

Men's 400m Split Times - by athletics meeting

LAST UPDATE: 15-Sep-24

2024 Memorial van damme (Brussels, BEL)

FINAL

date 13-Sep-24

Omega Timing (2024) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Dobson, Charles (GBR) (1st) time	6.08	11.11	16.31	21.64	27.17	32.85	38.60	44.49	44.49	7 / 1							
reaction time 0.130 interval		5.03	5.20	5.33	5.53	5.68	5.75	5.89		# of strides	11.11	10.53	11.21	11.64	21.64	22.85	1.21
velocity	8.22	9.94	9.62	9.38	9.04	8.80	8.70	8.49	8.99	164.0	9.00	9.50	8.92	8.59	9.24	8.75	
James, Kirani (GRN) (1992) time	6.13	10.93	15.99	21.27	26.74	32.45	38.38	44.63	44.63	4 / 2							
reaction time 0.140 interval		4.80	5.06	5.28	5.47	5.71	5.93	6.25		# of strides	10.93	10.34	11.18	12.18	21.27	23.36	2.09
velocity	8.16	10.42	9.88	9.47	9.14	8.76	8.43	8.00	8.96	161.0	9.15	9.67	8.94	8.21	9.40	8.56	
Samukonga, Muzala (ZAM) time	6.16	10.92	15.92	21.25	26.85	32.62	38.54	44.69	44.69	6 / 3							
reaction time 0.172 interval		4.76	5.00	5.33	5.60	5.77	5.92	6.15		# of strides	10.92	10.33	11.37	12.07	21.25	23.44	2.19
velocity	8.12	10.50	10.00	9.38	8.93	8.67	8.45	8.13	8.95	177.7	9.16	9.68	8.80	8.29	9.41	8.53	
Norwood, Vernon (USA) (1) time	6.13	11.00	15.97	21.16	26.65	32.39	38.35	44.78	44.78	3 / 4							
reaction time 0.142 interval		4.87	4.97	5.19	5.49	5.74	5.96	6.43		# of strides	11.00	10.16	11.23	12.39	21.16	23.62	2.46
velocity	8.16	10.27	10.06	9.63	9.11	8.71	8.39	7.78	8.93	175.7	9.09	9.84	8.90	8.07	9.45	8.47	
Ndori, Bayapo (BOT) (1999) time	6.13	10.97	16.05	21.35	26.86	32.67	38.84	45.59	45.59	8 / 5							
reaction time 0.176 interval		4.84	5.08	5.30	5.51	5.81	6.17	6.75		# of strides	10.97	10.38	11.32	12.92	21.35	24.24	2.89
velocity	8.16	10.33	9.84	9.43	9.07	8.61	8.10	7.41	8.77	178.0	9.12	9.63	8.83	7.74	9.37	8.25	
Sacoor, Jonathan (BEL) (1st) time	6.16	11.08	16.18	21.37	26.88	32.72	38.98	45.93	45.93	1 / 6							
reaction time 0.202 interval		4.92	5.10	5.19	5.51	5.84	6.26	6.95		# of strides	11.08	10.29	11.35	13.21	21.37	24.56	3.19
velocity	8.12	10.16	9.80	9.63	9.07	8.56	7.99	7.19	8.71	172.0	9.03	9.72	8.81	7.57	9.36	8.14	
Kebinatshipi, Collen (BOT) time	6.03	10.83	15.83	21.09	26.76	32.80	39.28	46.43	46.43	2 / 7							
reaction time 0.140 interval		4.80	5.00	5.26	5.67	6.04	6.48	7.15		# of strides	10.83	10.26	11.71	13.63	21.09	25.34	4.25
velocity	8.29	10.42	10.00	9.51	8.82	8.28	7.72	6.99	8.62	192.0	9.23	9.75	8.54	7.34	9.48	7.89	
Hudson-Smith, Matthew (C) time	6.22	11.18	17.43	27.19					2:37.21	5 / 8							
reaction time 0.164 interval		4.96	6.25	9.76						# of strides	11.18	16.01			27.19		
velocity	8.04	10.08	8.00	5.12							8.94	6.25			7.36		

Invitational

date 13-Sep-24

Omega Timing (2024) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Segers, Daniel (BEL) (2001) time	6.31	11.41	16.55	21.86	27.36	33.05	38.98	45.38	45.38	8 / 1							
reaction time 0.168 interval		5.10	5.14	5.31	5.50	5.69	5.93	6.40	PB	# of strides	11.41	10.45	11.19	12.33	21.86	23.52	1.66
velocity	7.92	9.80	9.73	9.42	9.09	8.79	8.43	7.81	8.81		8.76	9.57	8.94	8.11	9.15	8.50	
Borlée, Dylan (BEL) (1992) time	6.27	11.41	16.64	22.00	27.50	33.26	39.20	45.59	45.59	4 / 2							
reaction time 0.160 interval		5.14	5.23	5.36	5.50	5.76	5.94	6.39		# of strides	11.41	10.59	11.26	12.33	22.00	23.59	1.59
velocity	7.97	9.73	9.56	9.33	9.09	8.68	8.42	7.82	8.77		8.76	9.44	8.88	8.11	9.09	8.48	
Mabille, Florent (BEL) (1999) time	6.26	11.22	16.32	21.69	27.25	33.06	39.14	45.80	45.80	7 / 3							
reaction time 0.142 interval		4.96	5.10	5.37	5.56	5.81	6.08	6.66		# of strides	11.22	10.47	11.37	12.74	21.69	24.11	2.42
velocity	7.99	10.08	9.80	9.31	8.99	8.61	8.22	7.51	8.73		8.91	9.55	8.80	7.85	9.22	8.30	
Okoro, Efekemo (GBR) (19) time	6.28	11.34	16.49	21.84	27.40	33.24	39.41	46.19	46.19	5 / 4							
reaction time 0.164 interval		5.06	5.15	5.35	5.56	5.84	6.17	6.78		# of strides	11.34	10.50	11.40	12.95	21.84	24.35	2.51
velocity	7.96	9.88	9.71	9.35	8.99	8.56	8.10	7.37	8.66		8.82	9.52	8.77	7.72	9.16	8.21	
McDonlad, Rusheen (JAM) time	6.49	11.57	16.75	22.13	27.79	33.62	39.81	46.71	46.71	3 / 5							
reaction time 0.167 interval		5.08	5.18	5.38	5.66	5.83	6.19	6.90		# of strides	11.57	10.56	11.49	13.09	22.13	24.58	2.45
velocity	7.70	9.84	9.65	9.29	8.83	8.58	8.08	7.25	8.56		8.64	9.47	8.70	7.64	9.04	8.14	
Borlée, Kévin (BEL) (1988) time	6.40	11.67	16.98	22.41	28.09	33.98	40.19	47.18	47.18	6 / 6							
reaction time 0.138 interval		5.27	5.31	5.43	5.68	5.89	6.21	6.99		# of strides	11.67	10.74	11.57	13.20	22.41	24.77	2.36
velocity	7.81	9.49	9.42	9.21	8.80	8.49	8.05	7.15	8.48		8.57	9.31	8.64	7.58	8.92	8.07	

2024 Weltklasse (Zürich, SUI)

FINAL

date 05-Sep-24

Omega Timing (2024) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Spitz, Lionel (SUI) (2001) time	6.33	11.56	16.87	22.20	27.64	33.25	39.07	45.30	45.30	4 / 1							
reaction time 0.130 interval		5.23	5.31	5.33	5.44	5.61	5.82	6.23		# of strides	11.56	10.64	11.05	12.05	22.20	23.10	0.90
velocity	7.90	9.56	9.42	9.38	9.19	8.91	8.59	8.03	8.83		8.65	9.40	9.05	8.30	9.01	8.66	
Haydock-Wilson, Alex (GB) time	6.28	11.29	16.48	21.81	27.39	33.11	39.05	45.41	45.41	3 / 2							
reaction time 0.140 interval		5.01	5.19	5.33	5.58	5.72	5.94	6.36		# of strides	11.29	10.52	11.30	12.30	21.81	23.60	1.79
velocity	7.96	9.98	9.63	9.38	8.96	8.74	8.42	7.86	8.81		8.86	9.51	8.85	8.13	9.17	8.47	
Klein Ikkink, Isaya (NED) (2) time	6.23	11.36	16.62	22.08	27.69	33.41	39.28	45.42	45.42	7 / 3							
reaction time 0.172 interval		5.13	5.26	5.46	5.61	5.72	5.87	6.14		# of strides	11.36	10.72	11.33	12.01	22.08	23.34	1.26
velocity	8.03	9.75	9.51	9.16	8.91	8.74	8.52	8.14	8.81		8.80	9.33	8.83	8.33	9.06	8.57	
Petruciani, Ricky (SUI) (20) time	6.13	11.28	16.57	21.95	27.51	33.22	39.14	45.46	45.46	6 / 4							
reaction time 0.142 interval		5.15	5.29	5.38	5.56	5.71	5.92	6.32		# of strides	11.28	10.67	11.27	12.24	21.95	23.51	1.56
velocity	8.16	9.71	9.45	9.29	8.99	8.76	8.45	7.91	8.80		8.87	9.37	8.87	8.17	9.11	8.51	

Ingvaldsen, Håvard Bentda time	6.33	11.41	16.61	21.94	27.48	33.19	39.15	45.57	45.57	5 / 5							
reaction time	0.176	interval	5.08	5.20	5.33	5.54	5.71	5.96	6.42	# of strides	11.41	10.53	11.25	12.38	21.94	23.63	1.69
velocity	7.90	9.84	9.62	9.38	9.03	8.76	8.39	7.79	8.78	8.76	9.50	8.89	8.08	9.12	8.46		
Aceti, Vladimir (ITA) (1998) time	6.32	11.36	16.53	21.85	27.40	33.21	39.43	46.12	46.12	1 / 6							
reaction time	0.202	interval	5.04	5.17	5.32	5.55	5.81	6.22	6.69	# of strides	11.36	10.49	11.36	12.91	21.85	24.27	2.42
velocity	7.91	9.92	9.67	9.40	9.01	8.61	8.04	7.47	8.67	8.80	9.53	8.80	7.75	9.15	8.24		
Devantay, Charles (SUI) (19) time	6.27	11.45	16.80	22.29	28.01	33.90	40.07	46.67	46.67	2 / 7							
reaction time	0.140	interval	5.18	5.35	5.49	5.72	5.89	6.17	6.60	# of strides	11.45	10.84	11.61	12.77	22.29	24.38	2.09
velocity	7.97	9.65	9.35	9.11	8.74	8.49	8.10	7.58	8.57	8.73	9.23	8.61	7.83	8.97	8.20		
Gendre, Vincent (SUI) (200) time	6.37	11.51	16.84	22.41	28.25	34.30	40.63	47.37	47.37	8 / 8							
reaction time	0.164	interval	5.14	5.33	5.57	5.84	6.05	6.33	6.74	# of strides	11.51	10.90	11.89	13.07	22.41	24.96	2.55
velocity	7.85	9.73	9.38	8.98	8.56	8.26	7.90	7.42	8.44	8.69	9.17	8.41	7.65	8.92	8.01		

2024 Golden Gala Pietro Mennea (Roma, ITA)

FINAL

date 30-Aug-24

Omega Timing (2024) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Samukonga, Muzala (ZAM) time	6.10	10.83	15.90	21.22	26.74	32.39	38.12	43.99	43.99	4 / 1							
reaction time	0.183	interval	4.73	5.07	5.32	5.52	5.65	5.73	5.87	# of strides	10.83	10.39	11.17	11.60	21.22	22.77	1.55
velocity	8.20	10.57	9.86	9.40	9.06	8.85	8.73	8.52	9.09	173.0	9.23	9.62	8.95	8.62	9.43	8.78	
James, Kirani (GRN) (1992) time	6.11	11.09	16.30	21.61	27.01	32.53	38.24	44.30	44.30	5 / 2							
reaction time	0.161	interval	4.98	5.21	5.31	5.40	5.52	5.71	6.06	# of strides	11.09	10.52	10.92	11.77	21.61	22.69	1.08
velocity	8.18	10.04	9.60	9.42	9.26	9.06	8.76	8.25	9.03	161.5	9.02	9.51	9.16	8.50	9.25	8.81	
Richards, Jereem (TTO) (19) time	6.11	11.01	16.13	21.49	27.03	32.72	38.46	44.55	44.55	6 / 3							
reaction time	0.145	interval	4.90	5.12	5.36	5.54	5.69	5.74	6.09	# of strides	11.01	10.48	11.23	11.83	21.49	23.06	1.57
velocity	8.18	10.20	9.77	9.33	9.03	8.79	8.71	8.21	8.98	171.0	9.08	9.54	8.90	8.45	9.31	8.67	
Ndori, Bayapo (BOT) (1999) time	6.08	11.05	16.18	21.48	26.94	32.58	38.36	44.56	44.56	7 / 4							
reaction time	0.153	interval	4.97	5.13	5.30	5.46	5.64	5.78	6.20	# of strides	11.05	10.43	11.10	11.98	21.48	23.08	1.60
velocity	8.22	10.06	9.75	9.43	9.16	8.87	8.65	8.06	8.98	175.0	9.05	9.59	9.01	8.35	9.31	8.67	
Norwood, Vernon (USA) (1) time	6.25	11.36	16.58	21.95	27.47	33.02	38.60	44.71	44.71	8 / 5							
reaction time	0.175	interval	5.11	5.22	5.37	5.52	5.55	5.58	6.11	# of strides	11.36	10.59	11.07	11.69	21.95	22.76	0.81
velocity	8.00	9.78	9.58	9.31	9.06	9.01	8.96	8.18	8.95	171.2	8.80	9.44	9.03	8.55	9.11	8.79	
Dobson, Charles (GBR) (1) time	6.13	11.22	16.45	21.80	27.29	32.94	38.77	44.75	44.75	2 / 6							
reaction time	0.145	interval	5.09	5.23	5.35	5.49	5.65	5.83	5.98	# of strides	11.22	10.58	11.14	11.81	21.80	22.95	1.15
velocity	8.16	9.82	9.56	9.35	9.11	8.85	8.58	8.36	8.94	164.2	8.91	9.45	8.98	8.47	9.17	8.71	
Deadmon, Bryce (USA) (19) time	6.09	11.13	16.22	21.43	26.96	32.63	38.46	44.77	44.77	1 / 7							
reaction time	0.160	interval	5.04	5.09	5.21	5.53	5.67	5.83	6.31	# of strides	11.13	10.30	11.20	12.14	21.43	23.34	1.91
velocity	8.21	9.92	9.82	9.60	9.04	8.82	8.58	7.92	8.93	167.0	8.98	9.71	8.93	8.24	9.33	8.57	
Kebinatshipi, Collen (BOT) time	6.08	11.02	16.19	21.64	27.29	33.02	38.85	45.14	45.14	3 / 8							
reaction time	0.167	interval	4.94	5.17	5.45	5.65	5.73	5.83	6.29	# of strides	11.02	10.62	11.38	12.12	21.64	23.50	1.86
velocity	8.22	10.12	9.67	9.17	8.85	8.73	8.58	7.95	8.86	185.0	9.07	9.42	8.79	8.25	9.24	8.51	
Sito, Luca (ITA) (2003) time	6.19	11.17	16.23	21.49	27.15	32.99	38.87	42.25	45.25	9 / 9							
reaction time	0.185	interval	4.98	5.06	5.26	5.66	5.84	5.88	3.38	# of strides	11.17	10.32	11.50	9.26	21.49	20.76	-0.73
velocity	8.08	10.04	9.88	9.51	8.83	8.56	8.50	14.79	8.84	173.0	8.95	9.69	8.70	10.80	9.31	9.63	

2024 Athletissima (Lausanne, SUI)

FINAL

date 22-Aug-24

Omega Timing (2024) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Hudson-Smith, Matthew (C) time	6.11	11.01	16.01	21.18	26.49	32.02	37.83	43.96	43.96	5 / 1								
reaction time	0.143	interval	4.90	5.00	5.17	5.31	5.53	5.81	6.13	# of strides	11.01	10.17	10.84	11.94	21.18	22.78	1.60	
velocity	8.18	10.20	10.00	9.67	9.42	9.04	8.61	8.16	9.10	160.0	9.08	9.83	9.23	8.38	9.44	8.78		
Samukonga, Muzala (ZAM) time	6.17	11.00	16.03	21.33	26.77	32.41	38.08	44.06	44.06	6 / 2								
reaction time	0.207	interval	4.83	5.03	5.30	5.44	5.64	5.98		# of strides	11.00	10.33	11.08	11.65	21.33	22.73	1.40	
velocity	8.10	10.35	9.94	9.43	9.19	8.87	8.82	8.36	9.08	175.0	9.09	9.68	9.03	8.58	9.38	8.80		
Kebinatshipi, Collen (BOT) time	6.04	10.85	15.86	21.10	26.56	32.22	38.01	44.22	44.22	3 / 3								
reaction time	0.151	interval	4.81	5.01	5.24	5.46	5.66	5.79	6.21	PB	# of strides	10.85	10.25	11.12	12.00	21.10	23.12	2.02
velocity	8.28	10.40	9.98	9.54	9.16	8.83	8.64	8.05	9.05	9.22	9.76	8.99	8.33	9.48	8.65			
Deadmon, Bryce (USA) (19) time	6.12	11.10	16.10	21.36	26.85	32.44	38.15	44.37	44.37	8 / 4								
reaction time	0.181	interval	4.98	5.00	5.26	5.49	5.59	5.71	6.22	# of strides	11.10	10.26	11.08	11.93	21.36	23.01	1.65	
velocity	8.17	10.04	10.00	9.51	9.11	8.94	8.76	8.04	9.02	9.01	9.75	9.03	8.38	9.36	8.69			
Dobson, Charles (GBR) (1) time	6.04	10.98	16.03	21.31	26.76	32.46	38.31	44.53	44.53	4 / 5								
reaction time	0.147	interval	4.94	5.05	5.28	5.45	5.70	5.85	6.22	# of strides	10.98	10.33	11.15	12.07	21.31	23.22	1.91	
velocity	8.28	10.12	9.90	9.47	9.17	8.77	8.55	8.04	8.98	9.11	9.68	8.97	8.29	9.39	8.61			
Norwood, Vernon (USA) (1) time	6.10	10.94	15.98	21.20	26.57	32.18	38.03	44.55	44.55	7 / 6								
reaction time	0.173	interval	4.84	5.04	5.22	5.37	5.61	5.85	6.52	# of strides	10.94	10.26	10.98	12.37	21.20	23.35	2.15	
velocity	8.20	10.33	9.92	9.58	9.31	8.91	8.55	7.67	8.98	9.14	9.75	9.11	8.08	9.43	8.57			
Spitz, Lionel (SUI) (2001) time	6.15	11.07	16.11	21.40	27.00	32.88	39.05	45.82	45.82	2 / 7								

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

reaction time	0.119	interval	4.92	5.04	5.29	5.60	5.88	6.17	6.77		# of strides	11.07	10.33	11.48	12.94	21.40	24.42	3.02
velocity	8.13		10.16	9.92	9.45	8.93	8.50	8.10	7.39	8.73		9.03	9.68	8.71	7.73	9.35	8.19	
Omalla, Eugene (NED) (200	6.17	11.22	16.43	21.83	27.58	33.47	39.52	46.06	46.06	1 / 8								
reaction time	0.179	interval	5.05	5.21	5.40	5.75	5.89	6.05	6.54	# of strides	11.22	10.61	11.64	12.59	21.83	24.23	2.40	
velocity	8.10	9.90	9.60	9.26	8.70	8.49	8.26	7.65	8.68		8.91	9.43	8.59	7.94	9.16	8.25		

B Race

date 22-Aug-24

Omega Timing (2024) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Petruciani, Ricky (SUI) (20	6.21	11.46	16.79	22.30	27.83	33.55	39.49	45.83	45.83	5 / 1							
reaction time	0.167	interval	5.25	5.33	5.51	5.53	5.72	5.94	6.34	# of strides	11.46	10.84	11.25	12.28	22.30	23.53	1.23
velocity	8.05	9.52	9.38	9.07	9.04	8.74	8.42	7.89	8.73		8.73	9.23	8.89	8.14	8.97	8.50	
Devantay, Charles (SUI) (19	6.20	11.33	16.63	22.13	27.74	33.56	39.56	46.06	46.06	4 / 2							
reaction time	0.134	interval	5.13	5.30	5.50	5.61	5.82	6.00	6.50	# of strides	11.33	10.80	11.43	12.50	22.13	23.93	1.80
velocity	8.06	9.75	9.43	9.09	8.91	8.59	8.33	7.69	8.68		8.83	9.26	8.75	8.00	9.04	8.36	
Gyger, Nathan (SUI) (1992)	6.35	11.46	16.60	22.02	27.73	33.83	40.24	47.34	47.34	7 / 3							
reaction time	0.170	interval	5.11	5.14	5.42	5.71	6.10	6.41	7.10	# of strides	11.46	10.56	11.81	13.51	22.02	25.32	3.30
velocity	7.87	9.78	9.73	9.23	8.76	8.20	7.80	7.04	8.45		8.73	9.47	8.47	7.40	9.08	7.90	
Sorg, Michael (SUI) (2004)	6.36	11.47	16.72	22.23	28.09	34.35	40.98	48.14	48.14	8 / 4							
reaction time	0.215	interval	5.11	5.25	5.51	5.86	6.26	6.63	7.16	# of strides	11.47	10.76	12.12	13.79	22.23	25.91	3.68
velocity	7.86	9.78	9.52	9.07	8.53	7.99	7.54	6.98	8.31		8.72	9.29	8.25	7.25	9.00	7.72	
Yirga, Nahom (SUI) (2001)	6.34	11.59	17.00	22.64	28.58	34.79	41.29	48.24	48.24	2 / 5							
reaction time	0.148	interval	5.25	5.41	5.64	5.94	6.21	6.50	6.95	# of strides	11.59	11.05	12.15	13.45	22.64	25.60	2.96
velocity	7.89	9.52	9.24	8.87	8.42	8.05	7.69	7.19	8.29		8.63	9.05	8.23	7.43	8.83	7.81	
Jutzet, Juri (SUI) (2005)	6.62	12.16	17.77	23.58	29.65	35.96	42.39	49.17	49.17	3 / 6							
reaction time	0.180	interval	5.54	5.61	5.81	6.07	6.31	6.43	6.78	# of strides	12.16	11.42	12.38	13.21	23.58	25.59	2.01
velocity	7.55	9.03	8.91	8.61	8.24	7.92	7.78	7.37	8.14		8.22	8.76	8.08	7.57	8.48	7.82	
Coquoz, Samuel (SUI) (199	6.36	11.69	17.21	22.95	29.02	35.44	42.19	49.42	49.42	1 / 7							
reaction time	0.182	interval	5.33	5.52	5.74	6.07	6.42	6.75	7.23	# of strides	11.69	11.26	12.49	13.98	22.95	26.47	3.52
velocity	7.86	9.38	9.06	8.71	8.24	7.79	7.41	6.92	8.09		8.55	8.88	8.01	7.15	8.71	7.56	
Bregenzer, Pierre-Yves (SU	6.39	11.71	17.23	23.04	29.07	35.51	42.35	49.60	49.60	6 / 8							
reaction time	0.172	interval	5.32	5.52	5.81	6.03	6.44	6.84	7.25	# of strides	11.71	11.33	12.47	14.09	23.04	26.56	3.52
velocity	7.82	9.40	9.06	8.61	8.29	7.76	7.31	6.90	8.06		8.54	8.83	8.02	7.10	8.68	7.53	

2024 Olympic Games (Paris, FRA)

FINAL

date 07-Aug-24

Paris 2024 Olympic Games - Results Book (2024)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Hall, Quincy (USA) (1998)	6.16	11.01	15.89	21.00	26.34	31.81	37.46	43.40	43.40	8 / 1								
reaction time	0.168	interval	4.85	4.88	5.11	5.34	5.47	5.65	5.94	PB	# of strides	11.01	9.99	10.81	11.59	21.00	22.40	1.40
velocity	8.12	10.31	10.25	9.78	9.36	9.14	8.85	8.42	9.22		157.7	9.08	10.01	9.25	8.63	9.52	8.93	
Hudson-Smith, Matthew (C	6.01	10.81	15.65	20.62	25.86	31.35	37.19	43.44	43.44	6 / 2								
reaction time	0.149	interval	4.80	4.84	4.97	5.24	5.49	5.84	6.25	AR	# of strides	10.81	9.81	10.73	12.09	20.62	22.82	2.20
velocity	8.32	10.42	10.33	10.06	9.54	9.11	8.56	8.00	9.21		161.0	9.25	10.19	9.32	8.27	9.70	8.76	
Samukonga, Muzala (ZAM)	6.11	10.87	15.78	20.95	26.35	31.91	37.68	43.74	43.74	7 / 3								
reaction time	0.185	interval	4.76	4.91	5.17	5.40	5.56	5.77	6.06	NR PB	# of strides	10.87	10.08	10.96	11.83	20.95	22.79	1.84
velocity	8.18	10.50	10.18	9.67	9.26	8.99	8.67	8.25	9.14		176.0	9.20	9.92	9.12	8.45	9.55	8.78	
Richards, Jereem (TTO) (19	6.02	10.69	15.43	20.46	25.82	31.42	37.32	43.78	43.78	9 / 4								
reaction time	0.144	interval	4.67	4.74	5.03	5.36	5.60	5.90	6.46	NR PB	# of strides	10.69	9.77	10.96	12.36	20.46	23.32	2.86
velocity	8.31	10.71	10.55	9.94	9.33	8.93	8.47	7.74	9.14		172.5	9.35	10.24	9.12	8.09	9.78	8.58	
James, Kirani (GRN) (1992)	5.96	10.75	15.61	20.63	25.90	31.50	37.46	43.87	43.87	5 / 5								
reaction time	0.147	interval	4.79	4.86	5.02	5.27	5.60	5.96	6.41	# of strides	10.75	9.88	10.87	12.37	20.63	23.24	2.61	
velocity	8.39	10.44	10.29	9.96	9.49	8.93	8.39	7.80	9.12		162.5	9.30	10.12	9.20	8.08	9.69	8.61	
Bailey, Chris (USA) (2000)	6.34	11.38	16.57	21.89	27.34	32.89	38.61	44.58	44.58	2 / 6								
reaction time	0.178	interval	5.04	5.19	5.32	5.45	5.55	5.72	5.97	# of strides	11.38	10.51	11.00	11.69	21.89	22.69	0.80	
velocity	7.89	9.92	9.63	9.40	9.17	9.01	8.74	8.38	8.97		179.0	8.79	9.51	9.09	8.55	9.14	8.81	
Ogazi, Samuel (NGR) (2006)	6.33	11.19	16.20	21.46	27.08	32.92	38.74	44.73	44.73	3 / 7								
reaction time	0.225	interval	4.86	5.01	5.26	5.62	5.84	5.82	5.99	# of strides	11.19	10.27	11.46	11.81	21.46	23.27	1.81	
velocity	7.90	10.29	9.98	9.51	8.90	8.56	8.59	8.35	8.94		161.0	8.94	9.74	8.73	8.47	9.32	8.59	
Norman, Michael (USA) (19	5.96	10.85	15.85	21.11	26.73	32.59	38.87	45.62	45.62	4 / 8								
reaction time	0.150	interval	4.89	5.00	5.26	5.62	5.86	6.28	6.75	# of strides	10.85	10.26	11.48	13.03	21.11	24.51	3.40	
velocity	8.39	10.22	10.00	9.51	8.90	8.53	7.96	7.41	8.77		172.0	9.22	9.75	8.71	7.67	9.47	8.16	

