura, Jun (JPN) (1991)

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	6.31	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)

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	6.31	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)

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	6.39	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)

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	6.26	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)

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	6.5	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	
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	
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)			**50m**	**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		11.72		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)			**50m**	**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		11.47		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)			**50m**	**100m**	**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		11.1		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	
Spencer, Emerson (USA) (1906)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1928 Pacific AAU Championships (Palo Alto, CA)												*Parienté (1978) - la fabuleuse histoire de l'athlétisme*							
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)			**50m**	**100m**	**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				21.7				47.0	47.0	2 / 5							
reaction time		interval								25.3		# of strides		21.70		47.00	21.70	25.30	3.60
		velocity				9.22				7.91	8.51	*(47.24)*		4.61		2.13	9.22	7.91	
Hellstén, Voitto (FIN) (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 - 1956 Olympic Games (Melbourne, AUS)												*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date	29-Nov-56	time				22.3		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)			**50m**	**100m**	**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		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)			**50m**	**100m**	**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 European Championships (Stockholm, SWE)												*(1959) - der 400-m-hürdenlauf in stockholm*							
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)			**50m**	**100m**	**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	6.05	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)			**50m**	**100m**	**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	6.45	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	
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 - 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	6.29	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) *Omega Timing (2018) - diamond league race analysis*

National FINAL - 2018 Müller Anniversary Games (London, GBR)

			50m	100m	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) *Omega Timing (2019) - diamond league race analysis*

FINAL - 2019 The Match - Europe v USA (Minsk, BLR)

			50m	100m	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) *(2017) - tfdata-store.com/2017/07/11/post-1010/*

B FINAL - 2017 Nanbu Memorial Meeting (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	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	

Dobber, Jochem (NED) (1997) *Omega Timing (2022) - continental tour race analysis*

FINAL - 2022 FBK Games (Hengelo, NED)

			50m	100m	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	

Nakamura, Akihiko (JPN) (1990) *Takeo (2014) - decathletes sprint ability & relationship of individual event performance*

Decathlon - Heat 2 - 2012 Japanese Multi-Event National Championships (Nagano, 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-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) *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

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	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	

Yamaki, Kakeru (JPN) (1996) *(2017) - tfdata-store.com/2017/06/02/post-835/*

Division 1 Semi-Final 1 - 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		11.45		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) *Yamanaka (2019) - race analysis of men and women 400m competition*

Heat 1 - 2019 Japanese National Championships (Fukuoka, 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-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	

Kimura, Jun (JPN) (1991) *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

FINAL - 2018 National Sports Festival (Fukui, 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	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) *@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633*

Heat 1 - 2021 All Japan Corporate Championships (Osaka, 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	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	

Boers, Isayah (NED) (1999) *Omega Timing (2023) - continental tour race analysis*

FINAL - 2023 FBK Games (Hengelo, NED)

			50m	100m	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	6.05	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	

Urano, Akihiro (JPN) (1990) *Maho (2013) - race analysis of the men's 400m run in competition*

FINAL - 2012 Kokutai National Sport Festival (Gifu, 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	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	

Yoshimura, Kento (JPN) (1996) *(2017) - tfdata-store.com/2017/05/13/post-441/*

FINAL - 2017 Kansai Regional University Championships (Osaka, 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	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			

Tamura, Tomoya (JPN) (1992) *Yamanaka (2019) - race analysis of men and women 400m competition*

Heat 1 - 2019 Japanese National Championships (Fukuoka, 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-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	
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)												*(2017) - tfdata-store.com/2017/10/12/post-1100/*							
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	
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)												*Omega Timing (2022) - continental tour race analysis*							
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	
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)												*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
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	
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)												*(2017) - tfdata-store.com/2017/10/12/post-1100/*							
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	
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)												*Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection*							
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	
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)												*@ohnishigundan (2021) - https://twitter.com/ohnishigundan/status/1441633743874117633*							
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	
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)												*Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data*							
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	
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)												*Yamanaka (2017) - male and female 400m analysis in the 2017 season*							
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	
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)												*(2017) - tfdata-store.com/2017/10/12/post-1100/*							
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	
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)												*Omega Timing (2022) - diamond league race analysis*							
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	
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)												*Kishima (2022) - national high school championships biomechanics data collection*							
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	
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)												*Quercentani (2000) - athletics: a history of modern track and field athletics (1860-2000)*							
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	
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)												*Hymans (2008) - history of the US olympic trials - track and field*							
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	
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)												*(2017) - tfdata-store.com/2017/10/12/post-1100/*							
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	
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) *Kobayashi (2002) - national high school and U20 national championhsips*

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, 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	

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	

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	

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	

Lowe, Sean (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		11.95	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)

	50m	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		11.46		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)			**50m**	**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		11.57		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)			**50m**	**100m**	**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	6.34	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	
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 - 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	6.17	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)			**50m**	**100m**	**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	6.63	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)			**50m**	**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		11.4		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)			**50m**	**100m**	**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	6.39	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)			**50m**	**100m**	**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	11.47	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)			**50m**	**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		11.71		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)			**50m**	**100m**	**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				22.97		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)			**50m**	**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 - 2013 Japanese Multi-Event National Championship (Nagano, JPN)																*Takeo (2014) - decathletes sprint ability & relationship of individual event performance*			
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)			**50m**	**100m**	**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	6.59	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)			**50m**	**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		11.53		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)			**50m**	**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 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	11.68	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	
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**
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	6.73	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)			**50m**	**100m**	**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	6.33	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	

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	

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	

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	

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	

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)			**50m**	**100m**	**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	6.31	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	
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 - 2012 Kokutai National Sport Festival (Gifu, JPN)													*Maho (2013) - race analysis of the men's 400m run in competition*						
date	08-Oct-12	time	6.57	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)			**50m**	**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	6.24	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)			**50m**	**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	6.29	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	
Iakovákis, Periklís (GRE) (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 - 1997 European Cup (Munich, GER)													*Jung (2003) - http://www.fgs.uni-halle.de*						
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)			**50m**	**100m**	**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				22.67		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)			**50m**	**100m**	**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	6.32	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	
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 - 2020 Japanese U20 National Championships (Hiroshima, JPN)													*Kobayashi (2002) - national high school and U20 national championhsips*						
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	
Osakada, Jun (JPN) (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 - 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		11.26		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)			**50m**	**100m**	**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	6.46	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)			**50m**	**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		11.49		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)			**50m**	**100m**	**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 World Athletics Trials (Fuji, JPN)													*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*						
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	
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 - 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	11.64	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)			**50m**	**100m**	**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	6.62	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)			**50m**	**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 - 2018 Asian Games (Jakarta, INA) *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

date	25-Aug-18	time	6.15	11.26	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) (1989

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	

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	

Nakagawa, Shigeki (JPN) (1995)

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		11.40		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	

Eto, Takuto (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	6.57	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)

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	11.54	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)

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		11.80		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)

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		11.97		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)

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				22.57		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	
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	
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 (2002) - 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)

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	6.61	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)

FINAL - 2020 Japanese U20 National Championships (Hiroshima, JPN) *Kobayashi (2002) - 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	6.42	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	

Kobayashi, Hidekazu (JPN) (1995)

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		11.70		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)

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	6.21	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)

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	6.39	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)

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	6.50	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	

Saito, Ryohei (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		11.68		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)

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	6.60	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)

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		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	

Matsuo, Yuki (JPN) (1995)

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		11.55		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)

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	11.67	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	

Itahana, Kohei (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		11.78		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)			**50m**	**100m**	**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		11.68		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)			**50m**	**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	6.38	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)			**50m**	**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		11.57		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)			**50m**	**100m**	**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	6.66	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)			**50m**	**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	6.38	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	

Meisolle, Alexander (GER) (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**
B FINAL - 2009 ISTAF (Berlin, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*		
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)			**50m**	**100m**	**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		11.78		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)			**50m**	**100m**	**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	6.52	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)			**50m**	**100m**	**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	6.51	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	

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		21.50	11.80	14.30	21.50	26.10	4.60
		velocity				9.30		8.47		6.99	8.40			9.30	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	

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	

Naoe, Kohei (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	6.49	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	

Baker, Wendell (USA) ???