Semi-Final 3

date 06-Aug-24

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	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Hudson-Smith, Matthew (C	5.97	10.71	15.53	20.56	25.85	31.44	37.41	44.07	44.07	7 / 1							
reaction time	0.148	interval	4.74	4.82	5.03	5.29	5.59	5.97	6.66	# of strides	10.71	9.85	10.88	12.63	20.56	23.51	2.95
velocity	8.38	10.55	10.37	9.94	9.45	8.94	8.38	7.51	9.08		161.0	9.34	10.15	9.19	7.92	9.73	8.51
Norman, Michael (USA) (19	6.07	11.01	15.96	21.14	26.54	32.16	38.01	44.26	44.26	6 / 2							

reaction time	0.146	interval	4.94	4.95	5.18	5.40	5.62	5.85	6.25		# of strides	11.01	10.13	11.02	12.10	21.14	23.12	1.98	
velocity	8.24	10.12	10.10	9.65	9.26	8.90	8.55	8.00	9.04	171.0	9.08	9.87	9.07	8.26	9.46	8.65			
Ogazi, Samuel (NGR) (2006)	time	6.20	10.99	15.90	21.09	26.62	32.29	38.16	44.41	44.41	5 / 3								
reaction time	0.195	interval	4.79	4.91	5.19	5.53	5.67	5.87	6.25	PB	# of strides	10.99	10.10	11.20	12.12	21.09	23.32	2.23	
velocity	8.06	10.44	10.18	9.63	9.04	8.82	8.52	8.00	9.01	160.0	9.10	9.90	8.93	8.25	9.48	8.58			
Powell, Jevagnn (JAM) (2)	time	6.07	10.86	15.78	20.94	26.41	32.16	38.31	44.91	44.91	9 / 4								
reaction time	0.155	interval	4.79	4.92	5.16	5.47	5.75	6.15	6.60		# of strides	10.86	10.08	11.22	12.75	20.94	23.97	3.03	
velocity	8.24	10.44	10.16	9.69	9.14	8.70	8.13	7.58	8.91	175.5	9.21	9.92	8.91	7.84	9.55	8.34			
Holder, Reece (AUS) (2002)	time	6.07	10.85	15.77	20.97	26.46	32.20	38.30	44.94	44.94	4 / 5								
reaction time	0.144	interval	4.78	4.92	5.20	5.49	5.74	6.10	6.64		# of strides	10.85	10.12	11.23	12.74	20.97	23.97	3.00	
velocity	8.24	10.46	10.16	9.62	9.11	8.71	8.20	7.53	8.90	170.5	9.22	9.88	8.90	7.85	9.54	8.34			
Nene, Zakithi (RSA) (1998)	time	6.08	10.97	16.02	21.27	26.83	32.59	38.52	45.06	45.06	3 / 6								
reaction time	0.146	interval	4.89	5.05	5.25	5.56	5.76	5.93	6.54		# of strides	10.97	10.30	11.32	12.47	21.27	23.79	2.52	
velocity	8.22	10.22	9.90	9.52	8.99	8.68	8.43	7.65	8.88	176.0	9.12	9.71	8.83	8.02	9.40	8.41			
Scotch, Leungo (BOT) (19)	time	6.14	11.06	16.10	21.31	26.88	32.72	38.73	45.16	45.16	2 / 7								
reaction time	0.177	interval	4.92	5.04	5.21	5.57	5.84	6.01	6.43		# of strides	11.06	10.25	11.41	12.44	21.31	23.85	2.54	
velocity	8.14	10.16	9.92	9.60	8.98	8.56	8.32	7.78	8.86	177.0	9.04	9.76	8.76	8.04	9.39	8.39			
Morales-Williams, Christop	time	6.04	10.93	15.92	21.21	26.91	32.85	38.91	45.25	45.25	8 / 8								
reaction time	0.164	interval	4.89	4.99	5.29	5.70	5.94	6.06	6.34		# of strides	10.93	10.28	11.64	12.40	21.21	24.04	2.83	
velocity	8.28	10.22	10.02	9.45	8.77	8.42	8.25	7.89	8.84	164.0	9.15	9.73	8.59	8.06	9.43	8.32			
Semi-Final 2	date	06-Aug-24	Paris 2024 Olympic Games - Results Book (2024)																
			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
James, Kirani (GRN) (1992)	time	6.00	10.84	15.77	20.84	26.13	31.79	37.67	43.78	43.78	8 / 1								
reaction time	0.147	interval	4.84	4.93	5.07	5.29	5.66	5.88	6.11		# of strides	10.84	10.00	10.95	11.99	20.84	22.94	2.10	
velocity	8.33	10.33	10.14	9.86	9.45	8.83	8.50	8.18	9.14	161.7	9.23	10.00	9.13	8.34	9.60	8.72			
Samukonga, Muzala (ZAM)	time	6.06	10.77	15.72	20.88	26.26	31.91	37.76	43.81	43.81	5 / 2								
reaction time	0.162	interval	4.71	4.95	5.16	5.38	5.65	5.85	6.05	NR PB	# of strides	10.77	10.11	11.03	11.90	20.88	22.93	2.05	
velocity	8.25	10.62	10.10	9.69	9.29	8.85	8.55	8.26	9.13	177.0	9.29	9.89	9.07	8.40	9.58	8.72			
Bailey, Chris (USA) (2000)	time	6.19	11.09	16.06	21.21	26.50	32.07	37.98	44.31	44.31	6 / 3								
reaction time	0.162	interval	4.90	4.97	5.15	5.29	5.57	5.91	6.33	PB	# of strides	11.09	10.12	10.86	12.24	21.21	23.10	1.89	
velocity	8.08	10.20	10.06	9.71	9.45	8.98	8.46	7.90	9.03	183.0	9.02	9.88	9.21	8.17	9.43	8.66			
Ndori, Bayapo (BOT) (1999)	time	6.09	10.99	16.02	21.19	26.55	32.20	38.13	44.43	44.43	7 / 4								
reaction time	0.159	interval	4.90	5.03	5.17	5.36	5.65	5.93	6.30		# of strides	10.99	10.20	11.01	12.23	21.19	23.24	2.05	
velocity	8.21	10.20	9.94	9.67	9.33	8.85	8.43	7.94	9.00	175.5	9.10	9.80	9.08	8.18	9.44	8.61			
Singhapurage, Aruna Dhar	time	6.30	11.33	16.39	21.65	27.18	32.90	38.75	44.75	44.75	4 / 5								
reaction time	0.178	interval	5.03	5.06	5.26	5.53	5.72	5.85	6.00	DQ	# of strides	11.33	10.32	11.25	11.85	21.65	23.10	1.45	
velocity	7.94	9.94	9.88	9.51	9.04	8.74	8.55	8.33	8.94		8.83	9.69	8.89	8.44	9.24	8.66			
Sito, Luca (ITA) (2003)	time	6.17	11.08	16.00	21.17	26.60	32.35	38.39	45.01	45.01	9 / 5								
reaction time	0.148	interval	4.91	4.92	5.17	5.43	5.75	6.04	6.62		# of strides	11.08	10.09	11.18	12.66	21.17	23.84	2.67	
velocity	8.10	10.18	10.16	9.67	9.21	8.70	8.28	7.55	8.89		9.03	9.91	8.94	7.90	9.45	8.39			
Larregina, Elián (ARG) (200)	time	6.16	11.12	16.16	21.36	26.80	32.60	38.67	45.02	45.02	2 / 6								
reaction time	0.154	interval	4.96	5.04	5.20	5.44	5.80	6.07	6.35		# of strides	11.12	10.24	11.24	12.42	21.36	23.66	2.30	
velocity	8.12	10.08	9.92	9.62	9.19	8.62	8.24	7.87	8.88		8.99	9.77	8.90	8.05	9.36	8.45			
Pillay, Lythe (RSA) (2003)	time	6.23	11.23	16.31	21.57	27.03	32.78	38.77	45.24	45.24	3 / 7								
reaction time	0.145	interval	5.00	5.08	5.26	5.46	5.75	5.99	6.47		# of strides	11.23	10.34	11.21	12.46	21.57	23.67	2.10	
velocity	8.03	10.00	9.84	9.51	9.16	8.70	8.35	7.73	8.84		8.90	9.67	8.92	8.03	9.27	8.45			
Semi-Final 1	date	06-Aug-24	Paris 2024 Olympic Games - Results Book (2024)																
			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Hall, Quincy (USA) (1998)	time	6.21	11.10	16.00	21.05	26.34	31.92	37.75	43.95	43.95	5 / 1								
reaction time	0.179	interval	4.89	4.90	5.05	5.29	5.58	5.83	6.20		# of strides	11.10	9.95	10.87	12.03	21.05	22.90	1.85	
velocity	8.05	10.22	10.20	9.90	9.45	8.96	8.58	8.06	9.10	159.5	9.01	10.05	9.20	8.31	9.50	8.73			
Richards, Jereem (TTO) (19)	time	6.03	10.85	15.86	21.08	26.56	32.22	38.09	44.33	44.33	7 / 2								
reaction time	0.153	interval	4.82	5.01	5.22	5.48	5.66	5.87	6.24		# of strides	10.85	10.23	11.14	12.11	21.08	23.25	2.17	
velocity	8.29	10.37	9.98	9.58	9.12	8.73	8.52	8.01	9.02	172.7	9.22	9.78	8.98	8.26	9.49	8.60			
Kebinatshipi, Collen (BOT)	time	6.12	11.16	16.38	21.70	27.08	32.75	38.53	44.43	44.43	4 / 3								
reaction time	0.154	interval	5.04	5.22	5.32	5.38	5.67	5.78	5.90	PB	# of strides	11.16	10.54	11.05	11.68	21.70	22.73	1.03	
velocity	8.17	9.92	9.58	9.40	9.29	8.82	8.65	8.47	9.00	185.0	8.96	9.49	9.05	8.56	9.22	8.80			
Dobson, Charles (GBR) (1)	time	6.00	10.97	16.10	21.38	26.80	32.47	38.35	44.48	44.48	8 / 4								
reaction time	0.143	interval	4.97	5.13	5.28	5.42	5.67	5.88	6.13		# of strides	10.97	10.41	11.09	12.01	21.38	23.10	1.72	
velocity	8.33	10.06	9.75	9.47	9.23	8.82	8.50	8.16	8.99	165.0	9.12	9.61	9.02	8.33	9.35	8.66			
Yahia Ibrahim, Ammar Isma	time	6.31	11.29	16.31	21.46	26.74	32.33	38.24	44.64	44.64	3 / 5								
reaction time	0.163	interval	4.98	5.02	5.15	5.28	5.59	5.91	6.40	PB	# of strides	11.29	10.17	10.87	12.31	21.46	23.18	1.72	
velocity	7.92	10.04	9.96	9.71	9.47	8.94	8.46	7.81	8.96	176.0	8.86	9.83	9.20	8.12	9.32	8.63			

Diouf, Cheikh Tidiane (SEN)	time	6.11	11.16	16.41	21.75	27.22	32.88	38.74	44.94	44.94	2 / 6								
	reaction time	0.181		5.05	5.25	5.34	5.47	5.66	5.86	6.20	NR PB	# of strides	11.16	10.59	11.13	12.06	21.75	23.19	1.44
	velocity		8.18	9.90	9.52	9.36	9.14	8.83	8.53	8.06	8.90	165.5	8.96	9.44	8.98	8.29	9.20	8.62	
Ingvaldsen, Håvard Bentda	time	6.33	11.31	16.44	21.78	27.33	33.17	39.22	45.60	45.60	9 / 7								
	reaction time	0.209		4.98	5.13	5.34	5.55	5.84	6.05	6.38		# of strides	11.31	10.47	11.39	12.43	21.78	23.82	2.04
	velocity		7.90	10.04	9.75	9.36	9.01	8.56	8.26	7.84	8.77	165.5	8.84	9.55	8.78	8.05	9.18	8.40	
Doom, Alexander (BEL) (1987)	time	6.26	11.12	16.01	21.09	26.48	32.88			1:55.10	6 / 8								
	reaction time	0.150		4.86	4.89	5.08	5.39	6.40				# of strides	11.12	9.97	11.79				
	velocity		7.99	10.29	10.22	9.84	9.28	7.81			8.99	10.03	8.48						
Repechage 4	date	05-Aug-24	Paris 2024 Olympic Games - Results Book (2024)																
			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Yahia Ibrahim, Ammar Isma	time	6.45	11.57	16.75	22.00	27.37	32.89	38.66	44.77	44.77	3 / 1								
	reaction time	0.158		5.12	5.18	5.25	5.37	5.52	5.77	6.11		# of strides	11.57	10.43	10.89	11.88	22.00	22.77	0.77
	velocity		7.75	9.77	9.65	9.52	9.31	9.06	8.67	8.18	8.93	174.0	8.64	9.59	9.18	8.42	9.09	8.78	
Diouf, Cheikh Tidiane (SEN)	time	6.24	11.22	16.41	21.77	27.34	33.04	38.90	45.03	45.03	8 / 2								
	reaction time	0.220		4.98	5.19	5.36	5.57	5.70	5.86	6.13	=PB	# of strides	11.22	10.55	11.27	11.99	21.77	23.26	1.49
	velocity		8.01	10.04	9.63	9.33	8.98	8.77	8.53	8.16	8.88	164.0	8.91	9.48	8.87	8.34	9.19	8.60	
Bredau, Jean Paul (GER) (1987)	time	6.25	11.29	16.45	21.84	27.48	33.28	39.21	45.40	45.40	6 / 3								
	reaction time	0.163		5.04	5.16	5.39	5.64	5.80	5.93	6.19		# of strides	11.29	10.55	11.44	12.12	21.84	23.56	1.72
	velocity		8.00	9.92	9.69	9.28	8.87	8.62	8.43	8.08	8.81	172.0	8.86	9.48	8.74	8.25	9.16	8.49	
Borlée, Dylan (BEL) (1992)	time	6.27	11.34	16.50	21.83	27.40	33.16	39.13	45.51	45.51	7 / 4								
	reaction time	0.161		5.07	5.16	5.33	5.57	5.76	5.97	6.38		# of strides	11.34	10.49	11.33	12.35	21.83	23.68	1.85
	velocity		7.97	9.86	9.69	9.38	8.98	8.68	8.38	7.84	8.79	173.0	8.82	9.53	8.83	8.10	9.16	8.45	
Coelho, João (POR) (1999)	time	6.38	11.45	16.71	22.11	27.65	33.40	39.30	45.64	45.64	4 / 5								
	reaction time	0.175		5.07	5.26	5.40	5.54	5.75	5.90	6.34		# of strides	11.45	10.66	11.29	12.24	22.11	23.53	1.42
	velocity		7.84	9.86	9.51	9.26	9.03	8.70	8.47	7.89	8.76	181.0	8.73	9.38	8.86	8.17	9.05	8.50	
Bailey, Sean (JAM) (1997)	time	6.26	11.36								dnf	5 / 6							
	reaction time	0.184		5.10								# of strides	11.36						
	velocity		7.99	9.80								8.80							
Repechage 3	date	05-Aug-24	Paris 2024 Olympic Games - Results Book (2024)																
			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Nene, Zakithi (RSA) (1998)	time	6.14	11.15	16.38	21.72	27.23	32.83	38.60	44.81	44.81	4 / 1								
	reaction time	0.140		5.01	5.23	5.34	5.51	5.60	5.77	6.21		# of strides	11.15	10.57	11.11	11.98	21.72	23.09	1.37
	velocity		8.14	9.98	9.56	9.36	9.07	8.93	8.67	8.05	8.93	174.0	8.97	9.46	9.00	8.35	9.21	8.66	
Scotch, Leungo (BOT) (1995)	time	6.20	11.30	16.50	21.89	27.33	32.96	38.86	45.33	45.33	6 / 2								
	reaction time	0.172		5.10	5.20	5.39	5.44	5.63	5.90	6.47		# of strides	11.30	10.59	11.07	12.37	21.89	23.44	1.55
	velocity		8.06	9.80	9.62	9.28	9.19	8.88	8.47	7.73	8.82	179.0	8.85	9.44	9.03	8.08	9.14	8.53	
Molnár, Attila (HUN) (2002)	time	6.31	11.25	16.41	21.74	27.21	32.91	38.95	45.45	45.45	3 / 3								
	reaction time	0.166		4.94	5.16	5.33	5.47	5.70	6.04	6.50		# of strides	11.25	10.49	11.17	12.54	21.74	23.71	1.97
	velocity		7.92	10.12	9.69	9.38	9.14	8.77	8.28	7.69	8.80	175.0	8.89	9.53	8.95	7.97	9.20	8.44	
Spitz, Lionel (SUI) (2001)	time	6.27	11.37	16.56	21.94	27.52	33.20	39.10	45.51	45.51	5 / 4								
	reaction time	0.148		5.10	5.19	5.38	5.58	5.68	5.90	6.41		# of strides	11.37	10.57	11.26	12.31	21.94	23.57	1.63
	velocity		7.97	9.80	9.63	9.29	8.96	8.80	8.47	7.80	8.79	185.2	8.80	9.46	8.88	8.12	9.12	8.49	
Repechage 2	date	05-Aug-24	Paris 2024 Olympic Games - Results Book (2024)																
			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Pillay, Lythe (RSA) (2003)	time	6.29	11.33	16.58	22.00	27.51	33.15	39.08	45.40	45.40	5 / 1								
	reaction time	0.161		5.04	5.25	5.42	5.51	5.64	5.93	6.32		# of strides	11.33	10.67	11.15	12.25	22.00	23.40	1.40
	velocity		7.95	9.92	9.52	9.23	9.07	8.87	8.43	7.91	8.81	173.7	8.83	9.37	8.97	8.16	9.09	8.55	
Krsek, Matěj (CZE) (2000)	time	6.27	11.34	16.60	21.98	27.49	33.22	39.19	45.53	45.53	7 / 2								
	reaction time	0.145		5.07	5.26	5.38	5.51	5.73	5.97	6.34	PB	# of strides	11.34	10.64	11.24	12.31	21.98	23.55	1.57
	velocity		7.97	9.86	9.51	9.29	9.07	8.73	8.38	7.89	8.79	179.7	8.82	9.40	8.90	8.12	9.10	8.49	
Pohorilko, Oleksandr (UKR)	time	6.39	11.67	17.05	22.46	27.92	33.53	39.38	45.59	45.59	3 / 3								
	reaction time	0.193		5.28	5.38	5.41	5.46	5.61	5.85	6.21		# of strides	11.67	10.79	11.07	12.06	22.46	23.13	0.67
	velocity		7.82	9.47	9.29	9.24	9.16	8.91	8.55	8.05	8.77	175.0	8.57	9.27	9.03	8.29	8.90	8.65	
Joseph, Michael (LCA) (2004)	time	6.19	11.24	16.51	21.93	27.54	33.34	39.34	45.64	45.64	6 / 4								
	reaction time	0.186		5.05	5.27	5.42	5.61	5.80	6.00	6.30		# of strides	11.24	10.69	11.41	12.30	21.93	23.71	1.78
	velocity		8.08	9.90	9.49	9.23	8.91	8.62	8.33	7.94	8.76	175.2	8.90	9.35	8.76	8.13	9.12	8.44	
Okezie, Chidi (NGR) (1993)	time	6.36	11.47	16.71	22.14	27.72	33.49	39.50	45.92	45.92	4 / 5								
	reaction time	0.172		5.11	5.24	5.43	5.58	5.77	6.01	6.42		# of strides	11.47	10.67	11.35	12.43	22.14	23.78	1.64
	velocity		7.86	9.78	9.54	9.21	8.96	8.67	8.32	7.79	8.71	167.5	8.72	9.37	8.81	8.05	9.03	8.41	
Repechage 1	date	05-Aug-24	Paris 2024 Olympic Games - Results Book (2024)																
			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Larregina, Elián (ARG) (2003)	time	6.33	11.51	16.67	22.02	27.58	33.24	39.10	45.36	45.36	4 / 1								
	reaction time	0.143		5.18	5.16	5.35	5.56	5.66	5.86	6.26		# of strides	11.51	10.51	11.22	12.12	22.02	23.34	1.32
	velocity		7.90	9.65	9.69	9.35	8.99	8.83	8.53	7.99	8.82	168.0	8.69	9.51	8.91	8.25	9.08	8.57	

Biron, Gilles (FRA) (1995)	time	6.24	11.25	16.28	21.56	27.20	33.05	39.22	45.87	45.87	8 / 2							
	reaction time	0.187									# of strides	11.25	10.31	11.49	12.82	21.56	24.31	2.75
	interval velocity		8.01	9.98	9.94	9.47	8.87	8.55	8.10	7.52	8.72	178.7	8.89	9.70	8.70	7.80	9.28	8.23

Carvalho, Lucas (BRA) (19)	time	6.30	11.36	16.47	21.84	27.49	33.36	39.53	46.25	46.25	3 / 3							
	reaction time	0.151									# of strides	11.36	10.48	11.52	12.89	21.84	24.41	2.57
	interval velocity		7.94	9.88	9.78	9.31	8.85	8.52	8.10	7.44	8.65	181.0	8.80	9.54	8.68	7.76	9.16	8.19

Heat 6 date 04-Aug-24

Paris 2024 Olympic Games - Results Book (2024)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Dobson, Charles (GBR) (1f)	time	6.14	11.15	16.25	21.57	27.08	32.77	38.69	44.96	44.96	5 / 1							
	reaction time	0.156									# of strides	11.15	10.42	11.20	12.19	21.57	23.39	1.82
	interval velocity		8.14	9.98	9.80	9.40	9.07	8.79	8.45	7.97	8.90	162.7	8.97	9.60	8.93	8.20	9.27	8.55
Doom, Alexander (BEL) (1f)	time	6.42	11.36	16.32	21.52	27.02	32.81	38.76	45.01	45.01	7 / 2							
	reaction time	0.188									# of strides	11.36	10.16	11.29	12.20	21.52	23.49	1.97
	interval velocity		7.79	10.12	10.08	9.62	9.09	8.64	8.40	8.00	8.89	179.2	8.80	9.84	8.86	8.20	9.29	8.51
Powell, Jevaghn (JAM) (2)	time	6.13	10.95	15.94	21.20	26.70	32.46	38.56	45.12	45.12	3 / 3							
	reaction time	0.146									# of strides	10.95	10.25	11.26	12.66	21.20	23.92	2.72
	interval velocity		8.16	10.37	10.02	9.51	9.09	8.68	8.20	7.62	8.87	177.2	9.13	9.76	8.88	7.90	9.43	8.36
Coelho, João (POR) (1999)	time	6.46	11.54	16.69	22.04	27.50	33.12	38.98	45.35	45.35	9 / 4							
	reaction time	0.216									# of strides	11.54	10.50	11.08	12.23	22.04	23.31	1.27
	interval velocity		7.74	9.84	9.71	9.35	9.16	8.90	8.53	7.85	8.82	179.2	8.67	9.52	9.03	8.18	9.07	8.58
Diouf, Cheikh Tidiane (SEN)	time	6.19	11.14	16.22	21.44	26.97	32.80	38.98	45.59	45.59	2 / 5							
	reaction time	0.217									# of strides	11.14	10.30	11.36	12.79	21.44	24.15	2.71
	interval velocity		8.08	10.10	9.84	9.58	9.04	8.58	8.09	7.56	8.77	165.0	8.98	9.71	8.80	7.82	9.33	8.28
Sato, Fuga (JPN) (1996)	time	6.18	11.16	16.28	21.65	27.22	33.03	39.23	46.13	46.13	8 / 6							
	reaction time	0.163									# of strides	11.16	10.49	11.38	13.10	21.65	24.48	2.83
	interval velocity		8.09	10.04	9.77	9.31	8.98	8.61	8.06	7.25	8.67	176.0	8.96	9.53	8.79	7.63	9.24	8.17
Biron, Gilles (FRA) (1995)	time	6.31	11.35	16.43	21.67	27.22	33.12	39.40	46.19	46.19	4 / 7							
	reaction time	0.194									# of strides	11.35	10.32	11.45	13.07	21.67	24.52	2.85
	interval velocity		7.92	9.92	9.84	9.54	9.01	8.47	7.96	7.36	8.66	180.0	8.81	9.69	8.73	7.65	9.23	8.16
Ekvam, Zablon Ekhal (KEN)	time	6.09	10.95	15.94	21.50					dnf	6 / --							
	reaction time	0.142									# of strides	10.95	10.55					
	interval velocity		8.21	10.29	10.02	8.99						9.13	9.48					

Heat 5 date 04-Aug-24

Paris 2024 Olympic Games - Results Book (2024)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
James, Kirani (GRN) (1992)	time	6.07	10.94	16.01	21.27	26.77	32.59	38.52	44.78	44.78	6 / 1							
	reaction time	0.159									# of strides	10.94	10.33	11.32	12.19	21.27	23.51	2.24
	interval velocity		8.24	10.27	9.86	9.51	9.09	8.59	8.43	7.99	8.93	158.2	9.14	9.68	8.83	8.20	9.40	8.51
Morales-Williams, Christop	time	6.13	11.13	16.23	21.57	27.14	32.94	38.78	44.96	44.96	8 / 2							
	reaction time	0.177									# of strides	11.13	10.44	11.37	12.02	21.57	23.39	1.82
	interval velocity		8.16	10.00	9.80	9.36	8.98	8.62	8.56	8.09	8.90	164.0	8.98	9.58	8.80	8.32	9.27	8.55
Singhapurage, Aruna Dhar	time	6.41	11.38	16.34	21.58	27.12	32.83	38.75	44.99	44.99	9 / 3							
	reaction time	0.192									# of strides	11.38	10.20	11.25	12.16	21.58	23.41	1.83
	interval velocity		7.80	10.06	10.08	9.54	9.03	8.76	8.45	8.01	8.89	180.0	8.79	9.80	8.89	8.22	9.27	8.54
Nene, Zakithi (RSA) (1998)	time	6.06	10.96	15.99	21.27	26.75	32.49	38.43	45.01	45.01	4 / 4							
	reaction time	0.134									# of strides	10.96	10.31	11.22	12.52	21.27	23.74	2.47
	interval velocity		8.25	10.20	9.94	9.47	9.12	8.71	8.42	7.60	8.89	176.0	9.12	9.70	8.91	7.99	9.40	8.42
Scotch, Leungo (BOT) (19)	time	6.06	11.02	16.14	21.47	26.99	32.79	38.72	45.28	45.28	7 / 5							
	reaction time	0.167									# of strides	11.02	10.45	11.32	12.49	21.47	23.81	2.34
	interval velocity		8.25	10.08	9.77	9.38	9.06	8.62	8.43	7.62	8.83	176.2	9.07	9.57	8.83	8.01	9.32	8.40
Spitz, Lionel (SUI) (2001)	time	6.18	11.13	16.20	21.48	26.97	32.78	38.94	45.81	45.81	3 / 6							
	reaction time	0.145									# of strides	11.13	10.35	11.30	13.03	21.48	24.33	2.85
	interval velocity		8.09	10.10	9.86	9.47	9.11	8.61	8.12	7.28	8.73	186.5	8.98	9.66	8.85	7.67	9.31	8.22
Carvalho, Lucas (BRA) (19)	time	6.17	11.11	16.21	21.55	27.09	32.90	38.98	45.85	45.85	5 / 7							
	reaction time	0.133									# of strides	11.11	10.44	11.35	12.95	21.55	24.30	2.75
	interval velocity		8.10	10.12	9.80	9.36	9.03	8.61	8.22	7.28	8.72	180.7	9.00	9.58	8.81	7.72	9.28	8.23
Re, Davide (ITA) (1993)	time	6.31	11.42	16.65	22.07	27.76	33.75	40.02	46.74	46.74	2 / 8							
	reaction time	0.157									# of strides	11.42	10.65	11.68	12.99	22.07	24.67	2.60
	interval velocity		7.92	9.78	9.56	9.23	8.79	8.35	7.97	7.44	8.56	181.2	8.76	9.39	8.56	7.70	9.06	8.11

Heat 4 date 04-Aug-24

Paris 2024 Olympic Games - Results Book (2024)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Hall, Quincy (USA) (1998)	time	6.30	11.20	16.14	21.29	26.66	32.26	38.07	44.28	44.28	7 / 1							
	reaction time	0.209									# of strides	11.20	10.09	10.97	12.02	21.29	22.99	1.70
	interval velocity		7.94	10.20	10.12	9.71	9.31	8.93	8.61	8.05	9.03	159.0	8.93	9.91	9.12	8.32	9.39	8.70

Joseph, Michael (LCA) (20)	time	6.06	11.04	16.06	21.31	26.87	32.72	38.91	45.69	45.69	3 / 8							
	reaction time	0.175	interval								# of strides	11.04	10.27	11.41	12.97	21.31	24.38	3.07
	velocity	8.25	10.04	9.96	9.52	8.99	8.55	8.08	7.37	8.75	176.0	9.06	9.74	8.76	7.71	9.39	8.20	

Heat 1

date 04-Aug-24

Paris 2024 Olympic Games - Results Book (2024)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Hudson-Smith, Matthew (C)	time	6.12	11.04	16.11	21.37	26.84	32.49	38.41	44.78	44.78	6 / 1							
	reaction time	0.165	interval								# of strides	11.04	10.33	11.12	12.29	21.37	23.41	2.04
	velocity	8.17	10.16	9.86	9.51	9.14	8.85	8.45	7.85	8.93	161.0	9.06	9.68	8.99	8.14	9.36	8.54	
Bailey, Chris (USA) (2000)	time	6.29	11.30	16.36	21.57	26.96	32.53	38.46	44.89	44.89	3 / 2							
	reaction time	0.209	interval								# of strides	11.30	10.27	10.96	12.36	21.57	23.32	1.75
	velocity	7.95	9.98	9.88	9.60	9.28	8.98	8.43	7.78	8.91	182.0	8.85	9.74	9.12	8.09	9.27	8.58	
Ingvaldsen, Håvard Bentda	time	6.36	11.34	16.38	21.61	27.09	32.80	38.83	45.46	45.46	4 / 3							
	reaction time	0.204	interval								# of strides	11.34	10.27	11.19	12.66	21.61	23.85	2.24
	velocity	7.86	10.04	9.92	9.56	9.12	8.76	8.29	7.54	8.80	182.7	8.82	9.74	8.94	7.90	9.25	8.39	
Okezie, Chidi (NGR) (1993)	time	6.25	11.20	16.26	21.63	27.23	32.98	39.04	45.52	45.52	7 / 4							
	reaction time	0.192	interval								# of strides	11.20	10.43	11.35	12.54	21.63	23.89	2.26
	velocity	8.00	10.10	9.88	9.31	8.93	8.70	8.25	7.72	8.79	166.0	8.93	9.59	8.81	7.97	9.25	8.37	
Sato, Kentaro (JPN) (1994)	time	6.30	11.41	16.59	21.85	27.32	33.01	39.09	45.60	45.60	2 / 5							
	reaction time	0.185	interval								# of strides	11.41	10.44	11.16	12.59	21.85	23.75	1.90
	velocity	7.94	9.78	9.65	9.51	9.14	8.79	8.22	7.68	8.77	175.0	8.76	9.58	8.96	7.94	9.15	8.42	
Pohorilko, Oleksandr (UKR)	time	6.37	11.53	16.68	22.08	27.67	33.34	39.28	45.71	45.71	8 / 6							
	reaction time	0.175	interval								# of strides	11.53	10.55	11.26	12.37	22.08	23.63	1.55
	velocity	7.85	9.69	9.71	9.26	8.94	8.82	8.42	7.78	8.75	175.2	8.67	9.48	8.88	8.08	9.06	8.46	
Watkin, Deandre (JAM) (20)	time	6.14	11.02	16.07	21.46	27.13	32.95	39.14	45.97	45.97	5 / 7							
	reaction time	0.190	interval								# of strides	11.02	10.44	11.49	13.02	21.46	24.51	3.05
	velocity	8.14	10.25	9.90	9.28	8.82	8.59	8.08	7.32	8.70	180.0	9.07	9.58	8.70	7.68	9.32	8.16	

Decathlon - Heat

date 02-Aug-24

Paris 2024 Olympic Games - Results Book (2024)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Owens-Delorme, Ayden (PL)	time	6.31	11.34	16.51	21.83	27.51	33.59	39.74	46.17	46.17	8 / 1							
	reaction time	0.261	interval								# of strides	11.34	10.49	11.76	12.58	21.83	24.34	2.51
	velocity	7.92	9.94	9.67	9.40	8.80	8.22	8.13	7.78	8.66	174.2	8.82	9.53	8.50	7.95	9.16	8.22	
Roosen, Sven (NED) (2001)	time	6.49	11.66	16.94	22.40	28.15	34.13	40.16	46.40	46.40	2 / 2							
	reaction time	0.170	interval								# of strides	11.66	10.74	11.73	12.27	22.40	24.00	1.60
	velocity	7.70	9.67	9.47	9.16	8.70	8.36	8.29	8.01	8.62	183.0	8.58	9.31	8.53	8.15	8.93	8.33	
Williams, Harrison (USA) (1)	time	6.45	11.50	16.67	22.14	27.83	33.84	40.05	46.71	46.71	6 / 3							
	reaction time	0.238	interval								# of strides	11.50	10.64	11.70	12.87	22.14	24.57	2.43
	velocity	7.75	9.90	9.67	9.14	8.79	8.32	8.05	7.51	8.56	161.2	8.70	9.40	8.55	7.77	9.03	8.14	
Erm, Johannes (EST) (1998)	time	6.37	11.56	16.95	22.52	28.29	34.40	40.71	47.19	47.19	3 / 4							
	reaction time	0.212	interval								# of strides	11.56	10.96	11.88	12.79	22.52	24.67	2.15
	velocity	7.85	9.63	9.28	8.98	8.67	8.18	7.92	7.72	8.48	167.0	8.65	9.12	8.42	7.82	8.88	8.11	
Warner, Damian (CAN) (19)	time	6.21	11.26	16.49	21.94	27.64	33.68	40.15	47.34	47.34	4 / 5							
	reaction time	0.225	interval								# of strides	11.26	10.68	11.74	13.66	21.94	25.40	3.46
	velocity	8.05	9.90	9.56	9.17	8.77	8.28	7.73	6.95	8.45	178.2	8.88	9.36	8.52	7.32	9.12	7.87	
Taam, Rik (NED) (1997)	time	6.46	11.60	16.87	22.38	28.16	34.31	40.78	47.73	47.73	5 / 6							
	reaction time	0.196	interval								# of strides	11.60	10.78	11.93	13.42	22.38	25.35	2.97
	velocity	7.74	9.73	9.49	9.07	8.65	8.13	7.73	7.19	8.38	182.0	8.62	9.28	8.38	7.45	8.94	7.89	
Steinforth, Till (GER) (2002)	time	6.42	11.69	16.98	22.48	28.24	34.39	40.89	47.96	47.96	7 / 7							
	reaction time	0.156	interval								# of strides	11.69	10.79	11.91	13.57	22.48	25.48	3.00
	velocity	7.79	9.49	9.45	9.09	8.68	8.13	7.69	7.07	8.34	178.0	8.55	9.27	8.40	7.37	8.90	7.85	

Decathlon - Heat

date 02-Aug-24

Paris 2024 Olympic Games - Results Book (2024)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Skotheim, Sander (NOR) (2)	time	6.42	11.54	16.79	22.23	27.91	33.90	40.21	47.02	47.02	2 / 1							
	reaction time	0.175	interval								# of strides	11.54	10.69	11.67	13.12	22.23	24.79	2.56
	velocity	7.79	9.77	9.52	9.19	8.80	8.35	7.92	7.34	8.51	183.0	8.67	9.35	8.57	7.62	9.00	8.07	
Gletty, Makenson (FRA) (1)	time	6.45	11.69	17.20	22.89	28.68	34.70	40.86	47.78	47.48	7 / 2							
	reaction time	0.191	interval								# of strides	11.69	11.20	11.81	13.08	22.89	24.89	2.00
	velocity	7.75	9.54	9.07	8.79	8.64	8.31	8.12	7.23	8.42	167.5	8.55	8.93	8.47	7.65	8.74	8.04	
Rooth, Markus (NOR) (200)	time	6.52	11.95	17.47	23.16	28.94	34.93	41.11	47.69	47.69	8 / 3							
	reaction time	0.163	interval								# of strides	11.95	11.21	11.77	12.76	23.16	24.53	1.37
	velocity	7.67	9.21	9.06	8.79	8.65	8.35	8.09	7.60	8.39	178.0	8.37	8.92	8.50	7.84	8.64	8.15	
Neugebauer, Leo (GER) (2)	time	6.72	12.23	17.89	23.60	29.32	35.14	41.13	47.70	47.70	9 / 4							
	reaction time	0.218	interval								# of strides	12.23	11.37	11.54	12.56	23.60	24.10	0.50
	velocity	7.44	9.07	8.83	8.76	8.74	8.59	8.35	7.61	8.39	161.0	8.18	8.80	8.67	7.96	8.47	8.30	

Victor, Lindon (GRN) (1993)	time	6.26	11.41	16.72	22.25	28.06	34.30	40.85	47.84	47.84	5 / 5										
	reaction time	0.153	interval	5.15	5.31	5.53	5.81	6.24	6.55	6.99	# of strides	11.41	10.84	12.05	13.54	22.25	25.59	3.34			
	velocity	7.99	9.71	9.42	9.04	8.61	8.01	7.63	7.15	8.36	176.0	8.76	9.23	8.30	7.39	8.99	7.82				
Ureña, Jorge (ESP) (1993)	time	6.61	11.98	17.40	23.08	28.91	34.89	41.19	48.08	48.08	3 / 6										
	reaction time	0.141	interval	5.37	5.42	5.68	5.83	5.98	6.30	6.89	# of strides	11.98	11.10	11.81	13.19	23.08	25.00	1.92			
	velocity	7.56	9.31	9.23	8.80	8.58	8.36	7.94	7.26	8.32	174.0	8.35	9.01	8.47	7.58	8.67	8.00				
Tilga, Karel (EST) (1998)	time	6.50	11.82	17.25	22.92	28.84	35.10	41.65	48.67	48.67	6 / 7										
	reaction time	0.189	interval	5.32	5.43	5.67	5.92	6.26	6.55	7.02	# of strides	11.82	11.10	12.18	13.57	22.92	25.75	2.83			
	velocity	7.69	9.40	9.21	8.82	8.45	7.99	7.63	7.12	8.22	165.0	8.46	9.01	8.21	7.37	8.73	7.77				
Baldwin, Heath (USA) (200)	time	6.49	11.72	17.16	22.88	28.83	35.14	41.87	49.04	49.04	4 / 8										
	reaction time	0.149	interval	5.23	5.44	5.72	5.95	6.31	6.73	7.17	# of strides	11.72	11.16	12.26	13.90	22.88	26.16	3.28			
	velocity	7.70	9.56	9.19	8.74	8.40	7.92	7.43	6.97	8.16	176.2	8.53	8.96	8.16	7.19	8.74	7.65				

Decathlon - Heat date 02-Aug-24

Paris 2024 Olympic Games - Results Book (2024)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential			
Öiglane, Janek (EST) (1994)	time	6.34	11.59	17.13	22.84	28.71	34.79	41.20	48.02	48.02	4 / 1										
	reaction time	0.160	interval	5.25	5.54	5.71	5.87	6.08	6.41	6.82	PB	# of strides	11.59	11.25	11.95	13.23	22.84	25.18	2.34		
	velocity	7.89	9.52	9.03	8.76	8.52	8.22	7.80	7.33	8.33	181.7	8.63	8.89	8.37	7.56	8.76	7.94				
Ferreira Santana, José (BR)	time	6.49	11.84	17.43	23.22	29.26	35.57	42.07	48.78	48.78	6 / 2										
	reaction time	0.157	interval	5.35	5.59	5.79	6.04	6.31	6.50	6.71	PB	# of strides	11.84	11.38	12.35	13.21	23.22	25.56	2.34		
	velocity	7.70	9.35	8.94	8.64	8.28	7.92	7.69	7.45	8.20	181.0	8.45	8.79	8.10	7.57	8.61	7.82				
Kaul, Niklas (GER) (1998)	time	6.65	12.06	17.70	23.43	29.28	35.47	42.08	49.13	49.13	5 / 3										
	reaction time	0.173	interval	5.41	5.64	5.73	5.85	6.19	6.61	7.05	# of strides	12.06	11.37	12.04	13.66	23.43	25.70	2.27			
	velocity	7.52	9.24	8.87	8.73	8.55	8.08	7.56	7.09	8.14	170.0	8.29	8.80	8.31	7.32	8.54	7.78				
Mullings, Ken (BAH) (1997)	time	6.30	11.52	13.97	22.75	28.86	35.23	42.04	49.43	49.43	7 / 4										
	reaction time	0.177	interval	5.22	2.45	8.78	6.11	6.37	6.81	7.39	# of strides	11.52	11.23	12.48	14.20	22.75	26.68	3.93			
	velocity	7.94	9.58	20.41	5.69	8.18	7.85	7.34	6.77	8.09	180.0	8.68	8.90	8.01	7.04	8.79	7.50				
Golubovic, Daniel (AUS) (19)	time	6.68	12.12	17.82	23.72	29.99	36.55	43.35	50.37	50.37	8 / 5										
	reaction time	0.165	interval	5.44	5.70	5.90	6.27	6.56	6.80	7.02	# of strides	12.12	11.60	12.83	13.82	23.72	26.65	2.93			
	velocity	7.49	9.19	8.77	8.47	7.97	7.62	7.35	7.12	7.94	177.0	8.25	8.62	7.79	7.24	8.43	7.50				
Ziemek, Zachary (USA) (19)	time	6.37	11.45	16.83	22.39	28.37	35.01	42.39	50.79	50.79	3 / 6										
	reaction time	0.172	interval	5.08	5.38	5.56	5.98	6.64	7.38	8.40	# of strides	11.45	10.94	12.62	15.78	22.39	28.40	6.01			
	velocity	7.85	9.84	9.29	8.99	8.36	7.53	6.78	5.95	7.88	171.5	8.73	9.14	7.92	6.34	8.93	7.04				

2024 Japanese National High School Championships (Fukuoka, JPN)

FINAL

date 28-Jul-24

Takashima (2024) - national high school sports festival - biomechanics data

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Kikuta, Kyo (JPN) (2006)	time	11.53	22.12	33.85	46.93	46.93	6 / 1											
	reaction time	0.180	interval	10.59	11.73	13.08	# of strides	11.53	10.59	11.73	13.08	22.12	24.81	2.69				
	velocity	8.67	9.44	8.53	7.65	8.52	11.53	10.59	11.73	13.08	22.12	24.81	2.69					
Oishi, Ryota (JPN) (2006)	time	11.73	22.47	34.27	47.17	47.17	5 / 2											
	reaction time	0.185	interval	10.74	11.80	12.90	# of strides	11.73	10.74	11.80	12.90	22.47	24.70	2.23				
	velocity	8.53	9.31	8.47	7.75	8.48	11.73	10.74	11.80	12.90	22.47	24.70	2.23					
Kishimoto, Kyota (JPN) (20)	time	11.41	22.52	34.58	47.23	47.23	9 / 3											
	reaction time	0.202	interval	11.11	12.06	12.65	# of strides	11.41	11.11	12.06	12.65	22.52	24.71	2.19				
	velocity	8.76	9.00	8.29	7.91	8.47	11.41	11.11	12.06	12.65	22.52	24.71	2.19					
Kubo, Takumi (JPN) (2007)	time	11.63	22.74	34.38	47.59	47.59	2 / 4											
	reaction time	0.179	interval	11.11	11.64	13.21	# of strides	11.63	11.11	11.64	13.21	22.74	24.85	2.11				
	velocity	8.60	9.00	8.59	7.57	8.41	11.63	11.11	11.64	13.21	22.74	24.85	2.11					
Kawakami, Daichi (JPN) (20)	time	11.96	22.81	34.85	47.81	47.81	8 / 5											
	reaction time	0.235	interval	10.85	12.04	12.96	# of strides	11.96	10.85	12.04	12.96	22.81	25.00	2.19				
	velocity	8.36	9.22	8.31	7.72	8.37	11.96	10.85	12.04	12.96	22.81	25.00	2.19					
Hukumura, Yuto (JPN) (20)	time	11.58	22.79	34.80	48.55	48.55	3 / 6											
	reaction time	0.178	interval	11.21	12.01	13.75	# of strides	11.58	11.21	12.01	13.75	22.79	25.76	2.97				
	velocity	8.64	8.92	8.33	7.27	8.24	11.58	11.21	12.01	13.75	22.79	25.76	2.97					
Hasidume, Tatuki (JPN) (20)	time	11.76	22.96	35.19	48.84	48.84	7 / 7											
	reaction time	0.170	interval	11.20	12.23	13.65	# of strides	11.76	11.20	12.23	13.65	22.96	25.88	2.92				
	velocity	8.50	8.93	8.18	7.33	8.19	11.76	11.20	12.23	13.65	22.96	25.88	2.92					
Ozawa, Yohei (JPN) (2007)	time	12.06	22.62	34.83	49.63	49.63	4 / 8											
	reaction time	0.280	interval	10.56	12.21	14.80	# of strides	12.06	10.56	12.21	14.80	22.62	27.01	4.39				
	velocity	8.29	9.47	8.19	6.76	8.06	12.06	10.56	12.21	14.80	22.62	27.01	4.39					

2024 London Athletics Meet (London, GBR)

FINAL

date 20-Jul-24

Omega Timing (2024) - diamond league race analysis

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

Norwood, Vernon (USA) (1st)	time	6.17	11.09	16.11	21.31	26.67	32.18	37.89	44.10	44.10	4 / 2								
	reaction time	0.168	interval	4.92	5.02	5.20	5.36	5.51	5.71	6.21	PB	# of strides	11.09	10.22	10.87	11.92	21.31	22.79	1.48
	velocity	8.10	10.16	9.96	9.62	9.33	9.07	8.76	8.05	9.07			9.02	9.78	9.20	8.39	9.39	8.78	
Richards, Jereem (TTO) (1st)	time	6.12	10.91	15.87	21.08	26.48	32.02	37.82	44.18	44.18	8 / 3								
	reaction time	0.182	interval	4.79	4.96	5.21	5.40	5.54	5.80	6.36	PB	# of strides	10.91	10.17	10.94	12.16	21.08	23.10	2.02
	velocity	8.17	10.44	10.08	9.60	9.26	9.03	8.62	7.86	9.05			9.17	9.83	9.14	8.22	9.49	8.66	
Dobson, Charles (GBR) (1st)	time	6.10	11.14	16.33	21.65	27.05	32.60	38.30	44.23	44.23	3 / 4								
	reaction time	0.142	interval	5.04	5.19	5.32	5.40	5.55	5.70	5.93	PB	# of strides	11.14	10.51	10.95	11.63	21.65	22.58	0.93
	velocity	8.20	9.92	9.63	9.40	9.26	9.01	8.77	8.43	9.04			8.98	9.51	9.13	8.60	9.24	8.86	
James, Kirani (GRN) (1992)	time	6.17	11.03	16.08	21.28	26.61	32.18	38.05	44.38	44.38	7 / 5								
	reaction time	0.156	interval	4.86	5.05	5.20	5.33	5.57	5.87	6.33		# of strides	11.03	10.25	10.90	12.20	21.28	23.10	1.82
	velocity	8.10	10.29	9.90	9.62	9.38	8.98	8.52	7.90	9.01	159.2		9.07	9.76	9.17	8.20	9.40	8.66	
Morales-Williams, Christop	time	6.17	11.04	16.06	21.35	26.85	32.63	38.56	44.90	44.90	6 / 6								
	reaction time	0.188	interval	4.87	5.02	5.29	5.50	5.78	5.93	6.34		# of strides	11.04	10.31	11.28	12.27	21.35	23.55	2.20
	velocity	8.10	10.27	9.96	9.45	9.09	8.65	8.43	7.89	8.91			9.06	9.70	8.87	8.15	9.37	8.49	
Ndori, Bayapo (BOT) (1999)	time	6.29	11.21	16.30	21.62	27.13	32.82	38.74	45.03	45.03	2 / 7								
	reaction time	0.164	interval	4.92	5.09	5.32	5.51	5.69	5.92	6.29		# of strides	11.21	10.41	11.20	12.21	21.62	23.41	1.79
	velocity	7.95	10.16	9.82	9.40	9.07	8.79	8.45	7.95	8.88			8.92	9.61	8.93	8.19	9.25	8.54	