FINAL - 1886 ??? Beacon Park (Boston, MA) (440y Straightaway) *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	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)

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	6.65	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)

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	6.45	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)

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	6.63	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)			**50m**	**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		11.80		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)			**50m**	**100m**	**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	6.44	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)			**50m**	**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	6.53	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)			**50m**	**100m**	**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	6.36	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)			**50m**	**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	6.43	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	
Otsuki, Ohori (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 - 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	6.87	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	
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 - 2014 Japanese National High School Championships (Kofu, JPN)												*Yanagiya (2014) - research on athlete performance and technique- 2014 data book*							
date	30-Jul-14	time	6.25	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)			**50m**	**100m**	**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		11.79		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)			**50m**	**100m**	**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	6.62	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)			**50m**	**100m**	**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	6.62	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)			**50m**	**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		11.95		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)			**50m**	**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		11.58		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)			**50m**	**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		11.85		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)			**50m**	**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		11.41		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)			**50m**	**100m**	**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	6.24	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)

	50m	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	6.55	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)

	50m	100m	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 (2002) - national high school and U20 national championhsips*

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	

Liddell, Eric (GBR) (1902)

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

FINAL - 1924 Olympic Games (Paris, FRA) (500m Track) *Parienté (1978) - la fabuleuse histoire de l'athlétisme*

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)

	50m	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	6.57	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)

	50m	100m	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	6.63	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)

	50m	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		11.60		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)

	50m	100m	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) *(2017) - tfdata-store.com/2017/10/12/post-1100/*

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)

	50m	100m	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	6.28	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)

	50m	100m	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	6.4	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)

	50m	100m	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		11.98		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)

	50m	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		11.39		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)

	50m	100m	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	6.42	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)

	50m	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		11.54		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)

	50m	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	6.27	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

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

		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	
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)			**50m**	**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	6.21	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)			**50m**	**100m**	**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	11.64	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)

	50m	100m	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	6.30	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)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Race C - 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	11.36	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)

	50m	100m	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	6.52	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)

	50m	100m	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	6.32	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	

Sato, Hiroki (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		11.71		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)

	50m	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		11.75		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)

	50m	100m	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		11.44		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)

	50m	100m	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		11.86		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)

	50m	100m	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	11.6	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)

	50m	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	6.41	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	

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 (2002) - 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	

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	

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 - 2013 Japanese National High School Championships (Oita, JPN)												*Matsuo (2013) - 66th high school championships: JAF scientific committee - biomechanics data*							
date	30-Jul-13	time		11.75		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)			**50m**	**100m**	**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	6.52	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)			**50m**	**100m**	**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	6.52	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)			**50m**	**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		21.91		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)			**50m**	**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 - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)												*Kobayashi (2019) - research on athlete performance and technique- 2019 data book*							
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	

Gombault, Cornelien (FRA) (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**
Heat 1 - 1978 European Championships (Prague, TCH)												*Lamare (1978) - championnats d'Europa 1978*							
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)	**50m**	**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	6.58	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	

Choshi, Mori (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 Nanbu Memorial Meeting (Sapporo, JPN) *(2017) - tfdata-store.com/2017/07/11/post-1010/*

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)

	50m	100m	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	6.68	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)

	50m	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	6.61	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)

	50m	100m	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	6.62	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)

	50m	100m	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	6.32	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	

Swatowski, Stanislaw (POL) (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 European Championships (Stockholm, SWE) *(1959) - der 400-m-hürdenlauf in stockholm*

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	

Sawada, Natsuki (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 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	6.79	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	

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 - 2015 Japanese National Youth Championships (Nagoya, JPN) *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

date	16-Oct-15	time	6.54	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)

	50m	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		12.12		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)

	50m	100m	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	6.46	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)

	50m	100m	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	6.44	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	

Thompson, Luca (NOR) (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 Bislett Games (Olso, NOR) *Omega Timing (2019) - diamond league race analysis*

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)

	50m	100m	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	6.42	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)

	50m	100m	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		11.72		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

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	

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	

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	

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)

	50m	100m	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	12.16	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)

	50m	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	11.82		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)

	50m	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	22.1	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

Tomioka, Yuya (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		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)

	50m	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		22.7		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	

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
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	12.16	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

Yamazaki, Hiroki (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		11.98		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

Yanagisawa, Junki (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	6.76	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

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 - 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	11.96	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

Inoguchi, Yuta (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		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	

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
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	6.71	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

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
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	6.24	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

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 - 2013 Wakayama Athletics Meeting (Wakayama, JPN) *Takeo (2014) - decathletes sprint ability & relationship of individual event performance*																	
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

Nomura, Yuki (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 - 2015 Japanese National Youth Championships (Nagoya, JPN) *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*																	
date 16-Oct-15	time	6.46	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

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
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	6.00	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	
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**
B FINAL - 2021 Doha Diamond League (Doha, QAT)																*Omega Timing (2021) - diamond league race analysis*			
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	
Miura, Ayumu (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	6.43	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	
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	

Sawa, Daichi (JPN) (2000)

Heat 2 - 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	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)

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	6.67	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)

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	6.29	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

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		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)

Heat 1 - 2020 Japanese U20 National Championships (Hiroshima, JPN) *Kobayashi (2002) - 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	6.57	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)

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		11.83		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)

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	6.49	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)

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	6.36	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)

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				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)

Decathlon - Heat 2 - 2014 Asian Games (Incheon, KOR) *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	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	

Müller, Norman (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		11.65		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	

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	

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)			**50m**	**100m**	**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	6.20	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)			**50m**	**100m**	**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	6.48	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)			**50m**	**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	6.28	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)			**50m**	**100m**	**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				21.8		33.4		48.1	48.1	6 / 5							
reaction time		interval						11.6		14.7	*(48.35)*	# of strides		21.80	11.60	14.70	21.80	26.30	4.50
		velocity				9.17		8.62		6.80	8.57			9.17	8.62	6.80	9.17	7.60	
Matsumoto, Shion (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)												*Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection*							
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)			**50m**	**100m**	**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	6.65	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	
Sanada, Tadahi (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		12.27		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)			**50m**	**100m**	**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	6.69	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)			**50m**	**100m**	**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)												*(2017) - tfdata-store.com/2017/10/12/post-1100/*							
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	
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)

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		11.55		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)

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	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)

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	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)

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	6.61	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)

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	6.34	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)

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	6.71	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

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	6.3	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)

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		11.70		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	

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	
Futayni, Ibrahim (KSA) (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 - 2021 Doha Diamond League (Doha, QAT)															*Omega Timing (2021) - diamond league race analysis*				
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)			**50m**	**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		11.07		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)			**50m**	**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		12.02		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)			**50m**	**100m**	**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		11.38		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	
Nabeshima, Ebisu (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 Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)															*(2017) - tfdata-store.com/2017/10/12/post-1100/*				
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	
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 (2002) - 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	
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	
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		

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	

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	

Iwaki, Takuma (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		11.67		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)

	50m	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		11.92		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)

	50m	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		11.60		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)

	50m	100m	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	6.58	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)

	50m	100m	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		12.23		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)

	50m	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	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)

	50m	100m	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		11.90		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)

	50m	100m	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	6.54	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)

	50m	100m	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		11.78		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)

	50m	100m	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		11.74		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)

	50m	100m	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	6.89	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	

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 1 - 2017 National Sports Festival (Matsuyama, JPN)																*(2017) - tfdata-store.com/2017/10/12/post-1100/*	
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)

	50m	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		11.83		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)

	50m	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		11.62		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	

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	

Kitamura, Shuya (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	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)

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	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)

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		11.42	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)

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		11.57	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)

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	6.73	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)

FINAL - 1881 Time Trial in Solo Effort (New York, NY) (640y Circuit) *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	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)

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		12.35	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)

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		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)

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	11.9	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)

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	6.24	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	

Sato, Keitaro (JPN) (1991)

FINAL - 2007 Japanese National High School Championships (Saga, JPN) *Hitorara (2007) - 60st 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	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)

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		11.78	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)

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		11.75	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)

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		11.95	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)			**50m**	**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	6.76	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)			**50m**	**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		11.83		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)			**50m**	**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		11.35		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)			**50m**	**100m**	**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		12.11		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)			**50m**	**100m**	**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		12.11		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)			**50m**	**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		11.77		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)			**50m**	**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		11.71		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)			**50m**	**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		11.76		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)			**50m**	**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		11.61		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	
Katayama, Takuya (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		11.98		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)			**50m**	**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		11.63		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	
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	
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)

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	6.52	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

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	11.4	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	

El Boussiri, Walid (MAR) (2006)

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	6.66	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	

Thebe, Baboloki (BOT) (1997)

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		22.2		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)

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		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	

Nakamura, Akihiko (JPN) (1990)

Decathlon - Heat 2 - 2018 Tokyo Combined Event Meeting (Tokyo, JPN) *Matsubayashi (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	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)

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	6.44	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)

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	6.56	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)

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		12.42		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)

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		11.92		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)

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	11.8	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	

Yoshitsu, Takao (JPN)

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	6.59	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)

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		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)

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	6.49	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