National FINAL

date 20-Jul-24

Omega Timing (2024) - diamond league race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Reardon, Samuel (GBR) (2nd)	time	6.28	11.32	16.43	21.70	27.15	32.72	38.49	44.70	44.70	7 / 1								
	reaction time	0.181	interval	5.04	5.11	5.27	5.45	5.77	6.21	PB	# of strides	11.32	10.38	11.02	11.98	21.70	23.00	1.30	
	velocity	7.96	9.92	9.78	9.49	9.17	8.98	8.67	8.05	8.95		8.83	9.63	9.07	8.35	9.22	8.70		
Haydock-Wilson, Alex (GB)	time	6.21	11.14	16.08	21.24	26.74	32.52	38.58	45.37	45.37	4 / 2								
	reaction time	0.153	interval	4.93	4.94	5.16	5.50	5.78	6.06	6.79		# of strides	11.14	10.10	11.28	12.85	21.24	24.13	2.89
	velocity	8.05	10.14	10.12	9.69	9.09	8.65	8.25	7.36	8.82		8.98	9.90	8.87	7.78	9.42	8.29		
Swift, Bailey (GBR) (2002)	time	6.21	11.32	16.57	21.96	27.50	33.23	39.21	45.70	45.70	8 / 3								
	reaction time	0.144	interval	5.11	5.25	5.39	5.54	5.73	5.98	6.49	PB	# of strides	11.32	10.64	11.27	12.47	21.96	23.74	1.78
	velocity	8.05	9.78	9.52	9.28	9.03	8.73	8.36	7.70	8.75		8.83	9.40	8.87	8.02	9.11	8.42		
Davey, Lewis (GBR) (2000)	time	6.33	11.29	16.36	21.65	27.26	33.08	39.20	45.80	45.80	5 / 4								
	reaction time	0.160	interval	4.96	5.07	5.29	5.61	5.82	6.12	6.60		# of strides	11.29	10.36	11.43	12.72	21.65	24.15	2.50
	velocity	7.90	10.08	9.86	9.45	8.91	8.59	8.17	7.58	8.73		8.86	9.65	8.75	7.86	9.24	8.28		
Brier, Joseph (GBR) (1999)	time	6.16	11.13	16.18	21.39	26.90	32.70	38.88	45.83	45.83	2 / 5								
	reaction time	0.151	interval	4.97	5.05	5.21	5.51	5.80	6.18	6.95		# of strides	11.13	10.26	11.31	13.13	21.39	24.44	3.05
	velocity	8.12	10.06	9.90	9.60	9.07	8.62	8.09	7.19	8.73		8.98	9.75	8.84	7.62	9.35	8.18		
Mitcham, Rio (GBR) (1999)	time	6.23	11.31	16.37	21.61	27.17	33.04	39.17	45.87	45.87	3 / 6								
	reaction time	0.156	interval	5.08	5.06	5.24	5.56	5.87	6.13	6.70		# of strides	11.31	10.30	11.43	12.83	21.61	24.26	2.65
	velocity	8.03	9.84	9.88	9.54	8.99	8.52	8.16	7.46	8.72		8.84	9.71	8.75	7.79	9.25	8.24		
Harries, Toby (GBR) (1998)	time	6.12	11.06	16.11	21.39	27.02	32.86	39.04	46.02	46.02	6 / 7								
	reaction time	0.138	interval	4.94	5.05	5.28	5.63	5.84	6.18	6.98		# of strides	11.06	10.33	11.47	13.16	21.39	24.63	3.24
	velocity	8.17	10.12	9.90	9.47	8.88	8.56	8.09	7.16	8.69		9.04	9.68	8.72	7.60	9.35	8.12		
Knibbs, Alex (GBR) (1999)	time		11.32	16.57	21.98	27.74	33.69	39.76	46.17	46.17	1 / 8								
	reaction time	0.149	interval		5.25	5.41	5.76	5.95	6.07	6.41	PB	# of strides	11.32	10.66	11.71	12.48	21.98	24.19	2.21
	velocity		8.83	9.52	9.24	8.68	8.40	8.24	7.80	8.66		8.83	9.38	8.54	8.01	9.10	8.27		

2024 Herculis Meeting International d'Athlétisme (Monaco, MON)**FINAL**

date 12-Jul-24

Omega Timing (2024) - diamond league race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Hall, Quincy (USA) (1998)	time	6.26	11.14	16.09	21.19	26.59	32.15	37.83	43.80	43.80	5 / 1								
	reaction time	0.185	interval	4.88	4.95	5.10	5.40	5.56	5.68	5.97	PB	# of strides	11.14	10.05	10.96	11.65	21.19	22.61	1.42
	velocity	7.99	10.25	10.10	9.80	9.26	8.99	8.80	8.38	9.13	158.0		8.98	9.95	9.12	8.58	9.44	8.85	
Norwood, Vernon (USA) (1st)	time	6.13	10.96	15.98	21.21	26.69	32.36	38.13	44.34	44.34	7 / 2								
	reaction time	0.174	interval	4.83	5.02	5.23	5.48	5.67	5.77	6.21		# of strides	10.96	10.25	11.15	11.98	21.21	23.13	1.92
	velocity	8.16	10.35	9.96	9.56	9.12	8.82	8.67	8.05	9.02	172.0		9.12	9.76	8.97	8.35	9.43	8.65	
Pillay, Lythe (RSA) (2003)	time	6.21	11.14	16.18	21.38	26.87	32.49	38.33	44.58	44.58	3 / 3								
	reaction time	0.150	interval	4.93	5.04	5.20	5.49	5.62	5.84	6.25		# of strides	11.14	10.24	11.11	12.09	21.38	23.20	1.82
	velocity	8.05	10.14	9.92	9.62	9.11	8.90	8.56	8.00	8.97	172.2		8.98	9.77	9.00	8.27	9.35	8.62	
Kebinatshipi, Collen (BOT)	time	6.15	11.02	16.21	21.61	27.21	32.83	38.62	44.67	44.67	8 / 4								
	reaction time	0.166	interval	4.87	5.19	5.40	5.60	5.62	5.79	6.05	PB	# of strides	11.02	10.59	11.22	11.84	21.61	23.06	1.45
	velocity	8.13	10.27	9.63	9.26	8.93	8.90	8.64	8.26	8.95	185.5		9.07	9.44	8.91	8.45	9.25	8.67	
Ndori, Bayapo (BOT) (1999)	time	6.18	11.12	16.20	21.46	26.95	32.58	38.46	44.71	44.71	4 / 5								
	reaction time	0.170	interval	4.94	5.08	5.26	5.49	5.63	5.88	6.25		# of strides	11.12	10.34	11.12	12.13	21.46	23.25	1.79
	velocity	8.09	10.12	9.84	9.51	9.11	8.88	8.50	8.00	8.95	173.2		8.99	9.67	8.99	8.24	9.32	8.60	
Morales-Williams, Christop	time	6.18	11.05	16.08	21.45	27.11	32.98	38.85	45.11	45.11	6 / 6								

reaction time	0.213	interval	4.87	5.03	5.37	5.66	5.87	5.87	6.26		# of strides	11.05	10.40	11.53	12.13	21.45	23.66	2.21
velocity	8.09		10.27	9.94	9.31	8.83	8.52	8.52	7.99	8.87	163.0	9.05	9.62	8.67	8.24	9.32	8.45	
Sito, Luca (ITA) (2003)	time	6.19	11.13	16.17	21.42	27.01	32.75	38.65	45.26	45.26	2 / 7							
reaction time	0.169	interval	4.94	5.04	5.25	5.59	5.74	5.90	6.61		# of strides	11.13	10.29	11.33	12.51	21.42	23.84	2.42
velocity	8.08		10.12	9.92	9.52	8.94	8.71	8.47	7.56	8.84	174.2	8.98	9.72	8.83	7.99	9.34	8.39	
Andant, Téo (FRA) (1999)	time	6.14	11.08	16.17	21.44	27.09	33.04	39.25	45.89	45.89	1 / 8							
reaction time	0.157	interval	4.94	5.09	5.27	5.65	5.95	6.21	6.64		# of strides	11.08	10.36	11.60	12.85	21.44	24.45	3.01
velocity	8.14		10.12	9.82	9.49	8.85	8.40	8.05	7.53	8.72	181.0	9.03	9.65	8.62	7.78	9.33	8.18	

2024 FBK Games (Hengelo, NED)**National FINAL**

date 07-Jul-24

Omega Timing (2024) - continental tour gold race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Boers, Isayah (NED) (1999)	time	6.16	11.04	16.00	21.22	26.77	32.63	38.91	45.86	45.86	6 / 1							
reaction time	0.174	interval	4.88	4.96	5.22	5.55	5.86	6.28	6.95		# of strides	11.04	10.18	11.41	13.23	21.22	24.64	3.42
velocity			8.12	10.25	10.08	9.58	9.01	8.53	7.96	8.72		9.06	9.82	8.76	7.56	9.43	8.12	
Omalla, Eugene (NED) (200)	time	6.15	11.05	16.05	21.26	26.84	32.72	39.04	46.12	46.12	5 / 2							
reaction time	0.192	interval	4.90	5.00	5.21	5.58	5.88	6.32	7.08		# of strides	11.05	10.21	11.46	13.40	21.26	24.86	3.60
velocity			8.13	10.20	10.00	9.60	8.96	8.50	7.91	8.67		9.05	9.79	8.73	7.46	9.41	8.05	
Schuer, Juno (NED) (200)	time	6.35	11.44	16.63	22.15	27.86	33.70	39.76	46.32	46.32	8 / 3							
reaction time	0.150	interval	5.09	5.19	5.52	5.71	5.84	6.06	6.56	PB	# of strides	11.44	10.71	11.55	12.62	22.15	24.17	2.02
velocity			7.87	9.82	9.63	9.06	8.76	8.56	8.25	8.64		8.74	9.34	8.66	7.92	9.03	8.27	
Agard, Terrence (NED) (19)	time	6.43	11.42	16.60	21.89	27.37	33.19	39.52	46.67	46.67	4 / 4							
reaction time	0.166	interval	4.99	5.18	5.29	5.48	5.82	6.33	7.15		# of strides	11.42	10.47	11.30	13.48	21.89	24.78	2.89
velocity			7.78	10.02	9.65	9.45	9.12	8.59	7.90	8.57		8.76	9.55	8.85	7.42	9.14	8.07	
Wardenburg, Nout (NED) (1)	time	6.25	11.19	16.22	21.55	27.20	33.24	39.64	46.72	46.72	7 / 5							
reaction time	0.174	interval	4.94	5.03	5.33	5.65	6.04	6.40	7.08		# of strides	11.19	10.36	11.69	13.48	21.55	25.17	3.62
velocity			8.00	10.12	9.94	9.38	8.85	8.28	7.81	8.56		8.94	9.65	8.55	7.42	9.28	7.95	
Kneppers, Daan (NED) (20)	time	6.52	11.60	16.86	22.33	28.12	34.16	40.48	47.29	47.29	2 / 6							
reaction time	0.172	interval	5.08	5.26	5.47	5.79	6.04	6.32	6.81	PB	# of strides	11.60	10.73	11.83	13.13	22.33	24.96	2.63
velocity			7.67	9.84	9.51	9.14	8.64	8.28	7.91	8.46		8.62	9.32	8.45	7.62	8.96	8.01	
Omalla, Jaimie (NED) (200)	time	6.32	11.24	16.33	21.64	27.38	33.59	40.17	47.38	47.38	3 / 7							
reaction time	0.168	interval	4.92	5.09	5.31	5.74	6.21	6.58	7.21		# of strides	11.24	10.40	11.95	13.79	21.64	25.74	4.10
velocity			7.91	10.16	9.82	9.42	8.71	8.05	7.60	8.44		8.90	9.62	8.37	7.25	9.24	7.77	

2024 USA Olympic Trials (Eugene, OR)**FINAL**

date 24-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Hall, Quincy (USA) (1998)	time		11.25		21.52		32.59		44.17	44.17	8 / 1							
reaction time					10.27		11.07		11.58	PB	# of strides	11.25	10.27	11.07	11.58	21.52	22.65	1.13
velocity			8.89		9.74		9.03		8.64	9.06		8.89	9.74	9.03	8.64	9.29	8.83	
Norman, Michael (USA) (19)	time		10.82		20.90		32.15		44.41	44.41	5 / 2							
reaction time					10.08		11.25		12.26		# of strides	10.82	10.08	11.25	12.26	20.90	23.51	2.61
velocity			9.24		9.92		8.89		8.16	9.01		9.24	9.92	8.89	8.16	9.57	8.51	
Bailey, Chris (USA) (2000)	time		11.34		21.83		32.70		44.42	44.42	9 / 3							
reaction time					10.49		10.87		11.72	=PB	# of strides	11.34	10.49	10.87	11.72	21.83	22.59	0.76
velocity			8.82		9.53		9.20		8.53	9.00		8.82	9.53	9.20	8.53	9.16	8.85	
Norwood, Vernon (USA) (1)	time		11.40		21.91		33.03		44.47	44.47	7 / 4							
reaction time					10.51		11.12		11.44		# of strides	11.40	10.51	11.12	11.44	21.91	22.56	0.65
velocity			8.77		9.51		8.99		8.74	8.99		8.77	9.51	8.99	8.74	9.13	8.87	
Deadmon, Bryce (USA) (19)	time		11.04		21.58		32.78		44.61	44.61	6 / 5							
reaction time					10.54		11.20		11.83		# of strides	11.04	10.54	11.20	11.83	21.58	23.03	1.45
velocity			9.06		9.49		8.93		8.45	8.97		9.06	9.49	8.93	8.45	9.27	8.68	
Wilson, Quincy (USA) (200)	time		11.29		21.72		32.96		44.94	44.94	2 / 6							
reaction time					10.43		11.24		11.98		# of strides	11.29	10.43	11.24	11.98	21.72	23.22	1.50
velocity			8.86		9.59		8.90		8.35	8.90		8.86	9.59	8.90	8.35	9.21	8.61	
McRae, Khaleb (USA) (200)	time		10.96		21.33		32.60		45.06	45.06	4 / 7							
reaction time					10.37		11.27		12.46		# of strides	10.96	10.37	11.27	12.46	21.33	23.73	2.40
velocity			9.12		9.64		8.87		8.03	8.88		9.12	9.64	8.87	8.03	9.38	8.43	
Boling, Matthew (USA) (20)	time		10.68		20.92		32.32		45.15	45.15	3 / 8							
reaction time					10.24		11.40		12.83		# of strides	10.68	10.24	11.40	12.83	20.92	24.23	3.31
velocity			9.36		9.77		8.77		7.79	8.86		9.36	9.77	8.77	7.79	9.56	8.25	
Robinson, Justin (USA) (2)	time		11.03		21.39		32.92		46.08	46.08	1 / 9							
reaction time					10.36		11.53		13.16		# of strides	11.03	10.36	11.53	13.16	21.39	24.69	3.30
velocity			9.07		9.65		8.67		7.60	8.68		9.07	9.65	8.67	7.60	9.35	8.10	

Semi-Final 3

date 23-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
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Norman, Michael (USA) (19)	time	10.85	21.35	32.67	45.30	45.30	5 / 1									
	reaction time		interval	10.50	11.32	12.63	# of strides	10.85	10.50	11.32	12.63	21.35	23.95	2.60		
	velocity	9.22	9.52	8.83	7.92	8.83	175.2	9.22	9.52	8.83	7.92	9.37	8.35			
McRae, Khaleb (USA) (200)	time	11.13	21.73	33.20	45.59	45.59	7 / 2									
	reaction time		interval	10.60	11.47	12.39	# of strides	11.13	10.60	11.47	12.39	21.73	23.86	2.13		
	velocity	8.98	9.43	8.72	8.07	8.77	178.0	8.98	9.43	8.72	8.07	9.20	8.38			
Blockburger, Johnnie (USA)	time	11.05	21.56	33.11	45.63	45.63	6 / 3									
	reaction time		interval	10.51	11.55	12.52	# of strides	11.05	10.51	11.55	12.52	21.56	24.07	2.51		
	velocity	9.05	9.51	8.66	7.99	8.77	171.0	9.05	9.51	8.66	7.99	9.28	8.31			
Jones, William (USA) (2003)	time	11.16	21.84	33.37	46.19	46.19	3 / 4									
	reaction time		interval	10.68	11.53	12.82	# of strides	11.16	10.68	11.53	12.82	21.84	24.35	2.51		
	velocity	8.96	9.36	8.67	7.80	8.66		8.96	9.36	8.67	7.80	9.16	8.21			
O'Bryant, Jevon (USA) (20)	time	11.33	22.11	33.86	46.39	46.39	1 / 5									
	reaction time		interval	10.78	11.75	12.53	# of strides	11.33	10.78	11.75	12.53	22.11	24.28	2.17		
	velocity	8.83	9.28	8.51	7.98	8.62		8.83	9.28	8.51	7.98	9.05	8.24			
Bynum, Emmanuel (USA) (time	11.37	22.14	33.65	46.50	46.50	2 / 6									
	reaction time		interval	10.77	11.51	12.85	# of strides	11.37	10.77	11.51	12.85	22.14	24.36	2.22		
	velocity	8.80	9.29	8.69	7.78	8.60		8.80	9.29	8.69	7.78	9.03	8.21			
Tomlyanovich, TJ (USA) (2	time	11.14	22.00	33.62	46.65	46.65	4 / 7									
	reaction time		interval	10.86	11.62	13.03	# of strides	11.14	10.86	11.62	13.03	22.00	24.65	2.65		
	velocity	8.98	9.21	8.61	7.67	8.57		8.98	9.21	8.61	7.67	9.09	8.11			
Miller, Evan (USA) (2000)	time	11.00	21.86	34.10	46.95	46.95	8 / 8									
	reaction time		interval	10.86	12.24	12.85	# of strides	11.00	10.86	12.24	12.85	21.86	25.09	3.23		
	velocity	9.09	9.21	8.17	7.78	8.52		9.09	9.21	8.17	7.78	9.15	7.97			
Lightner, Kennedy (USA) (time	11.13	21.86	33.81	47.88	47.88	9 / 9									
	reaction time		interval	10.73	11.95	14.07	# of strides	11.13	10.73	11.95	14.07	21.86	26.02	4.16		
	velocity	8.98	9.32	8.37	7.11	8.35		8.98	9.32	8.37	7.11	9.15	7.69			

Semi-Final 2

date 23-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Deadmon, Bryce (USA) (19)	time	10.85	21.10	32.41	44.44	44.44	5 / 1										
	reaction time		interval	10.25	11.31	12.03	# of strides	10.85	10.25	11.31	12.03	21.10	23.34	2.24			
	velocity	9.22	9.76	8.84	8.31	9.00		9.22	9.76	8.84	8.31	9.48	8.57				
Norwood, Vernon (USA) (1	time	10.78	21.05	32.23	44.50	44.50	7 / 2										
	reaction time		interval	10.27	11.18	12.27	# of strides	10.78	10.27	11.18	12.27	21.05	23.45	2.40			
	velocity	9.28	9.74	8.94	8.15	8.99		9.28	9.74	8.94	8.15	9.50	8.53				
Wilson, Quincy (USA) (200)	time	11.00	21.37	32.54	44.59	44.59	6 / 3										
	reaction time		interval	10.37	11.17	12.05	# of strides	11.00	10.37	11.17	12.05	21.37	23.22	1.85			
	velocity	9.09	9.64	8.95	8.30	8.97		9.09	9.64	8.95	8.30	9.36	8.61				
Lincoln, Judson (USA) (20)	time	10.76	20.86	32.13	44.98	44.98	8 / 4										
	reaction time		interval	10.10	11.27	12.85	# of strides	10.76	10.10	11.27	12.85	20.86	24.12	3.26			
	velocity	9.29	9.90	8.87	7.78	8.89		9.29	9.90	8.87	7.78	9.59	8.29				
McKiver, Jenoah (USA) (20)	time	10.98	21.19	32.35	45.12	45.12	4 / 5										
	reaction time		interval	10.21	11.16	12.77	# of strides	10.98	10.21	11.16	12.77	21.19	23.93	2.74			
	velocity	9.11	9.79	8.96	7.83	8.87		9.11	9.79	8.96	7.83	9.44	8.36				
Benson, James (USA) (200)	time	10.94	21.33	32.66	45.30	45.30	3 / 6										
	reaction time		interval	10.39	11.33	12.64	# of strides	10.94	10.39	11.33	12.64	21.33	23.97	2.64			
	velocity	9.14	9.62	8.83	7.91	8.83		9.14	9.62	8.83	7.91	9.38	8.34				
Faust, Brian (USA) (1999)	time	10.81	21.21	32.94	45.41	45.41	9 / 7										
	reaction time		interval	10.40	11.73	12.47	# of strides	10.81	10.40	11.73	12.47	21.21	24.20	2.99			
	velocity	9.25	9.62	8.53	8.02	8.81		9.25	9.62	8.53	8.02	9.43	8.26				
Patterson, Jacory (USA) (2)	time	10.79	21.27	32.67	45.89	45.89	1 / 8										
	reaction time		interval	10.48	11.40	13.22	# of strides	10.79	10.48	11.40	13.22	21.27	24.62	3.35			
	velocity	9.27	9.54	8.77	7.56	8.72		9.27	9.54	8.77	7.56	9.40	8.12				
Godwin, Elija (USA) (1999)	time	11.06	21.63	33.32	46.73	46.73	2 / 9										
	reaction time		interval	10.57	11.69	13.41	# of strides	11.06	10.57	11.69	13.41	21.63	25.10	3.47			
	velocity	9.04	9.46	8.55	7.46	8.56		9.04	9.46	8.55	7.46	9.25	7.97				

Semi-Final 1

date 23-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Hall, Quincy (USA) (1998)	time	11.30	21.61	32.74	44.42	44.42	6 / 1										
	reaction time		interval	10.31	11.13	11.68	# of strides	11.30	10.31	11.13	11.68	21.61	22.81	1.20			
	velocity	8.85	9.70	8.98	8.56	9.00		8.85	9.70	8.98	8.56	9.25	8.77				
Bailey, Chris (USA) (2000)	time	11.55	22.15	33.01	44.82	44.82	5 / 2										
	reaction time		interval	10.60	10.86	11.81	# of strides	11.55	10.60	10.86	11.81	22.15	22.67	0.52			
	velocity	8.66	9.43	9.21	8.47	8.92		8.66	9.43	9.21	8.47	9.03	8.82				

Boling, Matthew (USA) (2019)	time	10.78	21.02	32.65	44.91	44.91	8 / 3											
reaction time	interval		10.24	11.63	12.26	PB	# of strides	10.78	10.24	11.63	12.26	21.02	23.89	2.87				
	velocity	9.28	9.77	8.60	8.16	8.91		9.28	9.77	8.60	8.16	9.51	8.37					
Robinson, Justin (USA) (2019)	time	11.19	21.79	33.16	44.95	44.95	7 / 4											
reaction time	interval		10.60	11.37	11.79		# of strides	11.19	10.60	11.37	11.79	21.79	23.16	1.37				
	velocity	8.94	9.43	8.80	8.48	8.90		8.94	9.43	8.80	8.48	9.18	8.64					
Kent, Nathan (USA) (2003)	time	11.10	21.38	32.88	45.32	45.32	9 / 5											
reaction time	interval		10.28	11.50	12.44	PB	# of strides	11.10	10.28	11.50	12.44	21.38	23.94	2.56				
	velocity	9.01	9.73	8.70	8.04	8.83		9.01	9.73	8.70	8.04	9.35	8.35					
Popelka, Logan (USA) (2007)	time	11.28	21.76	32.97	45.34	45.34	4 / 6											
reaction time	interval		10.48	11.21	12.37		# of strides	11.28	10.48	11.21	12.37	21.76	23.58	1.82				
	velocity	8.87	9.54	8.92	8.08	8.82		8.87	9.54	8.92	8.08	9.19	8.48					
Dedewo, Paul (USA) (1991)	time	11.19	21.33	32.69	45.36	45.36	2 / 7											
reaction time	interval		10.14	11.36	12.67		# of strides	11.19	10.14	11.36	12.67	21.33	24.03	2.70				
	velocity	8.94	9.86	8.80	7.89	8.82		8.94	9.86	8.80	7.89	9.38	8.32					
Strader, Solomon (USA) (2019)	time	11.03	21.44	32.72	45.72	45.72	3 / 8											
reaction time	interval		10.41	11.28	13.00		# of strides	11.03	10.41	11.28	13.00	21.44	24.28	2.84				
	velocity	9.07	9.61	8.87	7.69	8.75		9.07	9.61	8.87	7.69	9.33	8.24					
Stewart, Trevor (USA) (1997)	time	11.38	21.96	33.37	45.80	45.80	1 / 9											
reaction time	interval		10.58	11.41	12.43		# of strides	11.38	10.58	11.41	12.43	21.96	23.84	1.88				
	velocity	8.79	9.45	8.76	8.05	8.73		8.79	9.45	8.76	8.05	9.11	8.39					

Decathlon - Heat

date 21-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Williams, Harrison (USA) (1997)	time	11.24	21.82	33.80	46.56	46.56	9 / 1											
reaction time	interval		10.58	11.98	12.76		# of strides	11.24	10.58	11.98	12.76	21.82	24.74	2.92				
	velocity	8.90	9.45	8.35	7.84	8.59		8.90	9.45	8.35	7.84	9.17	8.08					
Bair, Peyton (USA) (2001)	time	11.12	21.58	33.35	46.89	46.89	4 / 2											
reaction time	interval		10.46	11.77	13.54	PB	# of strides	11.12	10.46	11.77	13.54	21.58	25.31	3.73				
	velocity	8.99	9.56	8.50	7.39	8.53		8.99	9.56	8.50	7.39	9.27	7.90					
West, Austin (USA) (2000)	time	11.37	21.91	33.79	46.91	46.91	8 / 3											
reaction time	interval		10.54	11.88	13.12		# of strides	11.37	10.54	11.88	13.12	21.91	25.00	3.09				
	velocity	8.80	9.49	8.42	7.62	8.53		8.80	9.49	8.42	7.62	9.13	8.00					
Talbot, Ryan (USA) (2000)	time	11.76	22.42	34.30	47.21	47.21	5 / 4											
reaction time	interval		10.66	11.88	12.91	PB	# of strides	11.76	10.66	11.88	12.91	22.42	24.79	2.37				
	velocity	8.50	9.38	8.42	7.75	8.47		8.50	9.38	8.42	7.75	8.92	8.07					
Rogers, Denim (USA) (1998)	time	11.52	22.90	34.95	47.48	47.48	6 / 5											
reaction time	interval		11.38	12.05	12.53	PB	# of strides	11.52	11.38	12.05	12.53	22.90	24.58	1.68				
	velocity	8.68	8.79	8.30	7.98	8.42		8.68	8.79	8.30	7.98	8.73	8.14					
Garland, Kyle (USA) (2000)	time	11.33	22.30	34.95	48.91	48.91	7 / 6											
reaction time	interval		10.97	12.65	13.96		# of strides	11.33	10.97	12.65	13.96	22.30	26.61	4.31				
	velocity	8.83	9.12	7.91	7.16	8.18		8.83	9.12	7.91	7.16	8.97	7.52					