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

		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	
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 analyisis 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	
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	
Ogi, Moeto (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		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)			**50m**	**100m**	**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	6.64	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	
Kakuho, Miyauchi (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		11.87		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)			**50m**	**100m**	**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	6.40	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	
Miura, Ayumu (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	6.69	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)			**50m**	**100m**	**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		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)			**50m**	**100m**	**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		12.59		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)			**50m**	**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 - 2020 Japanese Multi-Event National Championships (Nagano, JPN)												*Matsubayashi (2020) - research on athlete performance and technique- 2020 data book*							
date	26-Sep-20	time	6.57	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	
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	
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)

Decathlon - Heat 2 - 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	6.32	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	

Matsuo, Ruhei (JPN)

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	6.63	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)

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		12.05		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)

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		11.83		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	

Mfomkpa, Alain-Hervé (SUI) (1996)

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	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	

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	

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	

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	

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	

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)

	50m	100m	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		11.88		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	

Amherd, Fabian (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	6.6	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)

	50m	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		11.68		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	

Kawauchi, Shogo (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	6.70	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	

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 Japanese Multi-Event Naitonal Championships (Nagano, JPN)															*Takeo (2014) - decathletes sprint ability & relationship of individual event performance*		
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	

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	

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	

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	

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	

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	

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	

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	

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	
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	
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	
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	
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)

Decathlon - Heat 1 - 2012 Olympic Games (London, GBR) *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	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	

Ushiro, Keisuke (JPN) (1986)

Decathlon - Heat 1 - 2011 Wakayama Athletics Meeting (Wakayama, JPN) *Hisashi (2012) - perfromance analysis of Japanese record holder Keisuke Ushiro*

			50m	100m	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-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)

Decathlon - Heat 1 - 2018 Tokyo Combined Event Meeting (Tokyo, JPN) *Matsubayashi (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	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)

Decathlon - Heat 1 - 2018 Japanese National Multi-Event Championships (Nagano, JPN) *Matsubayashi (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	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	

Ushiro, Keisuke (JPN) (1986)

Decathlon - Heat 2 - 2009 Gunma Relays (Maebashi, JPN) *Hisashi (2010) - the run performance analysis in the decathlon sprint events*

			50m	100m	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-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	

Nakamura, Akihiko (JPN) (1990)

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	6.37	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	

Matsubara, Shuichiro (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	6.55	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	

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	

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	

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	

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	

Ushiro, Keisuke (JPN) (1986)

Decathlon - Heat 1 - 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	6.71	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	

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)			**50m**	**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 analyisis of decathlon athletes in the 2022 season*						
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	

Haroun, Mohamed Darm (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**
National FINAL - 2019 Doha (Doha, QAT)														*Omega Timing (2019) - diamond league race analysis*					
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	

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 - 1996 Olympic Games (Atlanta, GA)														*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*					
date	29-Jul-96	time				21.65					dnf	7 / --							
reaction time	0.365	interval										# of strides		21.65			21.65		
		velocity				9.24								9.24			9.24		

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 - 2018 Weltklasse (Zürich, SUI)																*Omega Timing (2018) - diamond league race analysis*			
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)			**50m**	**100m**	**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		11.9		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)			**50m**	**100m**	**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		21.5		32.6		nt	nt	7 / --				*did not hear the recall gun for the false start in lane 4*			
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		

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 Herculis Meeting International d'Athlétisme (Monaco, MON)																*Omega Timing (2019) - diamond league race analysis*			
date	12-Jul-19	time		11.3		21.9				nt	nt	8 / --				*did not hear the recall gun for the false start in lane 4*			
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		

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**
National FINAL - 2019 Memorial van Damme (Brussels, BEL)																*Omega Timing (2019) - diamond league race analysis*			
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)			**50m**	**100m**	**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	11.6							dnf	3 / --							
reaction time	0.185	interval		5.30								# of strides	11.60						
		velocity	7.94	9.43									8.62						

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 - 2023 Doha Diamond League (Doha, QAT)																*Omega Timing (2023) - diamond league race analysis*			
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			**50m**	**100m**	**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								dnf	4 / --							
reaction time	0.156	interval										# of strides							
		velocity	8.05																

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

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

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							**100m-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

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							***100m-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							***100m-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							***100m-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*

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							***100m-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*

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							***100m-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							***100m-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							***100m-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							***100m-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						
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	
	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	

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						
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	
	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	

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						
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	
	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	

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							***100m-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							***100m-300m***
reaction time 0.187	interval				10.94	11.64		# of strides	11.29	10.94	11.64		22.23		*22.58*

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

		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							
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		
		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		
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							***100m-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							***100m-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*
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							
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		
		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		
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							
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		
		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		
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							***100m-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*