Decathlon - Heat

date 21-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Ziemek, Zach (USA) (1993)	time	11.29	22.17	34.86	49.72	49.72	6 / 1											
reaction time	interval		10.88	12.69	14.86		# of strides	11.29	10.88	12.69	14.86	22.17	27.55	5.38				
	velocity	8.86	9.19	7.88	6.73	8.05		8.86	9.19	7.88	6.73	9.02	7.26					
Spejcher, Daniel (USA) (2019)	time	11.56	22.85	35.71	50.00	50.00	8 / 2											
reaction time	interval		11.29	12.86	14.29		# of strides	11.56	11.29	12.86	14.29	22.85	27.15	4.30				
	velocity	8.65	8.86	7.78	7.00	8.00		8.65	8.86	7.78	7.00	8.75	7.37					
Flood, Jack (USA) (1995)	time	11.99	23.25	35.81	50.03	50.03	5 / 3											
reaction time	interval		11.26	12.56	14.22		# of strides	11.99	11.26	12.56	14.22	23.25	26.78	3.53				
	velocity	8.34	8.88	7.96	7.03	8.00		8.34	8.88	7.96	7.03	8.60	7.47					
Jones, Hunter (USA) (2000)	time	11.71	23.14	36.09	50.51	50.51	9 / 4											
reaction time	interval		11.43	12.95	14.42		# of strides	11.71	11.43	12.95	14.42	23.14	27.37	4.23				
	velocity	8.54	8.75	7.72	6.93	7.92		8.54	8.75	7.72	6.93	8.64	7.31					
Victor, Lindon (GRN) (1993)	time	11.22	22.52				dnf				3 / --							
reaction time	interval		11.30								# of strides	11.22	11.30		22.52			
	velocity	8.91	8.85									8.91	8.85		8.88			

Decathlon - Heat

date 21-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Williams, Devon (USA) (1997)	time	11.45	22.81	35.02	48.42	48.42	5 / 1											
reaction time	interval		11.36	12.21	13.40		# of strides	11.45	11.36	12.21	13.40	22.81	25.61	2.80				
	velocity	8.73	8.80	8.19	7.46	8.26		8.73	8.80	8.19	7.46	8.77	7.81					

Walburn, Lee (USA) (2000)	time	11.27	22.23	34.54	48.44	48.44	9 / 2										
reaction time	interval		10.96	12.31	13.90		# of strides	11.27	10.96	12.31	13.90	22.23	26.21	3.98			
	velocity	8.87	9.12	8.12	7.19	8.26		8.87	9.12	8.12	7.19	9.00	7.63				
Baldwin, Heath (USA) (2000)	time	11.46	22.48	34.79	48.58	48.58	8 / 3										
reaction time	interval		11.02	12.31	13.79	PB	# of strides	11.46	11.02	12.31	13.79	22.48	26.10	3.62			
	velocity	8.73	9.07	8.12	7.25	8.23		8.73	9.07	8.12	7.25	8.90	7.66				
Delgado, Joe (USA) (1995)	time	11.71	22.94	35.43	48.74	48.74	7 / 4										
reaction time	interval		11.23	12.49	13.31		# of strides	11.71	11.23	12.49	13.31	22.94	25.80	2.86			
	velocity	8.54	8.90	8.01	7.51	8.21		8.54	8.90	8.01	7.51	8.72	7.75				
Black, Sam (USA) (1995)	time	11.74	22.98	35.19	48.78	48.78	6 / 5										
reaction time	interval		11.24	12.21	13.59		# of strides	11.74	11.24	12.21	13.59	22.98	25.80	2.82			
	velocity	8.52	8.90	8.19	7.36	8.20		8.52	8.90	8.19	7.36	8.70	7.75				
Farmer, Josh (USA) (1999)	time	11.42	22.43	34.80	49.00	49.00	4 / 6										
reaction time	interval		11.01	12.37	14.20		# of strides	11.42	11.01	12.37	14.20	22.43	26.57	4.14			
	velocity	8.76	9.08	8.08	7.04	8.16		8.76	9.08	8.08	7.04	8.92	7.53				

Heat 5

date 21-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Norman, Michael (USA) (1999)	time		10.93		21.36		32.76		45.31	45.31	5 / 1								
reaction time	interval				10.43		11.40		12.55		# of strides	10.93	10.43	11.40	12.55	21.36	23.95	2.59	
	velocity		9.15		9.59		8.77		7.97	8.83	173.5	9.15	9.59	8.77	7.97	9.36	8.35		
Miller, Evan (USA) (2000)	time		11.07		21.74		33.27		45.70	45.70	8 / 2								
reaction time	interval				10.67		11.53		12.43		# of strides	11.07	10.67	11.53	12.43	21.74	23.96	2.22	
	velocity		9.03		9.37		8.67		8.05	8.75	176.0	9.03	9.37	8.67	8.05	9.20	8.35		
Tomlyanovich, TJ (USA) (2000)	time		11.13		21.70		33.15		45.76	45.76	3 / 3								
reaction time	interval				10.57		11.45		12.61		# of strides	11.13	10.57	11.45	12.61	21.70	24.06	2.36	
	velocity		8.98		9.46		8.73		7.93	8.74	170.0	8.98	9.46	8.73	7.93	9.22	8.31		
Benson, James (USA) (2000)	time		11.12		21.60		33.08		45.81	45.81	4 / 4								
reaction time	interval				10.48		11.48		12.73		# of strides	11.12	10.48	11.48	12.73	21.60	24.21	2.61	
	velocity		8.99		9.54		8.71		7.86	8.73	178.0	8.99	9.54	8.71	7.86	9.26	8.26		
Stewart, Trevor (USA) (1999)	time		11.63		22.33		33.62		45.83	45.83	9 / 5								
reaction time	interval				10.70		11.29		12.21		# of strides	11.63	10.70	11.29	12.21	22.33	23.50	1.17	
	velocity		8.60		9.35		8.86		8.19	8.73	176.0	8.60	9.35	8.86	8.19	8.96	8.51		
Prude, Rios (USA) (2003)	time		11.34		22.12		33.59		46.09	46.09	6 / 6								
reaction time	interval				10.78		11.47		12.50		# of strides	11.34	10.78	11.47	12.50	22.12	23.97	1.85	
	velocity		8.82		9.28		8.72		8.00	8.68	170.0	8.82	9.28	8.72	8.00	9.04	8.34		
Willie, Ryan (USA) (2002)	time		11.45		22.30		34.02		46.59	46.59	7 / 7								
reaction time	interval				10.85		11.72		12.57		# of strides	11.45	10.85	11.72	12.57	22.30	24.29	1.99	
	velocity		8.73		9.22		8.53		7.96	8.59	172.2	8.73	9.22	8.53	7.96	8.97	8.23		

Heat 4

date 21-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Norwood, Vernon (USA) (1999)	time		11.34		22.04		33.38		45.40	45.40	4 / 1								
reaction time	interval				10.70		11.34		12.02		# of strides	11.34	10.70	11.34	12.02	22.04	23.36	1.32	
	velocity		8.82		9.35		8.82		8.32	8.81	173.5	8.82	9.35	8.82	8.32	9.07	8.56		
McRae, Khaleb (USA) (2000)										45.54	6 / 2							# of strides	176.5
Faust, Brian (USA) (1999)	time		11.13		21.72		33.30		45.58	45.58	3 / 3								
reaction time	interval				10.59		11.58		12.28		# of strides	11.13	10.59	11.58	12.28	21.72	23.86	2.14	
	velocity		8.98		9.44		8.64		8.14	8.78	183.0	8.98	9.44	8.64	8.14	9.21	8.38		
Dedewo, Paul (USA) (1991)	time		11.42		21.94		33.47		45.75	45.75	7 / 4								
reaction time	interval				10.52		11.53		12.28		# of strides	11.42	10.52	11.53	12.28	21.94	23.81	1.87	
	velocity		8.76		9.51		8.67		8.14	8.74	164.0	8.76	9.51	8.67	8.14	9.12	8.40		
Strader, Solomon (USA) (2000)	time				22.01		32.78		45.76	45.76	9 / 5								
reaction time	interval						10.77		12.98		# of strides			10.77	12.98	22.01	23.75	1.74	
	velocity				9.09		9.29		7.70	8.74	180.0			9.29	7.70	9.09	8.42		
Robinson, Auhmad (USA) (2000)	time		11.59		22.30		33.97		46.02	46.02	8 / 6								
reaction time	interval				10.71		11.67		12.05		# of strides	11.59	10.71	11.67	12.05	22.30	23.72	1.42	
	velocity		8.63		9.34		8.57		8.30	8.69	182.2	8.63	9.34	8.57	8.30	8.97	8.43		

Heat 3

date 21-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Blockburger, Johnnie (USA) (2000)	time		11.02		21.47		33.03		45.08	45.08	9 / 1								
reaction time	interval				10.45		11.56		12.05		# of strides	11.02	10.45	11.56	12.05	21.47	23.61	2.14	
	velocity		9.07		9.57		8.65		8.30	8.87	162.0	9.07	9.57	8.65	8.30	9.32	8.47		
Deadmon, Bryce (USA) (1999)	time		10.94		21.21		32.76		45.21	45.21	8 / 2								
reaction time	interval				10.27		11.55		12.45		# of strides	10.94	10.27	11.55	12.45	21.21	24.00	2.79	
	velocity		9.14		9.74		8.66		8.03	8.85	165.5	9.14	9.74	8.66	8.03	9.43	8.33		

Popelka, Logan (USA) (200)	time	11.00	21.48	32.75	45.22	45.22	7 / 3													
reaction time	interval		10.48	11.27	12.47	PB	# of strides	11.00	10.48	11.27	12.47	21.48	23.74	2.26						
velocity		9.09	9.54	8.87	8.02	8.85	175.0	9.09	9.54	8.87	8.02	9.31	8.42							
Kent, Nathan (USA) (2003)	time	10.86	21.08	32.75	45.42	45.42	5 / 4													
reaction time	interval		10.22	11.67	12.67	PB	# of strides	10.86	10.22	11.67	12.67	21.08	24.34	3.26						
velocity		9.21	9.78	8.57	7.89	8.81	169.0	9.21	9.78	8.57	7.89	9.49	8.22							
Jones, William (USA) (2003)	time	11.16	21.47	32.90	45.50	45.50	4 / 5													
reaction time	interval		10.31	11.43	12.60		# of strides	11.16	10.31	11.43	12.60	21.47	24.03	2.56						
velocity		8.96	9.70	8.75	7.94	8.79	166.5	8.96	9.70	8.75	7.94	9.32	8.32							
O'Bryant, Jevon (USA) (20)	time	11.23	21.57	33.18	45.51	45.51	6 / 6													
reaction time	interval		10.34	11.61	12.33		# of strides	11.23	10.34	11.61	12.33	21.57	23.94	2.37						
velocity		8.90	9.67	8.61	8.11	8.79	171.5	8.90	9.67	8.61	8.11	9.27	8.35							
Wright, Willington (USA) (time	10.76	21.14	32.70	45.55	45.55	3 / 7													
reaction time	interval		10.38	11.56	12.85		# of strides	10.76	10.38	11.56	12.85	21.14	24.41	3.27						
velocity		9.29	9.63	8.65	7.78	8.78	169.5	9.29	9.63	8.65	7.78	9.46	8.19							
Heat 2	date	21-Jun-24	USATF and Karmarush (2024) - USA Olympic trials results and race analysis																	
			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Wilson, Quincy (USA) (200)	time		11.15	21.33	32.66	44.66	44.66	7 / 1												
reaction time	interval			10.18	11.33	12.00	WU18B PB	# of strides	11.15	10.18	11.33	12.00	21.33	23.33	2.00					
velocity			8.97	9.82	8.83	8.33	8.96	173.5	8.97	9.82	8.83	8.33	9.38	8.57						
Bailey, Chris (USA) (2000)	time		11.45	21.98	32.86	44.86	44.86	4 / 2												
reaction time	interval			10.53	10.88	12.00		# of strides	11.45	10.53	10.88	12.00	21.98	22.88	0.90					
velocity			8.73	9.50	9.19	8.33	8.92	179.2	8.73	9.50	9.19	8.33	9.10	8.74						
Robinson, Justin (USA) (2)	time		11.26	21.53	32.86	45.15	45.15	8 / 3												
reaction time	interval			10.27	11.33	12.29		# of strides	11.26	10.27	11.33	12.29	21.53	23.62	2.09					
velocity			8.88	9.74	8.83	8.14	8.86	167.0	8.88	9.74	8.83	8.14	9.29	8.47						
Lightner, Kennedy (USA) (2001)			no information available				PB	45.17	6 / 4										# of strides	173.0
Bynum, Emmanuel (USA) (time		11.53	21.91	33.12	45.34	45.34	9 / 5												
reaction time	interval			10.38	11.21	12.22		# of strides	11.53	10.38	11.21	12.22	21.91	23.43	1.52					
velocity			8.67	9.63	8.92	8.18	8.82	166.0	8.67	9.63	8.92	8.18	9.13	8.54						
Patterson, Jacory (USA) (2)	time		11.12	21.49	32.92	45.46	45.46	5 / 6												
reaction time	interval			10.37	11.43	12.54		# of strides	11.12	10.37	11.43	12.54	21.49	23.97	2.48					
velocity			8.99	9.64	8.75	7.97	8.80	174.0	8.99	9.64	8.75	7.97	9.31	8.34						
Gregory, Eric (USA) (2000)	time		11.19	21.66	32.96	45.79	45.79	3 / 7												
reaction time	interval			10.47	11.30	12.83		# of strides	11.19	10.47	11.30	12.83	21.66	24.13	2.47					
velocity			8.94	9.55	8.85	7.79	8.74	171.0	8.94	9.55	8.85	7.79	9.23	8.29						
Heat 1	date	21-Jun-24	USATF and Karmarush (2024) - USA Olympic trials results and race analysis																	
			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Hall, Quincy (USA) (1998)	time		11.18	21.40	32.50	44.60	44.60	7 / 1												
reaction time	interval			10.22	11.10	12.10		# of strides	11.18	10.22	11.10	12.10	21.40	23.20	1.80					
velocity			8.94	9.78	9.01	8.26	8.97	158.0	8.94	9.78	9.01	8.26	9.35	8.62						
Boling, Matthew (USA) (20	time		10.70	21.06	32.46	44.94	44.94	4 / 2												
reaction time	interval			10.36	11.40	12.48	PB	# of strides	10.70	10.36	11.40	12.48	21.06	23.88	2.82					
velocity			9.35	9.65	8.77	8.01	8.90	173.0	9.35	9.65	8.77	8.01	9.50	8.38						
Lincoln, Judson (USA) (20)	time		10.89	21.14	32.49	45.09	45.09	6 / 3												
reaction time	interval			10.25	11.35	12.60		# of strides	10.89	10.25	11.35	12.60	21.14	23.95	2.81					
velocity			9.18	9.76	8.81	7.94	8.87	181.0	9.18	9.76	8.81	7.94	9.46	8.35						
McKiver, Jenoah (USA) (20	time		11.00	21.15	32.45	45.26	45.26	3 / 4												
reaction time	interval			10.15	11.30	12.81		# of strides	11.00	10.15	11.30	12.81	21.15	24.11	2.96					
velocity			9.09	9.85	8.85	7.81	8.84	168.5	9.09	9.85	8.85	7.81	9.46	8.30						
Godwin, Elija (USA) (1999)	time		10.71	21.07	32.53	45.53	45.53	8 / 5												
reaction time	interval			10.36	11.46	13.00		# of strides	10.71	10.36	11.46	13.00	21.07	24.46	3.39					
velocity			9.34	9.65	8.73	7.69	8.79	182.0	9.34	9.65	8.73	7.69	9.49	8.18						
Herron, Brian (USA) (2000)	time		10.87	21.32	32.98	46.32	46.32	5 / 6												
reaction time	interval			10.45	11.66	13.34		# of strides	10.87	10.45	11.66	13.34	21.32	25.00	3.68					
velocity			9.20	9.57	8.58	7.50	8.64	170.0	9.20	9.57	8.58	7.50	9.38	8.00						
2024 European Athletics Championships (Roma, ITA)																				
FINAL	date	10-Jun-24	European Athletics (2024) - 2024 european athletics championships - results book																	
			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Doom, Alexander (BEL) (1)	time	0.187	no information available				NR PB	44.15	8 / 1										# of strides	179.5
Dobson, Charles (GBR) (1)	time		11.13	21.52	32.38	44.38	44.38	6 / 2												
reaction time	interval	0.121		10.39	10.86	12.00	PB	# of strides	11.13	10.39	10.86	12.00	21.52	22.86	1.34					
velocity			8.98	9.62	9.21	8.33	9.01	165.2	8.98	9.62	9.21	8.33	9.29	8.75						

Bonevacia, Liemarvin (NED)	0.175	no information available							44.88	9 / 3	# of strides				181.7			
Sacoor, Jonathan (BEL) (1st)	time	11.10	21.44	32.42	44.98	44.98	5 / 4											
	reaction time	0.184	interval	10.34	10.98	12.56	PB	# of strides	11.10	10.34	10.98	12.56	21.44	23.54	2.10			
	velocity	9.01	9.67	9.11	7.96	8.89	169.5	9.01	9.67	9.11	7.96	9.33	8.50					
Sito, Luca (ITA) (2003)	time	11.07	21.26	32.33	45.04	45.04	7 / 5											
	reaction time	0.222	interval	10.19	11.07	12.71	# of strides	11.07	10.19	11.07	12.71	21.26	23.78	2.52				
	velocity	9.03	9.81	9.03	7.87	8.88	172.7	9.03	9.81	9.03	7.87	9.41	8.41					
Molnár, Attila (HUN) (2002)	time	11.12	21.45	32.66	45.07	45.07	3 / 6											
	reaction time	0.193	interval	10.33	11.21	12.41	# of strides	11.12	10.33	11.21	12.41	21.45	23.62	2.17				
	velocity	8.99	9.68	8.92	8.06	8.88	175.0	8.99	9.68	8.92	8.06	9.32	8.47					
Bredau, Jean Paul (GER) (1st)	time	11.36	21.81	32.96	45.11	45.11	4 / 7											
	reaction time	0.173	interval	10.45	11.15	12.15	# of strides	11.36	10.45	11.15	12.15	21.81	23.30	1.49				
	velocity	8.80	9.57	8.97	8.23	8.87	171.5	8.80	9.57	8.97	8.23	9.17	8.58					
Spitz, Lionel (SUI) (2001)	time	11.14	21.53	32.83	45.69	45.69	2 / 8											
	reaction time	0.162	interval	10.39	11.30	12.86	# of strides	11.14	10.39	11.30	12.86	21.53	24.16	2.63				
	velocity	8.98	9.62	8.85	7.78	8.75	190.0	8.98	9.62	8.85	7.78	9.29	8.28					
Semi-Final 3	date	09-Jun-24																
		European Athletics (2024) - 2024 european athletics championships - results book																
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Doom, Alexander (BEL) (1st)	time	11.24	21.42	32.73	44.87	44.87	5 / 1											
	reaction time	0.197	interval	10.18	11.31	12.14	# of strides	11.24	10.18	11.31	12.14	21.42	23.45	2.03				
	velocity	8.90	9.82	8.84	8.24	8.91	8.90	9.82	8.84	8.24	9.34	8.53						
Bonevacia, Liemarvin (NED)	time	11.11	21.45	32.69	45.17	45.17	6 / 2											
	reaction time	0.160	interval	10.34	11.24	12.48	# of strides	11.11	10.34	11.24	12.48	21.45	23.72	2.27				
	velocity	9.00	9.67	8.90	8.01	8.86	9.00	9.67	8.90	8.01	9.32	8.43						
Elkhatib, Omar (POR) (2001)	time	11.67	22.44	33.76	45.65	45.65	9 / 3											
	reaction time	0.188	interval	10.77	11.32	11.89	# of strides	11.67	10.77	11.32	11.89	22.44	23.21	0.77				
	velocity	8.57	9.29	8.83	8.41	8.76	8.57	9.29	8.83	8.41	8.91	8.62						
O'Donnell, Christopher (IR)	time	11.27	21.97	33.26	45.72	45.72	3 / 4											
	reaction time	0.160	interval	10.70	11.29	12.46	DQ	# of strides	11.27	10.70	11.29	12.46	21.97	23.75	1.78			
	velocity	8.87	9.35	8.86	8.03	8.75	8.87	9.35	8.86	8.03	9.10	8.42						
Biron, Gilles (FRA) (1995)	time	11.35	21.87	33.13	45.91	45.91	8 / 4											
	reaction time	0.160	interval	10.52	11.26	12.78	# of strides	11.35	10.52	11.26	12.78	21.87	24.04	2.17				
	velocity	8.81	9.51	8.88	7.82	8.71	8.81	9.51	8.88	7.82	9.14	8.32						
Scotti, Edoardo (ITA) (2000)	time	11.27	21.89	33.23	45.92	45.92	4 / 5											
	reaction time	0.192	interval	10.62	11.34	12.69	# of strides	11.27	10.62	11.34	12.69	21.89	24.03	2.14				
	velocity	8.87	9.42	8.82	7.88	8.71	8.87	9.42	8.82	7.88	9.14	8.32						
Sanders, Manuel (GER) (19)	time	11.32	21.76	33.23	46.03	46.03	7 / 6											
	reaction time	0.190	interval	10.44	11.47	12.80	# of strides	11.32	10.44	11.47	12.80	21.76	24.27	2.51				
	velocity	8.83	9.58	8.72	7.81	8.69	8.83	9.58	8.72	7.81	9.19	8.24						
Haydock-Wilson, Alex (GB)	0.176	no information available							46.05	2 / 7	# of strides							
Semi-Final 2	date	09-Jun-24																
		European Athletics (2024) - 2024 european athletics championships - results book																
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Dobson, Charles (GBR) (1st)	time	11.06	21.46	32.70	44.65	44.65	8 / 1											
	reaction time	0.151	interval	10.40	11.24	11.95	# of strides	11.06	10.40	11.24	11.95	21.46	23.19	1.73				
	velocity	9.04	9.62	8.90	8.37	8.96	9.04	9.62	8.90	8.37	9.32	8.62						
Bredau, Jean Paul (GER) (1st)	time	11.20	21.49	32.72	45.03	45.03	5 / 2											
	reaction time	0.160	interval	10.29	11.23	12.31	# of strides	11.20	10.29	11.23	12.31	21.49	23.54	2.05				
	velocity	8.93	9.72	8.90	8.12	8.88	8.93	9.72	8.90	8.12	9.31	8.50						
Spitz, Lionel (SUI) (2001)	time	11.21	21.78	33.09	45.28	45.28	9 / 3											
	reaction time	0.166	interval	10.57	11.31	12.19	# of strides	11.21	10.57	11.31	12.19	21.78	23.50	1.72				
	velocity	8.92	9.46	8.84	8.20	8.83	8.92	9.46	8.84	8.20	9.18	8.51						
Coelho, João Ricardo (POF)	time	11.18	21.62	32.93	45.36	45.36	6 / 4											
	reaction time	0.176	interval	10.44	11.31	12.43	# of strides	11.18	10.44	11.31	12.43	21.62	23.74	2.12				
	velocity	8.94	9.58	8.84	8.05	8.82	8.94	9.58	8.84	8.05	9.25	8.42						
Sombe, David (FRA) (2000)	time	11.40	22.12	33.43	45.36	45.36	4 / 5											
	reaction time	0.204	interval	10.72	11.31	11.93	# of strides	11.40	10.72	11.31	11.93	22.12	23.24	1.12				
	velocity	8.77	9.33	8.84	8.38	8.82	8.77	9.33	8.84	8.38	9.04	8.61						
Borlée, Dylan (BEL) (1992)	time	11.23	21.73	33.03	45.46	45.46	7 / 6											
	reaction time	0.163	interval	10.50	11.30	12.43	# of strides	11.23	10.50	11.30	12.43	21.73	23.73	2.00				
	velocity	8.90	9.52	8.85	8.05	8.80	8.90	9.52	8.85	8.05	9.20	8.43						
Nielsen, Gustav Lundholm	time	11.22	21.80	33.26	46.01	46.01	2 / 7											
	reaction time	0.170	interval	10.58	11.46	12.75	# of strides	11.22	10.58	11.46	12.75	21.80	24.21	2.41				

velocity	8.91	9.45	8.73	7.84	8.69	8.91	9.45	8.73	7.84	9.17	8.26		
Grimerud, Andreas (NOR) time	11.45	21.98	33.53	46.25	46.25	3 / 9							
reaction time 0.151 interval		10.53	11.55	12.72		# of strides	11.45	10.53	11.55	12.72	21.98	24.27	2.29
velocity	8.73	9.50	8.66	7.86	8.65		8.73	9.50	8.66	7.86	9.10	8.24	

Semi-Final 1

date 09-Jun-24

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	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Sito, Luca (ITA) (2003) time		11.20		21.53		32.60		44.75	44.75	5 / 1							
reaction time 0.153 interval				10.33		11.07		12.15	NR PB	# of strides	11.20	10.33	11.07	12.15	21.53	23.22	1.69
velocity		8.93		9.68		9.03		8.23	8.94		8.93	9.68	9.03	8.23	9.29	8.61	
Sacoor, Jonathan (BEL) (1) time		11.17		21.59		32.64		44.99	44.99	4 / 2							
reaction time 0.165 interval				10.42		11.05		12.35	PB	# of strides	11.17	10.42	11.05	12.35	21.59	23.40	1.81
velocity		8.95		9.60		9.05		8.10	8.89		8.95	9.60	9.05	8.10	9.26	8.55	
Molnár, Attila (HUN) (2002) time		11.10		21.40		32.62		45.04	45.04	8 / 3							
reaction time 0.167 interval				10.30		11.22		12.42		# of strides	11.10	10.30	11.22	12.42	21.40	23.64	2.24
velocity		9.01		9.71		8.91		8.05	8.88		9.01	9.71	8.91	8.05	9.35	8.46	
Ingvaldsen, Hævard Bent time		11.23		21.49		32.75		45.37	45.37	6 / 4							
reaction time 0.210 interval				10.26		11.26		12.62		# of strides	11.23	10.26	11.26	12.62	21.49	23.88	2.39
velocity		8.90		9.75		8.88		7.92	8.82		8.90	9.75	8.88	7.92	9.31	8.38	
Pohorilko, Oleksandr (UKR) time		11.43		21.73		32.83		45.41	45.41	7 / 5							
reaction time 0.207 interval				10.30		11.10		12.58		# of strides	11.43	10.30	11.10	12.58	21.73	23.68	1.95
velocity		8.75		9.71		9.01		7.95	8.81		8.75	9.71	9.01	7.95	9.20	8.45	
Petruciani, Ricky (SUI) (20) time		11.10		21.63		32.94		45.47	45.47	3 / 6							
reaction time 0.158 interval				10.53		11.31		12.53		# of strides	11.10	10.53	11.31	12.53	21.63	23.84	2.21
velocity		9.01		9.50		8.84		7.98	8.80		9.01	9.50	8.84	7.98	9.25	8.39	
Ferlan, Rok (SLO) (1997) time		11.10		21.76		33.08		45.63	45.63	2 / 7							
reaction time 0.156 interval				10.66		11.32		12.55		# of strides	11.10	10.66	11.32	12.55	21.76	23.87	2.11
velocity		9.01		9.38		8.83		7.97	8.77		9.01	9.38	8.83	7.97	9.19	8.38	
Andant, Teo (FRA) (1999) time		11.17		21.84		33.26		45.72	45.72	9 / 9							
reaction time 0.184 interval				10.67		11.42		12.46		# of strides	11.17	10.67	11.42	12.46	21.84	23.88	2.04
velocity		8.95		9.37		8.76		8.03	8.75		8.95	9.37	8.76	8.03	9.16	8.38	

Heat 3

date 08-Jun-24

European Athletics (2024) - 2024 european athletics championships - results book

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Sito, Luca (ITA) (2003) time		11.25		21.72		32.89		45.12	45.12	3 / 1							
reaction time 0.197 interval				10.47		11.17		12.23	PB	# of strides	11.25	10.47	11.17	12.23	21.72	23.40	1.68
velocity		8.89		9.55		8.95		8.18	8.87		8.89	9.55	8.95	8.18	9.21	8.55	
Sombe, David (FRA) (2000) time		11.51		22.17		33.54		45.45	45.45	4 / 2							
reaction time 0.221 interval				10.66		11.37		11.91		# of strides	11.51	10.66	11.37	11.91	22.17	23.28	1.11
velocity		8.69		9.38		8.80		8.40	8.80		8.69	9.38	8.80	8.40	9.02	8.59	
Ferlan, Rok (SLO) (1997) time		11.19		21.74		33.24		45.52	45.52	6 / 3							
reaction time 0.172 interval				10.55		11.50		12.28	PB	# of strides	11.19	10.55	11.50	12.28	21.74	23.78	2.04
velocity		8.94		9.48		8.70		8.14	8.79		8.94	9.48	8.70	8.14	9.20	8.41	
Borlée, Dylan (BEL) (1992) time		11.41		21.88		33.27		45.62	45.62	5 / 4							
reaction time 0.157 interval				10.47		11.39		12.35		# of strides	11.41	10.47	11.39	12.35	21.88	23.74	1.86
velocity		8.76		9.55		8.78		8.10	8.77		8.76	9.55	8.78	8.10	9.14	8.42	
Nielsen, Gustav Lundholm time		11.37		21.97		33.38		45.84	45.84	7 / 5							
reaction time 0.146 interval				10.60		11.41		12.46		# of strides	11.37	10.60	11.41	12.46	21.97	23.87	1.90
velocity		8.80		9.43		8.76		8.03	8.73		8.80	9.43	8.76	8.03	9.10	8.38	
Grimerud, Andreas (NOR) time		11.62		22.26		33.66		45.90	45.90	9 / 6							
reaction time 0.222 interval				10.64		11.40		12.24	=PB	# of strides	11.62	10.64	11.40	12.24	22.26	23.64	1.38
velocity		8.61		9.40		8.77		8.17	8.71		8.61	9.40	8.77	8.17	8.98	8.46	
Maslák, Pavel (CZE) (1991) time		11.93		23.23		35.18		47.99	47.99	8 / 7							
reaction time 0.239 interval				11.30		11.95		12.81		# of strides	11.93	11.30	11.95	12.81	23.23	24.76	1.53
velocity		8.38		8.85		8.37		7.81	8.34		8.38	8.85	8.37	7.81	8.61	8.08	

Heat 2

date 08-Jun-24

European Athletics (2024) - 2024 european athletics championships - results book

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Spitz, Lionel (SUI) (2001) time		11.34		21.75		33.06		45.37	45.37	3 / 1							
reaction time 0.166 interval				10.41		11.31		12.31		# of strides	11.34	10.41	11.31	12.31	21.75	23.62	1.87
velocity		8.82		9.61		8.84		8.12	8.82		8.82	9.61	8.84	8.12	9.20	8.47	
Elkhatib, Omar (POR) (2001) time		11.57		22.12		33.60		45.80	45.80	4 / 2							
reaction time 0.155 interval				10.55		11.48		12.20		# of strides	11.57	10.55	11.48	12.20	22.12	23.68	1.56
velocity		8.64		9.48		8.71		8.20	8.73		8.64	9.48	8.71	8.20	9.04	8.45	
Haydock-Wilson, Alex (GB) time		11.36		21.92		33.27		46.04	46.04	6 / 3							
reaction time 0.177 interval				10.56		11.35		12.77		# of strides	11.36	10.56	11.35	12.77	21.92	24.12	2.20
velocity		8.80		9.47		8.81		7.83	8.69		8.80	9.47	8.81	7.83	9.12	8.29	

Meli, Riccardo (ITA) (2001)	time	11.44	22.00	33.52	46.17	46.17		7 / 4										
	reaction time	0.189	interval	10.56	11.52	12.65		# of strides	11.44	10.56	11.52	12.65	22.00	24.17	2.17			
	velocity	8.74	9.47	8.68	7.91	8.66			8.74	9.47	8.68	7.91	9.09	8.27				
Koch, Marc (GER) (1994)	time	11.72	22.40	33.82	46.18	46.18		9 / 5										
	reaction time	0.205	interval	10.68	11.42	12.36		# of strides	11.72	10.68	11.42	12.36	22.40	23.78	1.38			
	velocity	8.53	9.36	8.76	8.09	8.66			8.53	9.36	8.76	8.09	8.93	8.41				
Kijanović, Boško (SRB) (20	time	11.52	22.36	33.67	46.39	46.39		5 / 6										
	reaction time	0.149	interval	10.84	11.31	12.72		# of strides	11.52	10.84	11.31	12.72	22.36	24.03	1.67			
	velocity	8.68	9.23	8.84	7.86	8.62			8.68	9.23	8.84	7.86	8.94	8.32				
Šorm, Patrik (CZE) (1993)	time	11.55	22.17	33.63	46.40	46.40		8 / 7										
	reaction time	0.205	interval	10.62	11.46	12.77		# of strides	11.55	10.62	11.46	12.77	22.17	24.23	2.06			
	velocity	8.66	9.42	8.73	7.83	8.62			8.66	9.42	8.73	7.83	9.02	8.25				
Bujna, Šimon (SVK) (1995)	time	11.46	22.16	33.77	46.52	46.52		2 / 9										
	reaction time	0.165	interval	10.70	11.61	12.75		# of strides	11.46	10.70	11.61	12.75	22.16	24.36	2.20			
	velocity	8.73	9.35	8.61	7.84	8.60			8.73	9.35	8.61	7.84	9.03	8.21				
Heat 1	date	08-Jun-24														European Athletics (2024) - 2024 european athletics championships - results book		
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Sacoer, Jonathan (BEL) (1	time	11.44	22.19	33.42	45.50	45.50		8 / 1										
	reaction time	0.174	interval	10.75	11.23	12.08		# of strides	11.44	10.75	11.23	12.08	22.19	23.31	1.12			
	velocity	8.74	9.30	8.90	8.28	8.79			8.74	9.30	8.90	8.28	9.01	8.58				
Scotti, Edoardo (ITA) (2000	time	11.41	22.04	33.54	45.59	45.59		7 / 2										
	reaction time	0.180	interval	10.63	11.50	12.05		# of strides	11.41	10.63	11.50	12.05	22.04	23.55	1.51			
	velocity	8.76	9.41	8.70	8.30	8.77			8.76	9.41	8.70	8.30	9.07	8.49				
Andant, Téo (FRA) (1999)	time	11.27	21.91	33.33	45.65	45.65		4 / 3										
	reaction time	0.187	interval	10.64	11.42	12.32		# of strides	11.27	10.64	11.42	12.32	21.91	23.74	1.83			
	velocity	8.87	9.40	8.76	8.12	8.76			8.87	9.40	8.76	8.12	9.13	8.42				
O'Donnell, Christopher (IR	time	11.48	22.14	33.44	45.69	45.69		5 / 4										
	reaction time	0.154	interval	10.66	11.30	12.25		# of strides	11.48	10.66	11.30	12.25	22.14	23.55	1.41			
	velocity	8.71	9.38	8.85	8.16	8.75			8.71	9.38	8.85	8.16	9.03	8.49				
Zalewski, Karol (POL) (1993	time	11.19	21.71	33.13	45.80	45.80		3 / 5										
	reaction time	0.165	interval	10.52	11.42	12.67		# of strides	11.19	10.52	11.42	12.67	21.71	24.09	2.38			
	velocity	8.94	9.51	8.76	7.89	8.73			8.94	9.51	8.76	7.89	9.21	8.30				
Pohorilko, Oleksandr (UKR	time	11.37	21.94	33.28	45.90	45.90		2 / 6										
	reaction time	0.169	interval	10.57	11.34	12.62		# of strides	11.37	10.57	11.34	12.62	21.94	23.96	2.02			
	velocity	8.80	9.46	8.82	7.92	8.71			8.80	9.46	8.82	7.92	9.12	8.35				
Krsek, Matěj (CZE) (2000)	time	11.72	22.51	34.06	46.69	46.69		6 / 7										
	reaction time	0.145	interval	10.79	11.55	12.63		# of strides	11.72	10.79	11.55	12.63	22.51	24.18	1.67			
	velocity	8.53	9.27	8.66	7.92	8.57			8.53	9.27	8.66	7.92	8.88	8.27				

2024 Bauhaus Galan (Stockholm, SWE)

FINAL	date	02-Jun-24														Omega Timing (2024) - diamond league race analysis		
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Hall, Quincy (USA) (1998)	time	6.35	11.42	16.50	21.73	27.24	32.89	38.62	44.68	44.68	5 / 1							
	reaction time	0.211	interval	5.07	5.08	5.23	5.51	5.65	5.73	6.06	# of strides	11.42	10.31	11.16	11.79	21.73	22.95	1.22
	velocity	7.87	9.86	9.84	9.56	9.07	8.85	8.73	8.25	8.95		8.76	9.70	8.96	8.48	9.20	8.71	
Norwood, Vernon (USA) (1	time	6.15	11.09	16.18	21.47	26.96	32.68	38.49	44.80	44.80	6 / 2							
	reaction time	0.160	interval	4.94	5.09	5.29	5.49	5.72	5.81	6.31	# of strides	11.09	10.38	11.21	12.12	21.47	23.33	1.86
	velocity	8.13	10.12	9.82	9.45	9.11	8.74	8.61	7.92	8.93		9.02	9.63	8.92	8.25	9.32	8.57	
Nene, Zakithi (RSA) (1998)	time	6.14	11.00	16.05	21.34	26.90	32.63	38.61	45.29	45.29	7 / 3							
	reaction time	0.153	interval	4.86	5.05	5.29	5.56	5.73	5.98	6.68	# of strides	11.00	10.34	11.29	12.66	21.34	23.95	2.61
	velocity	8.14	10.29	9.90	9.45	8.99	8.73	8.36	7.49	8.83		9.09	9.67	8.86	7.90	9.37	8.35	
Scotch, Leungo (BOT) (19	time	6.17	11.20	16.36	21.66	27.24	33.00	38.96	45.60	45.60	3 / 4							
	reaction time	0.173	interval	5.03	5.16	5.30	5.58	5.76	5.96	6.64	# of strides	11.20	10.46	11.34	12.60	21.66	23.94	2.28
	velocity	8.10	9.94	9.69	9.43	8.96	8.68	8.39	7.53	8.77		8.93	9.56	8.82	7.94	9.23	8.35	
Trulsson, William (SWE) (2	time	6.24	11.46	16.76	22.18	27.83	33.87	40.19	46.97	46.97	4 / 5							
	reaction time	0.148	interval	5.22	5.30	5.42	5.65	6.04	6.32	6.78	# of strides	11.46	10.72	11.69	13.10	22.18	24.79	2.61
	velocity	8.01	9.58	9.43	9.23	8.85	8.28	7.91	7.37	8.52		8.73	9.33	8.55	7.63	9.02	8.07	
Tornée, Marcus (SWE) (199	time	6.24	11.30	16.51	21.99	27.96	34.16	40.55	47.32	47.32	8 / 6							
	reaction time	0.160	interval	5.06	5.21	5.48	5.97	6.20	6.39	6.77	# of strides	11.30	10.69	12.17	13.16	21.99	25.33	3.34
	velocity	8.01	9.88	9.60	9.12	8.38	8.06	7.82	7.39	8.45		8.85	9.35	8.22	7.60	9.10	7.90	
Johansson, Emil (SWE) (20	time	6.27	11.54	16.88	22.45	28.35	34.60	40.92	47.62	47.62	2 / 7							
	reaction time	0.157	interval	5.27	5.34	5.57	5.90	6.25	6.32	6.70	# of strides	11.54	10.91	12.15	13.02	22.45	25.17	2.72
	velocity	7.97	9.49	9.36	8.98	8.47	8.00	7.91	7.46	8.40		8.67	9.17	8.23	7.68	8.91	7.95	
Gahne, Gustav (SWE) (200	time	6.51	11.88	17.39	23.12	29.15	35.57	42.16	49.19	49.19	1 / 8							

reaction time	0.177	interval	5.37	5.51	5.73	6.03	6.42	6.59	7.03	# of strides	11.88	11.24	12.45	13.62	23.12	26.07	2.95
velocity	7.68	9.31	9.07	8.73	8.29	7.79	7.59	7.11	8.13		8.42	8.90	8.03	7.34	8.65	7.67	

2024 Bislett Games (Oslo, NOR)

FINAL

date 30-May-24

Omega Timing (2024) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Hudson-Smith, Matthew (C)	6.10	10.96	15.88	21.03	26.31	31.91	37.80	44.07	44.07	5 / 1							
reaction time	0.146	4.86	4.92	5.15	5.28	5.60	5.89	6.27	AR	# of strides	10.96	10.07	10.88	12.16	21.03	23.04	2.01
velocity	8.20	10.29	10.16	9.71	9.47	8.93	8.49	7.97	9.08	160.0	9.12	9.93	9.19	8.22	9.51	8.68	
James, Kirani (GRN) (1992)	6.14	11.03	16.10	21.37	26.66	32.37	38.30	44.58	44.58	7 / 2							
reaction time	0.162	4.89	5.07	5.27	5.29	5.71	5.93	6.28		# of strides	11.03	10.34	11.00	12.21	21.37	23.21	1.84
velocity	8.14	10.22	9.86	9.49	9.45	8.76	8.43	7.96	8.97	158.7	9.07	9.67	9.09	8.19	9.36	8.62	
Norwood, Vernon (USA) (1)	6.22	11.20	16.32	21.64	27.12	32.79	38.51	44.68	44.68	3 / 3							
reaction time	0.167	4.98	5.12	5.32	5.48	5.67	5.72	6.17		# of strides	11.20	10.44	11.15	11.89	21.64	23.04	1.40
velocity	8.04	10.04	9.77	9.40	9.12	8.82	8.74	8.10	8.95	173.0	8.93	9.58	8.97	8.41	9.24	8.68	
Scotch, Leungo (BOT) (19)	6.13	11.02	16.09	21.38	26.88	32.59	38.54	45.02	45.02	8 / 4							
reaction time	0.157	4.89	5.07	5.29	5.50	5.71	5.95	6.48		# of strides	11.02	10.36	11.21	12.43	21.38	23.64	2.26
velocity	8.16	10.22	9.86	9.45	9.09	8.76	8.40	7.72	8.88	175.5	9.07	9.65	8.92	8.05	9.35	8.46	
Hall, Quincy (USA) (1998)	6.36	11.37	16.45	21.69	27.13	32.78	38.68	45.02	45.02	4 / 5							
reaction time	0.201	5.01	5.08	5.24	5.44	5.65	5.90	6.34		# of strides	11.37	10.32	11.09	12.24	21.69	23.33	1.64
velocity	7.86	9.98	9.84	9.54	9.19	8.85	8.47	7.89	8.88	161.0	8.80	9.69	9.02	8.17	9.22	8.57	
Pillay, Lythe (RSA) (2003)	6.23	11.15	16.26	21.61	27.25	33.04	39.03	45.34	45.34	1 / 6							
reaction time	0.156	4.92	5.11	5.35	5.64	5.79	5.99	6.31		# of strides	11.15	10.46	11.43	12.30	21.61	23.73	2.12
velocity	8.03	10.16	9.78	9.35	8.87	8.64	8.35	7.92	8.82	175.0	8.97	9.56	8.75	8.13	9.25	8.43	
Ingvaldsen, Håvard Bentd.	6.24	11.13	16.15	21.38	26.84	32.70	38.78	45.41	45.51	6 / 7							
reaction time	0.191	4.89	5.02	5.23	5.46	5.86	6.08	6.63		# of strides	11.13	10.25	11.32	12.71	21.38	24.03	2.65
velocity	8.01	10.22	9.96	9.56	9.16	8.53	8.22	7.54	8.79	182.0	8.98	9.76	8.83	7.87	9.35	8.32	
McDonald, Rusheen (JAM)	6.33	11.35	16.56	22.09	27.93	34.03	40.39	47.60	47.60	2 / 8							
reaction time	0.178	5.02	5.21	5.53	5.84	6.10	6.36	7.21		# of strides	11.35	10.74	11.94	13.57	22.09	25.51	3.42
velocity	7.90	9.96	9.60	9.04	8.56	8.20	7.86	6.93	8.40		8.81	9.31	8.38	7.37	9.05	7.84	

2024 Shimane High School Championships (Izumo, JPN)

FINAL

date 24-May-24

Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
寛 光希也		12.12		23.45		35.56		48.32	48.32	5 / 1							
reaction time				11.33		12.11		12.76		# of strides	12.12	11.33	12.11	12.76	23.45	24.87	1.42
velocity		8.25		8.83		8.26		7.84	8.28		8.25	8.83	8.26	7.84	8.53	8.04	
鐘撞 陽斗		12.12		23.58		35.76		48.87	48.87	7 / 2							
reaction time				11.46		12.18		13.11		# of strides	12.12	11.46	12.18	13.11	23.58	25.29	1.71
velocity		8.25		8.73		8.21		7.63	8.18		8.25	8.73	8.21	7.63	8.48	7.91	
錦織 遊心		12.13		23.93		36.49		49.99	49.99	8 / 3							
reaction time				11.80		12.56		13.50		# of strides	12.13	11.80	12.56	13.50	23.93	26.06	2.13
velocity		8.24		8.47		7.96		7.41	8.00		8.24	8.47	7.96	7.41	8.36	7.67	
宮廻 光希		12.67		24.57		37.21		50.72	50.72	6 / 4							
reaction time				11.90		12.64		13.51		# of strides	12.67	11.90	12.64	13.51	24.57	26.15	1.58
velocity		7.89		8.40		7.91		7.40	7.89		7.89	8.40	7.91	7.40	8.14	7.65	
植木 成愛斗		12.77		24.93		37.51		50.78	50.78	2 / 5							
reaction time				12.16		12.58		13.27		# of strides	12.77	12.16	12.58	13.27	24.93	25.85	0.92
velocity		7.83		8.22		7.95		7.54	7.88		7.83	8.22	7.95	7.54	8.02	7.74	
宮村 優獅		12.65		24.77		37.50		50.88	50.88	3 / 6							
reaction time				12.12		12.73		13.38		# of strides	12.65	12.12	12.73	13.38	24.77	26.11	1.34
velocity		7.91		8.25		7.86		7.47	7.86		7.91	8.25	7.86	7.47	8.07	7.66	
景山 裕真		12.15		24.03		37.16		51.20	51.20	4 / 7							
reaction time				11.88		13.13		14.04		# of strides	12.15	11.88	13.13	14.04	24.03	27.17	3.14
velocity		8.23		8.42		7.62		7.12	7.81		8.23	8.42	7.62	7.12	8.32	7.36	
肥後 明輝		12.80		24.90		37.57		51.32	51.32	9 / 8							
reaction time				12.10		12.67		13.75		# of strides	12.80	12.10	12.67	13.75	24.90	26.42	1.52
velocity		7.81		8.26		7.89		7.27	7.79		7.81	8.26	7.89	7.27	8.03	7.57	

2024 Seashore Doha Meeting (Doha, QAT)

FINAL

date 10-May-24

Omega Timing (2024) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Gardiner, Steven (BAH) (19)	6.11	11.02	16.16	21.52	27.02	32.80	38.68	44.76	44.76	5 / 1							
reaction time	0.128	4.91	5.14	5.36	5.50	5.78	5.88	6.08		# of strides	11.02	10.50	11.28	11.96	21.52	23.24	1.72
velocity	8.18	10.18	9.73	9.33	9.09	8.65	8.50	8.22	8.94	158.2	9.07	9.52	8.87	8.36	9.29	8.61	
Samukonga, Muzala (ZAM)	6.11	10.99	16.19	21.66	27.30	33.17	38.98	45.07	45.07	3 / 2							
reaction time	0.175	4.88	5.20	5.47	5.64	5.87	5.81	6.09		# of strides	10.99	10.67	11.51	11.90	21.66	23.41	1.75
velocity	8.18	10.25	9.62	9.14	8.87	8.52	8.61	8.21	8.88		9.10	9.37	8.69	8.40	9.23	8.54	

Scotch, Leungo (BOT) (1999)	time	6.24	11.35	16.68	22.09	27.63	33.39	39.14	45.29	45.29	8 / 3							
	reaction time	0.156	interval	5.11	5.33	5.41	5.54	5.76	5.75	6.15	# of strides	11.35	10.74	11.30	11.90	22.09	23.20	1.11
	velocity	8.01	9.78	9.38	9.24	9.03	8.68	8.70	8.13	8.83	176.7	8.81	9.31	8.85	8.40	9.05	8.62	
Norwood, Vernon (USA) (1 time)	time	6.15	11.14	16.48	21.97	27.44	33.11	38.97	45.49	45.49	6 / 4							
	reaction time	0.182	interval	4.99	5.34	5.49	5.47	5.67	5.86	6.52	# of strides	11.14	10.83	11.14	12.38	21.97	23.52	1.55
	velocity	8.13	10.02	9.36	9.11	9.14	8.82	8.53	7.67	8.79	175.0	8.98	9.23	8.98	8.08	9.10	8.50	
Yahia Ibrahim, Ammar Isma (QAT) (2007)	time	6.34	11.45	16.73	22.14	27.67	33.46	39.33	45.47	45.57	1 / 5							
	reaction time	0.144	interval	5.11	5.28	5.41	5.53	5.79	5.87	6.14	# of strides	11.45	10.69	11.32	12.01	22.14	23.33	1.19
	velocity	7.89	9.78	9.47	9.24	9.04	8.64	8.52	8.14	8.78	PB	8.73	9.35	8.83	8.33	9.03	8.57	
Ndori, Bayapo (BOT) (1999)	time	6.21	11.26	16.58	22.06	27.58	33.30	39.15	45.57	45.57	7 / 6							
	reaction time	0.171	interval	5.05	5.32	5.48	5.52	5.72	5.85	6.42	# of strides	11.26	10.80	11.24	12.27	22.06	23.51	1.45
	velocity	8.05	9.90	9.40	9.12	9.06	8.74	8.55	7.79	8.78	177.0	8.88	9.26	8.90	8.15	9.07	8.51	
Hall, Quincy (USA) (1998)	time	6.36	11.49	16.83	22.40	28.07	33.89	39.72	45.98	45.98	4 / 7							
	reaction time	0.186	interval	5.13	5.34	5.57	5.67	5.82	5.83	6.26	# of strides	11.49	10.91	11.49	12.09	22.40	23.58	1.18
	velocity	7.86	9.75	9.36	8.98	8.82	8.59	8.58	7.99	8.70	170.0	8.70	9.17	8.70	8.27	8.93	8.48	
Osman, Ashraf (QAT) (2007)	time	6.37	11.40	16.60	22.03	27.66	33.60	39.71	46.46	46.46	2 / 8							
	reaction time	0.169	interval	5.03	5.20	5.43	5.63	5.94	6.11	6.75	# of strides	11.40	10.63	11.57	12.86	22.03	24.43	2.40
	velocity	7.85	9.94	9.62	9.21	8.88	8.42	8.18	7.41	8.61	170.0	8.77	9.41	8.64	7.78	9.08	8.19	

Heat B - West Asi date 10-May-24

Omega Timing (2024) - diamond league race analysis

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
Merhe Mortada, Mohamad (QAT) (2007)	time	6.31	11.67	17.29	23.13	29.13	35.29	41.57	48.04	48.04	3 / 1							
	reaction time	0.152	interval	5.36	5.62	5.84	6.00	6.16	6.28	6.47	# of strides	11.67	11.46	12.16	12.75	23.13	24.91	1.78
	velocity	7.92	9.33	8.90	8.56	8.33	8.12	7.96	7.73	8.33	170.0	8.57	8.73	8.22	7.84	8.65	8.03	
Ibrahim Issaka, Hussein (QAT) (2007)	time	6.39	11.68	17.20	22.98	29.00	35.29	41.86	48.86	48.86	6 / 2							
	reaction time	0.228	interval	5.29	5.52	5.78	6.02	6.29	6.57	7.00	# of strides	11.68	11.30	12.31	13.57	22.98	25.88	2.90
	velocity	7.82	9.45	9.06	8.65	8.31	7.95	7.61	7.14	8.19	170.0	8.56	8.85	8.12	7.37	8.70	7.73	

Heat A - West Asi date 10-May-24

Omega Timing (2024) - diamond league race analysis

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
Karam, Yousef (KUW) (1999)	time	6.23	11.41	16.81	22.36	28.18	34.21	40.29	46.69	46.69	5 / 1							
	reaction time	0.145	interval	5.18	5.40	5.55	5.82	6.03	6.08	6.40	# of strides	11.41	10.95	11.85	12.48	22.36	24.33	1.97
	velocity	8.03	9.65	9.26	9.01	8.59	8.29	8.22	7.81	8.57	170.0	8.76	9.13	8.44	8.01	8.94	8.22	
Al Saadi, Yasir Ali (IRQ) (1999)	time	6.38	11.63	17.21	22.99	28.91	34.98	41.13	47.73	47.73	4 / 2							
	reaction time	0.169	interval	5.25	5.58	5.78	5.92	6.07	6.15	6.60	# of strides	11.63	11.36	11.99	12.75	22.99	24.74	1.75
	velocity	7.84	9.52	8.96	8.65	8.45	8.24	8.13	7.58	8.38	170.0	8.60	8.80	8.34	7.84	8.70	8.08	
Al Jabri, Hah (OMA) (2004)	time	6.32	11.63	17.38	23.26	29.25	35.46	41.81	48.45	48.45	3 / 3							
	reaction time	0.188	interval	5.31	5.75	5.88	5.99	6.21	6.35	6.64	# of strides	11.63	11.63	12.20	12.99	23.26	25.19	1.93
	velocity	7.91	9.42	8.70	8.50	8.35	8.05	7.87	7.53	8.26	170.0	8.60	8.60	8.20	7.70	8.60	7.94	
Ebed, Amar Ebed (QAT) (2007)	time	6.43	11.79	17.33	22.99	28.96	35.30	41.86	48.97	48.97	6 / 4							
	reaction time	0.206	interval	5.36	5.54	5.66	5.97	6.34	6.56	7.11	# of strides	11.79	11.20	12.31	13.67	22.99	25.98	2.99
	velocity	7.78	9.33	9.03	8.83	8.38	7.89	7.62	7.03	8.17	170.0	8.48	8.93	8.12	7.32	8.70	7.70	

2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)

FINAL date 15-Oct-23

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Sato, Kentaro (JPN) (1994)	time	6.29	11.34	16.41	21.64	26.97	32.59	32.59	6 / 1							
	reaction time	0.191	interval	5.05	5.07	5.23	5.33	5.62		# of strides	11.34	10.30	10.95		21.64	21.25
	velocity	7.95	9.90	9.86	9.56	9.38	8.90	9.21		131.5	8.82	9.71	9.13	9.24		9.41
Fujisawa, Rui (JPN) (2003)	time	6.33	11.37	16.52	21.87	27.26	32.88	32.88	8 / 2							
	reaction time	0.167	interval	5.04	5.15	5.35	5.39	5.62		# of strides	11.37	10.50	11.01		21.87	21.51
	velocity	7.90	9.92	9.71	9.35	9.28	8.90	9.12		141.0	8.80	9.52	9.08	9.14		9.30
Ekejunia, Ruo (JPN) (2004)	time	6.29	11.34	16.42	21.72	27.16	32.90	32.90	4 / 3							
	reaction time	0.199	interval	5.05	5.08	5.30	5.44	5.74		# of strides	11.34	10.38	11.18		21.72	21.56
	velocity	7.95	9.90	9.84	9.43	9.19	8.71	9.12		135.5	8.82	9.63	8.94	9.21		9.28
Mori, Masato (JPN) (2001)	time	6.44	11.58	16.60	21.76	27.15	32.98	32.98	1 / 4							
	reaction time	0.195	interval	5.14	5.02	5.16	5.39	5.83		# of strides	11.58	10.18	11.22		21.76	21.40
	velocity	7.76	9.73	9.96	9.69	9.28	8.58	9.10		8.64	9.82	8.91		9.19		9.35
Imaizumi, Kenki (JPN) (2007)	time	6.23	11.21	16.36	21.77	27.25	32.98	32.98	2 / 4							
	reaction time	0.184	interval	4.98	5.15	5.41	5.48	5.73		# of strides	11.21	10.56	11.21		21.77	21.77
	velocity	8.03	10.04	9.71	9.24	9.12	8.73	9.10		134.0	8.92	9.47	8.92	9.19		9.19

2023 Prefontaine Classic (Eugene, OR)

FINAL date 16-Sep-23

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		
James, Kirani (GRN) (1992)	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	

Hall, Quincy (USA) (1998)	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									# of strides	11.25	10.39	10.77	12.03	21.64	22.80	1.16
	interval		5.00	5.11	5.28	5.31	5.46	5.76	6.27		# of strides							
	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	
Norwood, Vernon (USA) (1999)	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									# of strides	11.05	10.49	11.00	12.07	21.54	23.07	1.53
	interval		4.93	5.13	5.36	5.40	5.60	5.77	6.30		# of strides							
	velocity	8.17	10.14	9.75	9.33	9.26	8.93	8.67	7.94	8.97	9.05	9.53	9.09	8.29	9.29	8.67		
Deadmon, Bryce (USA) (1999)	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									# of strides	11.16	10.46	11.25	12.03	21.62	23.28	1.66
	interval		5.06	5.14	5.32	5.55	5.70	5.81	6.22		# of strides							
	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		
McDonald, Rusheen (JAM) (1999)	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									# of strides	11.20	10.43	11.44	12.03	21.63	23.47	1.84
	interval		4.92	5.09	5.34	5.69	5.75	5.71	6.32		# of strides							
	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		
Scotch, Leungo (BOT) (1999)	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									# of strides	11.33	10.44	11.09	12.32	21.77	23.41	1.64
	interval		5.08	5.14	5.30	5.43	5.66	5.88	6.44		# of strides							
	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		
Biron, Gilles (FRA) (1995)	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									# of strides	11.48	10.58	11.14	12.31	22.06	23.45	1.39
	interval		5.11	5.24	5.34	5.50	5.64	5.94	6.37		# of strides							
	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		
Hudson-Smith, Matthew (CAN) (1999)	time	6.17	11.16	17.22						dnf	5 / --							
	reaction time	0.166									# of strides	11.16						
	interval		4.99	6.06							# of strides							
	velocity	8.10	10.02	8.25							8.96							

2023 Memorial van Damme (Brussels, BEL)**FINAL**

date 08-Sep-23

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
McDonald, Rusheen (JAM) (1999)	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									# of strides	11.07	10.42	11.25	12.10	21.49	23.35	1.86
	interval		4.90	5.08	5.34	5.59	5.82	6.28			# of strides							
	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	
Ogando, Alexander (DOM) (1999)	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									# of strides	10.98	10.53	11.37	12.05	21.51	23.42	1.91
	interval		4.87	5.16	5.37	5.65	5.72	5.95	6.10		# of strides							
	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	
Ingvaldsen, Håvard Bentzen (NOR) (1999)	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									# of strides	11.29	10.44	11.19	12.15	21.73	23.34	1.61
	interval		4.98	5.12	5.32	5.52	5.67	5.85	6.30		# of strides							
	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	
Scotch, Leungo (BOT) (1999)	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									# of strides	10.96	10.34	11.33	12.51	21.30	23.84	2.54
	interval		4.89	5.05	5.29	5.55	5.78	6.00	6.51		# of strides							
	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	
Biron, Gilles (FRA) (1995)	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									# of strides	11.14	10.44	11.15	12.53	21.58	23.68	2.10
	interval		4.98	5.09	5.35	5.50	5.65	6.02	6.51		# of strides							
	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	
Borlée, Dylan (BEL) (1992)	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									# of strides	11.09	10.26	11.31	12.73	21.35	24.04	2.69
	interval		4.95	5.07	5.19	5.50	5.81	6.15	6.58		# of strides							
	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	
Doom, Alexander (BEL) (1999)	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									# of strides	11.47	10.48	11.44	12.38	21.95	23.82	1.87
	interval		5.03	5.13	5.35	5.62	5.82	6.06	6.32		# of strides							
	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	

B Race

date 08-Sep-23

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
Boers, Isayah (NED) (1999)	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									# of strides	10.98	10.51	11.48	12.50	21.49	23.98	2.49
	interval		4.88	5.10	5.41	5.66	5.82	6.06	6.44		# of strides							
	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		
Vanderbemden, Robin (BEL) (1999)	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									# of strides	11.15	10.41	11.33	12.62	21.56	23.95	2.39
	interval		5.01	5.10	5.31	5.56	5.77	6.03	6.59	PB	# of strides							
	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		
Watrin, Julien (BEL) (1992)	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									# of strides	11.20	10.26	11.41	12.73	21.46	24.14	2.68
	interval		4.95	5.03	5.23	5.57	5.84	6.12	6.61		# of strides							
	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		
Klein Ikkink, Isaya (NED) (2000)	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									# of strides	11.22	10.59	11.38	12.52	21.81	23.90	2.09
	interval		5.02	5.22	5.37	5.59	5.79	6.09	6.43	PB	# of strides							

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
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Mabille, Florent (BEL) (1991)	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	
Sacoor, Jonathan (BEL) (1981)	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	

2023 Xiamen Diamond League (Xiamen, CHN)

FINAL

date 02-Sep-23

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
James, Kirani (GRN) (1992)	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	5.98		# 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)	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	5.98		# 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	
McDonald, Rusheen (JAM)	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	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	
Norwood, Vernon (USA) (1987)	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	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	
Biron, Gilles (FRA) (1995)	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	
Monlár, Attila (HUN) (2002)	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)	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	
Barnes, Zandrión (JAM) (2004)	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	
Haydock-Wilson, Alex (GB)	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	

2023 Weltklasse (Zürich, SUI)

FINAL

date 31-Aug-23

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
Ingvaldsen, Håvard Bente (NOR)	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	
Re, Davide (ITA) (1993)	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	
Borlée, Dylan (BEL) (1992)	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	
Spitz, Lionel (SUI) (2001)	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	
Bonevacía, Liemarvin (NED)	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	
Petruciani, Ricky (SUI) (2008)	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	
Brier, Joseph (GBR) (1999)	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	
Brand, Dany (SUI) (1996)	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	# 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	

2023 World Athletics Championships (Budapest, HUN)

Decathlon - Heat

date 25-Aug-23

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
Owens-Delerme, Ayden (PL) time	11.22	21.71		21.71	33.51	46.44		46.44	46.44	7 / 1							
reaction time	0.162			10.49	11.80	12.93				# of strides	11.22	10.49	11.80	12.93	21.71	24.73	3.02
velocity	8.91	9.53		8.47	7.73	8.61				173.0	8.91	9.53	8.47	7.73	9.21	8.09	
Williams, Harrison (USA) (1 time	11.41	21.79		21.79	33.69	46.52		46.52	46.52	6 / 2							
reaction time	0.200			10.38	11.90	12.83				# of strides	11.41	10.38	11.90	12.83	21.79	24.73	2.94
velocity	8.76	9.63		8.40	7.79	8.60				159.0	8.76	9.63	8.40	7.79	9.18	8.09	
Erm, Johannes (EST) (1998 time	11.76	22.54		22.54	34.37	47.05		47.05	47.05	5 / 3							
reaction time	0.199			10.78	11.83	12.68				# of strides	11.76	10.78	11.83	12.68	22.54	24.51	1.97
velocity	8.50	9.28		8.45	7.89	8.50				170.0	8.50	9.28	8.45	7.89	8.87	8.16	
Taam, Rik (NED) (1997) time	11.67	22.53		22.53	34.07	47.12		47.12	47.12	9 / 4							
reaction time	0.191			10.86	11.54	13.05		PB	8.49	# of strides	11.67	10.86	11.54	13.05	22.53	24.59	2.06
velocity	8.57	9.21		8.67	7.66	8.49				178.0	8.57	9.21	8.67	7.66	8.88	8.13	
Warner, Damian (CAN) (19 time	11.35	22.26		22.26	34.25	47.86		47.86	47.86	3 / 5							
reaction time	0.153			10.91	11.99	13.61				# of strides	11.35	10.91	11.99	13.61	22.26	25.60	3.34
velocity	8.81	9.17		8.34	7.35	8.36				175.0	8.81	9.17	8.34	7.35	8.98	7.81	
Neugebauer, Leo (GER) (2 time	11.56	22.51		22.51	34.50	47.99		47.99	47.99	4 / 6							
reaction time	0.204			10.95	11.99	13.49				# of strides	11.56	10.95	11.99	13.49	22.51	25.48	2.97
velocity	8.65	9.13		8.34	7.41	8.34				168.5	8.65	9.13	8.34	7.41	8.88	7.85	
Skotheim, Sander (NOR) (2 time	11.43	22.29		22.29	34.48	48.48		48.48	48.48	2 / 7							
reaction time	0.173			10.86	12.19	14.00				# of strides	11.43	10.86	12.19	14.00	22.29	26.19	3.90
velocity	8.75	9.21		8.20	7.14	8.25				181.5	8.75	9.21	8.20	7.14	8.97	7.64	

Decathlon - Heat

date 25-Aug-23

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
Lepage, Pierce (CAN) (1996 time	11.43	22.84		22.84	34.63	47.21		47.21	47.21	7 / 1							
reaction time	0.189			11.41	11.79	12.58				# of strides	11.43	11.41	11.79	12.58	22.84	24.37	1.53
velocity	8.75	8.76		8.48	7.95	8.47				160.7	8.75	8.76	8.48	7.95	8.76	8.21	
Victor, Lindon (GRN) (1993 time	11.46	22.52		22.52	34.69	48.05		48.05	48.05	2 / 2							
reaction time	0.160			11.06	12.17	13.36		PB	8.32	# of strides	11.46	11.06	12.17	13.36	22.52	25.53	3.01
velocity	8.73	9.04		8.22	7.49	8.32				177.0	8.73	9.04	8.22	7.49	8.88	7.83	
Eitel, Manuel (GER) (1997) time	11.48	22.73		22.73	34.93	48.47		48.47	48.47	4 / 3							
reaction time	0.162			11.25	12.20	13.54				# of strides	11.48	11.25	12.20	13.54	22.73	25.74	3.01
velocity	8.71	8.89		8.20	7.39	8.25				179.0	8.71	8.89	8.20	7.39	8.80	7.77	
Tilga, Karel (EST) (1998) time	11.78	23.13		23.13	34.99	48.58		48.58	48.58	9 / 4							
reaction time	0.178			11.35	11.86	13.59				# of strides	11.78	11.35	11.86	13.59	23.13	25.45	2.32
velocity	8.49	8.81		8.43	7.36	8.23				177.0	8.49	8.81	8.43	7.36	8.65	7.86	
Garland, Kyle (USA) (2000) time	11.76	23.34		23.34	35.89	49.24		49.24	49.24	5 / 5							
reaction time	0.156			11.58	12.55	13.35				# of strides	11.76	11.58	12.55	13.35	23.34	25.90	2.56
velocity	8.50	8.64		7.97	7.49	8.12				177.0	8.50	8.64	7.97	7.49	8.57	7.72	
Golubovic, Daniel (AUS) (1 time	12.09	23.60		23.60	36.22	49.87		49.87	49.87	3 / 6							
reaction time	0.180			11.51	12.62	13.65				# of strides	12.09	11.51	12.62	13.65	23.60	26.27	2.67
velocity	8.27	8.69		7.92	7.33	8.02				182.0	8.27	8.69	7.92	7.33	8.47	7.61	

Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season

Decathlon - Heat

date 25-Aug-23

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
Rooth, Markus (NOR) (200 time	11.93	23.48		23.48	35.12	48.27		48.27	48.27	7 / 1							
reaction time	0.143			11.55	11.64	13.15		PB	8.29	# of strides	11.93	11.55	11.64	13.15	23.48	24.79	1.31
velocity	8.38	8.66		8.59	7.60	8.29				183.5	8.38	8.66	8.59	7.60	8.52	8.07	
Öglane, Janek (EST) (1994) time	11.78	23.19		23.19	35.29	48.41		48.41	48.41	2 / 2							
reaction time	0.163			11.41	12.10	13.12		PB	8.26	# of strides	11.78	11.41	12.10	13.12	23.19	25.22	2.03
velocity	8.49	8.76		8.26	7.62	8.26				180.7	8.49	8.76	8.26	7.62	8.62	7.93	
Ferreira Santana, Jose (BR) time	12.16	23.67		23.67	36.03	49.31		49.31	49.31	6 / 3							
reaction time	0.147			11.51	12.36	13.28				# of strides	12.16	11.51	12.36	13.28	23.67	25.64	1.97
velocity	8.22	8.69		8.09	7.53	8.11				182.0	8.22	8.69	8.09	7.53	8.45	7.80	
Maruyama, Yuma (JPN) (19 time	6.51	11.93	17.58	23.56	29.75	36.26	43.18	50.75	50.75	5 / 4							
reaction time	0.157			5.42	5.98	6.19	6.51	6.92	7.57	# of strides	11.93	11.63	12.70	14.49	23.56	27.19	3.63
velocity	7.68	9.23	8.85	8.36	8.08	7.68	7.23	6.61	7.88	183.5	8.38	8.60	7.87	6.90	8.49	7.36	
Nilsson, Marcus (SWE) (19 time	12.33	24.09		24.09	37.17	51.36		51.36	51.36	3 / 5							
reaction time	0.204			11.76	13.08	14.19				# of strides	12.33	11.76	13.08	14.19	24.09	27.27	3.18
velocity	8.11	8.50		7.65	7.05	7.79				181.5	8.11	8.50	7.65	7.05	8.30	7.33	

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

FINAL

date 24-Aug-23

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
Watson, Antonio (JAM) (2 time	6.26	11.18	16.15	21.28	26.63	32.23	38.03	44.22	44.22	7 / 1							

Yamanaka (2024)

reaction time	0.165	interval	4.92	4.97	5.13	5.35	5.60	5.80	6.19		# of strides	11.18	10.10	10.95	11.99	21.28	22.94	1.66	
velocity	7.99		10.16	10.06	9.75	9.35	8.93	8.62	8.08	9.05	167.0	8.94	9.90	9.13	8.34	9.40	8.72		
Hudson-Smith, Matthew (C)	time	5.98	10.93	15.96	21.08	26.36	31.96	37.90	44.31	44.31	5 / 2								Yamanaka (2024)
reaction time	0.151	interval	4.95	5.03	5.12	5.28	5.60	5.94	6.41		# of strides	10.93	10.15	10.88	12.35	21.08	23.23	2.15	
velocity	8.36		10.10	9.94	9.77	9.47	8.93	8.42	7.80	9.03	163.5	9.15	9.85	9.19	8.10	9.49	8.61		
Hall, Quincy (USA) (1998)	time	6.25	11.25	16.37	21.60	26.96	32.48	38.23	44.37	44.37	6 / 3								Yamanaka (2024)
reaction time	0.192	interval	5.00	5.12	5.23	5.36	5.52	5.75	6.14	PB	# of strides	11.25	10.35	10.88	11.89	21.60	22.77	1.17	
velocity	8.00		10.00	9.77	9.56	9.33	9.06	8.70	8.14	9.02	160.0	8.89	9.66	9.19	8.41	9.26	8.78		
Norwood, Vernon (USA) (1)	time	6.00	11.01	16.10	21.33	26.72	32.30	38.12	44.39	44.39	8 / 4								Yamanaka (2024)
reaction time	0.163	interval	5.01	5.09	5.23	5.39	5.58	5.82	6.27		# of strides	11.01	10.32	10.97	12.09	21.33	23.06	1.73	
velocity	8.33		9.98	9.82	9.56	9.28	8.96	8.59	7.97	9.01	175.0	9.08	9.69	9.12	8.27	9.38	8.67		
James, Kirani (GRN) (1992)	time	11.13			21.34		32.18		44.52	44.52	4 / 5								Seiko Timing (2023)
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		
Bailey, Sean (JAM) (1997)	time	11.18			21.67		32.90		44.96	44.96	9 / 5								Seiko Timing (2023)
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	161.0	8.94	9.53	8.90	8.29	9.23	8.59		
Ingvaldsen, Håvard Bentda	time	11.39			21.66		32.91		45.08	45.08	3 / 6								Seiko Timing (2023)
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	161.0	8.78	9.74	8.89	8.22	9.23	8.54		
van Niekerk, Wayde (RSA)	time	11.05			21.35		32.44		45.11	45.11	2 / 7								Seiko Timing (2023)
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	161.0	9.05	9.71	9.02	7.89	9.37	8.42		

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

Semi-Final 3

date 22-Aug-23

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	
Hall, Quincy (USA) (1998)	time	6.22	11.22	16.28	21.51	26.86	32.44	38.22	44.43	44.43	7 / 1							Yamanaka (2024)
reaction time	0.176	interval	5.00	5.06	5.23	5.35	5.58	5.78	6.21		# of strides	11.22	10.29	10.93	11.99	21.51	22.92	1.41
velocity	8.04		10.00	9.88	9.56	9.35	8.96	8.65	8.05	9.00	161.0	8.91	9.72	9.15	8.34	9.30	8.73	
Bailey, Sean (JAM) (1997)	time	6.13	11.08	16.12	21.41	26.92	32.69	38.63	44.94	44.94	4 / 2							Yamanaka (2024)
reaction time	0.165	interval	4.88	4.95	5.15	5.36	5.60	5.88	6.40		# of strides	11.08	10.33	11.28	12.25	21.41	23.53	2.12
velocity	8.28		10.25	10.10	9.71	9.33	8.93	8.50	7.81	8.90	178.0	9.03	9.68	8.87	8.16	9.34	8.50	
Nakajima, Yuki Joseph (JPN)	time	6.23	11.19	16.22	21.51	26.96	32.69	38.64	45.04	45.04	9 / 3							Yamanaka (2024)
reaction time	0.215	interval	4.88	4.95	5.15	5.36	5.60	5.88	6.40	PB	# of strides	11.19	10.32	11.18	12.35	21.51	23.53	2.02
velocity	8.28		10.25	10.10	9.71	9.33	8.93	8.50	7.81	8.88	170.0	8.94	9.69	8.94	8.10	9.30	8.50	
Re, Davide (ITA) (1993)	time	11.33			21.69		33.19		45.29	45.29	3 / 4							Seiko Timing (2023)
reaction time	0.165	interval			10.36		11.50		12.10		# of strides	11.33	10.36	11.50	12.10	21.69	23.60	1.91
velocity			8.83		9.65		8.70		8.26	8.83	161.0	8.83	9.65	8.70	8.26	9.22	8.47	
Doom, Alexander (BEL) (19)	time	11.36			21.56		33.18		45.57	45.57	5 / 4							Seiko Timing (2023)
reaction time	0.168	interval			10.20		11.62		12.39		# of strides	11.36	10.20	11.62	12.39	21.56	24.01	2.45
velocity	8.80			9.80		8.61		8.07	8.78	161.0	8.80	9.80	8.61	8.07	9.28	8.33		
Nene, Zakithi (RSA) (1998)	time	11.06			21.45		32.64		45.64	45.64	2 / 6							Seiko Timing (2023)
reaction time	0.151	interval			10.39		11.19		13.00		# of strides	11.06	10.39	11.19	13.00	21.45	24.19	2.74
velocity			9.04		9.62		8.94		7.69	8.76	161.0	9.04	9.62	8.94	7.69	9.32	8.27	
Gardiner, Steven (BAH) (19)	time	11.17			21.15		32.57		dnf	dnf	6 / --							Seiko Timing (2023)
reaction time	0.221	interval			9.98		11.42				# of strides	11.17	9.98	11.42		21.15		
velocity			8.95		10.02		8.76				161.0	8.95	10.02	8.76		9.46		
Ndori, Bayapo (BOT) (1999)	time	12.69							dnf	dnf	8 / --							Seiko Timing (2023)
reaction time	0.159	interval									# of strides	12.69						
velocity			7.88								161.0	7.88						

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

Semi-Final 2

date 22-Aug-23

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	
Hudson-Smith, Matthew (C)	time	6.04	10.92	15.87	21.02	26.38	31.98	37.86	44.26	44.26	7 / 1							Yamanaka (2024)
reaction time	0.167	interval	4.88	4.95	5.15	5.36	5.60	5.88	6.40	AR PB	# of strides	10.92	10.10	10.96	12.28	21.02	23.24	2.22
velocity	8.28		10.25	10.10	9.71	9.33	8.93	8.50	7.81	9.04	163.0	9.16	9.90	9.12	8.14	9.51	8.61	
James, Kirani (GRN) (1992)	time	5.95	10.76	15.68	20.84	26.32	32.10	38.13	44.58	44.58	5 / 2							Yamanaka (2024)
reaction time	0.147	interval	4.81	4.92	5.16	5.48	5.78	6.03	6.45		# of strides	10.76	10.08	11.26	12.48	20.84	23.74	2.90
velocity	8.40		10.40	10.16	9.69	9.12	8.65	8.29	7.75	8.97	162.0	9.29	9.92	8.88	8.01	9.60	8.42	
Ingvaldsen, Håvard Bentda	time	6.20	11.10	16.07	21.28	26.73	32.45	38.34	44.70	44.70	8 / 3							Yamanaka (2024)
reaction time	0.190	interval	4.90	4.97	5.21	5.45	5.72	5.89	6.36		# of strides	11.10	10.18	11.17	12.25	21.28	23.42	2.14
velocity	8.06		10.20	10.06	9.60	9.17	8.74	8.49	7.86	8.95	183.0	9.01	9.82	8.95	8.16	9.40	8.54	
Sato, Fuga (JPN) (1996)	time	6.02	10.88	15.85	21.09	26.60	32.40	38.38	44.88	44.88	6 / 4							Yamanaka (2024)
reaction time	0.150	interval	4.86	4.97	5.24	5.51	5.80	5.98	6.50	PB	# of strides	10.88	10.21	11.31	12.48	21.09	23.79	2.70
velocity	8.31		10.29	10.06	9.54	9.07	8.62	8.36	7.69	8.91	173.0	9.19	9.79	8.84	8.01	9.48	8.41	

Bonevacia, Liemarvin (NED) time	11.32	21.45	32.78	45.23	45.23		4 / 5										<i>Seiko Timing (2023)</i>
reaction time 0.175 interval		10.13	11.33	12.45			# of strides	11.32	10.13	11.33	12.45	21.45	23.78	2.33			
velocity	8.83	9.87	8.83	8.03	8.84		181.0	8.83	9.87	8.83	8.03	9.32	8.41				
Barnes, Zandrion (JAM) (2) time	11.16	21.48	32.70	45.38	45.38		9 / 6										<i>Seiko Timing (2023)</i>
reaction time 0.171 interval		10.32	11.22	12.68			# of strides	11.16	10.32	11.22	12.68	21.48	23.90	2.42			
velocity	8.96	9.69	8.91	7.89	8.81		179.0	8.96	9.69	8.91	7.89	9.31	8.37				
Borlée, Dylan (BEL) (1992) time	11.16	21.38	32.93	45.59	45.59		3 / 7										<i>Seiko Timing (2023)</i>
reaction time 0.153 interval		10.22	11.55	12.66			# of strides	11.16	10.22	11.55	12.66	21.38	24.21	2.83			
velocity	8.96	9.78	8.66	7.90	8.77		175.0	8.96	9.78	8.66	7.90	9.35	8.26				
Kebinatshipi, Collen (BOT) time	11.26	22.30	34.01	46.39	46.39		2 / 8										<i>Seiko Timing (2023)</i>
reaction time 0.168 interval		11.04	11.71	12.38			# of strides	11.26	11.04	11.71	12.38	22.30	24.09	1.79			
velocity	8.88	9.06	8.54	8.08	8.62		189.7	8.88	9.06	8.54	8.08	8.97	8.30				

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

Semi-Final 1

date 22-Aug-23

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
Watson, Antonio (JAM) (2) time	6.16	11.00	15.89	20.97	26.33	31.96	37.87	44.13	44.13	5 / 1							<i>Yamanaka (2024)</i>
reaction time 0.158 interval		4.84	4.89	5.08	5.36	5.63	5.91	6.26	PB	# of strides	11.00	9.97	10.99	12.17	20.97	23.16	2.19
velocity	8.12	10.33	10.22	9.84	9.33	8.88	8.46	7.99	9.06	169.5	9.09	10.03	9.10	8.22	9.54	8.64	
Norwood, Vernon (USA) (1) time	6.11	11.12	16.22	21.45	26.85	32.43	38.15	44.26	44.26	7 / 2							<i>Yamanaka (2024)</i>
reaction time 0.181 interval		5.01	5.10	5.23	5.40	5.58	5.72	6.11	PB	# of strides	11.12	10.33	10.98	11.83	21.45	22.81	1.36
velocity	8.18	9.98	9.80	9.56	9.26	8.96	8.74	8.18	9.04	170.0	8.99	9.68	9.11	8.45	9.32	8.77	
van Niekerk, Wayde (RSA) time	6.06	10.89	15.83	20.99	26.46	32.16	38.11	44.65	44.65	8 / 3							<i>Yamanaka (2024)</i>
reaction time 0.178 interval		4.83	4.94	5.16	5.47	5.70	5.95	6.54		# of strides	10.89	10.10	11.17	12.49	20.99	23.66	2.67
velocity	8.25	10.35	10.12	9.69	9.14	8.77	8.40	7.65	8.96	163.0	9.18	9.90	8.95	8.01	9.53	8.45	
Richards, Jareem (TTO) (19) time	10.92	20.91	32.20	44.76	44.76			44.76	44.76	4 / 4							<i>Seiko Timing (2023)</i>
reaction time 0.160 interval		9.99	11.29	12.56				12.56		# of strides	10.92	9.99	11.29	12.56	20.91	23.85	2.94
velocity	9.16	10.01	8.86	7.96				8.94		176.0	9.16	10.01	8.86	7.96	9.56	8.39	
Sato, Kentaro (JPN) (1994) time	6.11	11.11	16.22	21.45	26.82	32.56	38.56	44.99	44.99	6 / 5							<i>Yamanaka (2024)</i>
reaction time 0.180 interval		5.00	5.11	5.23	5.37	5.74	6.00	6.43		# of strides	11.11	10.34	11.11	12.43	21.45	23.54	2.09
velocity	8.18	10.00	9.78	9.56	9.31	8.71	8.33	7.78	8.89	174.0	9.00	9.67	9.00	8.05	9.32	8.50	
Molnár, Attila (HUN) (2002) time	11.04	21.21	32.55	45.02	45.02			45.02	45.02	9 / 6							<i>Seiko Timing (2023)</i>
reaction time 0.156 interval		10.17	11.34	12.47				12.47		# of strides	11.04	10.17	11.34	12.47	21.21	23.81	2.60
velocity	9.06	9.83	8.82	8.02				8.88		177.0	9.06	9.83	8.82	8.02	9.43	8.40	
Joseph, Michael (LCA) (20) time	11.17	21.36	33.01	45.50	45.50			45.50	45.50	2 / 7							<i>Seiko Timing (2023)</i>
reaction time 0.161 interval		10.19	11.65	12.49				12.49		# of strides	11.17	10.19	11.65	12.49	21.36	24.14	2.78
velocity	8.95	9.81	8.58	8.01				8.79		189.5	8.95	9.81	8.58	8.01	9.36	8.29	
Scotch, Leungo (BOT) (19) time	11.23	21.56	33.09	45.96	45.96			45.96	45.96	3 / 8							<i>Seiko Timing (2023)</i>
reaction time 0.162 interval		10.33	11.53	12.87				12.87		# of strides	11.23	10.33	11.53	12.87	21.56	24.40	2.84
velocity	8.90	9.68	8.67	7.77				8.70		185.0	8.90	9.68	8.67	7.77	9.28	8.20	

Heat 6

date 20-Aug-23

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
Ndori, Bayapo (BOT) (1999) time	11.05	21.19	32.32	44.72	44.72			44.72	44.72	8 / 1							
reaction time 0.155 interval		10.14	11.13	12.40				12.40		# of strides	11.05	10.14	11.13	12.40	21.19	23.53	2.34
velocity	9.05	9.86	8.98	8.06				8.94		172.5	9.05	9.86	8.98	8.06	9.44	8.50	
Doom, Alexander (BEL) (1) time	11.50	21.59	32.90	44.92	44.92			44.92	44.92	5 / 2							
reaction time 0.171 interval		10.09	11.31	12.02	PB			12.02		# of strides	11.50	10.09	11.31	12.02	21.59	23.33	1.74
velocity	8.70	9.91	8.84	8.32	8.90			8.90		177.5	8.70	9.91	8.84	8.32	9.26	8.57	
Barnes, Zandrion (JAM) (2) time	11.26	21.39	32.49	45.05	45.05			45.05	45.05	9 / 3							
reaction time 0.186 interval		10.13	11.10	12.56				12.56		# of strides	11.26	10.13	11.10	12.56	21.39	23.66	2.27
velocity	8.88	9.87	9.01	7.96	8.88			8.88		178.0	8.88	9.87	9.01	7.96	9.35	8.45	
Carvalho, Lucas (BRA) (19) time	11.30	21.67	32.95	45.34	45.34			45.34	45.34	7 / 4							
reaction time 0.175 interval		10.37	11.28	12.39				12.39		# of strides	11.30	10.37	11.28	12.39	21.67	23.67	2.00
velocity	8.85	9.64	8.87	8.07	8.82			8.82		180.7	8.85	9.64	8.87	8.07	9.23	8.45	
Sanders, Manuel (GER) (19) time	11.61	21.90	33.31	45.34	45.34			45.34	45.34	6 / 4							
reaction time 0.187 interval		10.29	11.41	12.03				12.03		# of strides	11.61	10.29	11.41	12.03	21.90	23.44	1.54
velocity	8.61	9.72	8.76	8.31	8.82			8.82		164.0	8.61	9.72	8.76	8.31	9.13	8.53	
Krsek, Matěj (CZE) (2000) time	11.69	22.45	33.81	45.99	45.99			45.99	45.99	3 / 6							
reaction time 0.147 interval		10.76	11.36	12.18				12.18		# of strides	11.69	10.76	11.36	12.18	22.45	23.54	1.09
velocity	8.55	9.29	8.80	8.21	8.70			8.70		183.0	8.55	9.29	8.80	8.21	8.91	8.50	
Deadmon, Bryce (USA) (19) time	11.30	21.81	33.48	46.20	46.20			46.20	46.20	4 / 7							
reaction time 0.170 interval		10.51	11.67	12.72				12.72		# of strides	11.30	10.51	11.67	12.72	21.81	24.39	2.58
velocity	8.85	9.51	8.57	7.86	8.66			8.66		185.0	8.85	9.51	8.57	7.86	9.17	8.20	

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

Heat 5

date 20-Aug-23

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
Watson, Antonio (JAM) (2) time	11.40	21.56	32.77	44.77	44.77			44.77	44.77	3 / 1							

	reaction time	0.169	interval		10.16	11.21	12.00		# of strides	11.40	10.16	11.21	12.00	21.56	23.21	1.65		
	velocity			8.77	9.84	8.92	8.33	8.93	166.2	8.77	9.84	8.92	8.33	9.28	8.62			
Hall, Quincy (USA) (1998)	time		11.38	21.76	33.05	44.86	44.86		5 / 2									
	reaction time	0.181	interval		10.38	11.29	11.81		# of strides	11.38	10.38	11.29	11.81	21.76	23.10	1.34		
	velocity		8.79	9.63	8.86	8.47	8.92		159.0	8.79	9.63	8.86	8.47	9.19	8.66			
Nakajima, Yuki Joseph (JPN)	time	6.26	11.32	16.49	21.77	27.19	32.86	38.74	45.15	45.15						Yamanaka (2024)		
	reaction time	0.181	interval	5.06	5.17	5.28	5.42	5.67	5.88	6.41	# of strides	11.32	10.45	11.09	12.29	21.77	23.38	1.61
	velocity		7.99	9.88	9.67	9.47	9.23	8.82	8.50	7.80	166.5	8.83	9.57	9.02	8.14	9.19	8.55	
Pillay, Lythe (RSA) (2003)	time		11.20	21.67	33.25	45.58	45.58		7 / 4									
	reaction time	0.161	interval		10.47	11.58	12.33		# of strides	11.20	10.47	11.58	12.33	21.67	23.91	2.24		
	velocity		8.93	9.55	8.64	8.11	8.78		8.93	9.55	8.64	8.11	9.23	8.36				
Spitz, Lionel (SUI) (2001)	time		11.37	21.85	33.18	45.69	45.69		9 / 5									
	reaction time	0.180	interval		10.48	11.33	12.51		# of strides	11.37	10.48	11.33	12.51	21.85	23.84	1.99		
	velocity		8.80	9.54	8.83	7.99	8.75		8.80	9.54	8.83	7.99	9.15	8.39				
Zalewski, Karol (POL) (1993)	time		11.37	22.03	33.80	46.53	46.53		2 / 6									
	reaction time	0.168	interval		10.66	11.77	12.73		# of strides	11.37	10.66	11.77	12.73	22.03	24.50	2.47		
	velocity		8.80	9.38	8.50	7.86	8.60		8.80	9.38	8.50	7.86	9.08	8.16				
O'Donnell, Christopher (IR)	time		11.55	22.30	33.88	46.76	46.76		6 / 7									
	reaction time	0.159	interval		10.75	11.58	12.88		# of strides	11.55	10.75	11.58	12.88	22.30	24.46	2.16		
	velocity		8.66	9.30	8.64	7.76	8.55		8.66	9.30	8.64	7.76	8.97	8.18				
Boyce, Desean (BAR) (2001)	time		11.14	21.82	33.77		dnf		8 / --									
	reaction time	0.168	interval		10.68	11.95			# of strides	11.14	10.68	11.95		21.82				
	velocity		8.98	9.36	8.37				8.98	9.36	8.37		9.17					

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

Heat 4

date 20-Aug-23

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	
James, Kirani (GRN) (1992)	time		11.12		21.70		33.16		44.91	44.91	6 / 1								
	reaction time	0.166	interval		10.58		11.46		11.75		# of strides	11.12	10.58	11.46	11.75	21.70	23.21	1.51	
	velocity		8.99		9.45		8.73		8.51	8.91	158.0	8.99	9.45	8.73	8.51	9.22	8.62		
Sato, Fuga (JPN) (1996)	time	6.12	11.13	16.25	21.54	27.02	32.73	38.69	44.97	44.97	5 / 2								Yamanaka (2024)
	reaction time	0.167	interval	5.01	5.12	5.29	5.48	5.71	5.96	6.28	PB	# of strides	11.13	10.41	11.19	12.24	21.54	23.43	1.89
	velocity		8.17	9.98	9.77	9.45	9.12	8.76	8.39	7.96	8.89	176.0	8.98	9.61	8.94	8.17	9.29	8.54	
Bailey, Sean (JAM) (1997)	time		11.36		21.70		33.05		44.98	44.98	3 / 3								
	reaction time	0.183	interval		10.34		11.35		11.93		# of strides	11.36	10.34	11.35	11.93	21.70	23.28	1.58	
	velocity		8.80		9.67		8.81		8.38	8.89	176.0	8.80	9.67	8.81	8.38	9.22	8.59		
Re, Davide (ITA) (1993)	time		11.48		22.01		33.35		45.07	45.07	4 / 4								
	reaction time	0.153	interval		10.53		11.34		11.72		# of strides	11.48	10.53	11.34	11.72	22.01	23.06	1.05	
	velocity		8.71		9.50		8.82		8.53	8.88	174.0	8.71	9.50	8.82	8.53	9.09	8.67		
Scotch, Leungo (BOT) (1995)	time		11.15		21.46		32.88		45.20	45.20	2 / 5								
	reaction time	0.169	interval		10.31		11.42		12.32		# of strides	11.15	10.31	11.42	12.32	21.46	23.74	2.28	
	velocity		8.97		9.70		8.76		8.12	8.85	181.0	8.97	9.70	8.76	8.12	9.32	8.42		
Nwachukwu, Debem (NGR) (1999)	time		11.02		21.82		33.37		45.60	45.60	9 / 6								
	reaction time	0.190	interval		10.80		11.55		12.23		# of strides	11.02	10.80	11.55	12.23	21.82	23.78	1.96	
	velocity		9.07		9.26		8.66		8.18	8.77		9.07	9.26	8.66	8.18	9.17	8.41		
Nielsen, Gustav Lundholm	time		11.36		21.98		33.40		45.66	45.66	7 / 7								
	reaction time	0.176	interval		10.62		11.42		12.26	PB	# of strides	11.36	10.62	11.42	12.26	21.98	23.68	1.70	
	velocity		8.80		9.42		8.76		8.16	8.76		8.80	9.42	8.76	8.16	9.10	8.45		
Bengtström, Carl (SWE) (2003)	time		11.26		21.80		33.42		45.72	45.72	8 / 4								
	reaction time	0.191	interval		10.54		11.62		12.30	DQ	# of strides	11.26	10.54	11.62	12.30	21.80	23.92	2.12	
	velocity		8.88		9.49		8.61		8.13	8.75		8.88	9.49	8.61	8.13	9.17	8.36		

Heat 3

date 20-Aug-23

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	
Ingvaldsen, Håvard Bentsen	time		11.37		21.46		32.39		44.39	44.39	8 / 1								
	reaction time	0.218	interval		10.09		10.93		12.00	NR PB	# of strides	11.37	10.09	10.93	12.00	21.46	22.93	1.47	
	velocity		8.80		9.91		9.15		8.33	9.01	177.2	8.80	9.91	9.15	8.33	9.32	8.72		
Norwood, Vernon (USA) (1999)	time		11.28		21.56		32.76		44.87	44.87	4 / 2								
	reaction time	0.194	interval		10.28		11.20		12.11		# of strides	11.28	10.28	11.20	12.11	21.56	23.31	1.75	
	velocity		8.87		9.73		8.93		8.26	8.91	173.0	8.87	9.73	8.93	8.26	9.28	8.58		
Richards, Jereem (TTO) (1999)	time		11.39		21.92		33.17		45.15	45.15	2 / 3								
	reaction time	0.153	interval		10.53		11.25		11.98		# of strides	11.39	10.53	11.25	11.98	21.92	23.23	1.31	
	velocity		8.78		9.50		8.89		8.35	8.86	169.5	8.78	9.50	8.89	8.35	9.12	8.61		
Borlée, Dylan (BEL) (1992)	time		11.25		21.44		32.85		45.24	45.24	6 / 4								
	reaction time	0.160	interval		10.19		11.41		12.39		# of strides	11.25	10.19	11.41	12.39	21.44	23.80	2.36	
	velocity		8.89		9.81		8.76		8.07	8.84	175.5	8.89	9.81	8.76	8.07	9.33	8.40		

Pohorilko, Oleksandr (UKR)	time	11.80	22.21	33.13	45.37	45.37	3 / 5										
	reaction time	0.233		10.41	10.92	12.24		# of strides	11.80	10.41	10.92	12.24	22.21	23.16	0.95		
	interval velocity		8.47	9.61	9.16	8.17	8.82	170.7	8.47	9.61	9.16	8.17	9.00	8.64			
Coelho, João (POR) (1999)	time	11.50	21.83	33.00	45.38	45.38	9 / 6										
	reaction time	0.273		10.33	11.17	12.38		# of strides	11.50	10.33	11.17	12.38	21.83	23.55	1.72		
	interval velocity		8.70	9.68	8.95	8.08	8.81	175.0	8.70	9.68	8.95	8.08	9.16	8.49			
Jones, Jonathan (BAR) (19)	time	11.40	21.70	32.91	46.03	46.03	7 / 7										
	reaction time	0.156		10.30	11.21	13.12		# of strides	11.40	10.30	11.21	13.12	21.70	24.33	2.63		
	interval velocity		8.77	9.71	8.92	7.62	8.69	175.2	8.77	9.71	8.92	7.62	9.22	8.22			

Heat 2

date 20-Aug-23

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	
van Niekerk, Wayde (RSA)	time		11.17		21.31		32.56		44.57	44.57	4 / 1								
	reaction time		0.185		10.14		11.25		12.01		# of strides	11.17	10.14	11.25	12.01	21.31	23.26	1.95	
	interval velocity		8.95		9.86		8.89		8.33	8.97	162.0	8.95	9.86	8.89	8.33	9.39	8.60		
Hudson-Smith, Matthew (C)	time		11.16		21.26		32.36		44.69	44.69	3 / 2								
	reaction time		0.177		10.10		11.10		12.33		# of strides	11.16	10.10	11.10	12.33	21.26	23.43	2.17	
	interval velocity		8.96		9.90		9.01		8.11	8.95	165.0	8.96	9.90	9.01	8.11	9.41	8.54		
Bonevacia, Liemarvin (NED)	time		11.53		21.88		33.13		44.78	44.78	7 / 3								
	reaction time		0.186		10.35		11.25		11.65		# of strides	11.53	10.35	11.25	11.65	21.88	22.90	1.02	
	interval velocity		8.67		9.66		8.89		8.58	8.93	178.0	8.67	9.66	8.89	8.58	9.14	8.73		
Kebinatshipi, Collen (BOT)	time		10.92		21.37		32.68		44.80	44.80	6 / 4								
	reaction time		0.155		10.45		11.31		12.12	AJR PB	# of strides	10.92	10.45	11.31	12.12	21.37	23.43	2.06	
	interval velocity		9.16		9.57		8.84		8.25	8.93	189.0	9.16	9.57	8.84	8.25	9.36	8.54		
Zambrano, Anthony (COL)	time		11.03		21.29		32.62		44.92	44.92	9 / 5								
	reaction time		0.223		10.26		11.33		12.30	DQ	# of strides	11.03	10.26	11.33	12.30	21.29	23.63	2.34	
	interval velocity		9.07		9.75		8.83		8.13	8.90	176.0	9.07	9.75	8.83	8.13	9.39	8.46		
Larregina, Elián (ARG) (2)	time		11.15		21.37		32.78		45.42	45.42	8 / 5								
	reaction time		0.181		10.22		11.41		12.64		# of strides	11.15	10.22	11.41	12.64	21.37	24.05	2.68	
	interval velocity		8.97		9.78		8.76		7.91	8.81	169.0	8.97	9.78	8.76	7.91	9.36	8.32		
Russell, Alonzo (BAH) (19)	time		11.29		21.63		33.31		46.95	46.95	5 / 6								
	reaction time		0.188		10.34		11.68		13.64		# of strides	11.29	10.34	11.68	13.64	21.63	25.32	3.69	
	interval velocity		8.86		9.67		8.56		7.33	8.52	179.7	8.86	9.67	8.56	7.33	9.25	7.90		

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

Heat 1

date 20-Aug-23

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	
Gardiner, Steven (BAH) (19)	time		11.16		21.29		32.34		44.65	44.65	7 / 1								
	reaction time		0.197		10.13		11.05		12.31		# of strides	11.16	10.13	11.05	12.31	21.29	23.36	2.07	
	interval velocity		8.96		9.87		9.05		8.12	8.96	160.0	8.96	9.87	9.05	8.12	9.39	8.56		
Sato, Kentaro (JPN) (1994)	time	6.24	11.31	16.46	21.71	27.07	32.71	38.59	44.77	44.77	6 / 2								Yamanaka (2024)
	reaction time		5.07	5.15	5.25	5.36	5.64	5.88	6.18	NR PB	# of strides	11.31	10.40	11.00	12.06	21.71	23.06	1.35	
	interval velocity		8.01	9.86	9.71	9.52	9.33	8.87	8.50	8.09	174.5	8.84	9.62	9.09	8.29	9.21	8.67		
Molnár, Attila (HUN) (2002)	time		11.25		21.46		32.95		44.84	44.84	9 / 3								
	reaction time		0.172		10.21		11.49		11.89	NR PB	# of strides	11.25	10.21	11.49	11.89	21.46	23.38	1.92	
	interval velocity		8.89		9.79		8.70		8.41	8.92	175.2	8.89	9.79	8.70	8.41	9.32	8.55		
Nene, Zakithi (RSA) (1998)	time		11.10		21.39		32.49		44.88	44.88	8 / 4								
	reaction time		0.145		10.29		11.10		12.39		# of strides	11.10	10.29	11.10	12.39	21.39	23.49	2.10	
	interval velocity		9.01		9.72		9.01		8.07	8.91	180.0	9.01	9.72	9.01	8.07	9.35	8.51		
Joseph, Michael (LCA) (20)	time		11.33		21.61		32.79		45.04	45.04	5 / 5								
	reaction time		0.153		10.28		11.18		12.25		# of strides	11.33	10.28	11.18	12.25	21.61	23.43	1.82	
	interval velocity		8.83		9.73		8.94		8.16	8.88	170.0	8.83	9.73	8.94	8.16	9.25	8.54		
Dharshana, Aruna (SRI) (1)	time		11.63		22.35		33.86		45.70	45.70	4 / 6								
	reaction time		0.214		10.72		11.51		11.84		# of strides	11.63	10.72	11.51	11.84	22.35	23.35	1.00	
	interval velocity		8.60		9.33		8.69		8.45	8.75	166.0	8.60	9.33	8.69	8.45	8.95	8.57		
Mweresa, Bonface (KEN) (1)	time		11.66		22.48		33.85		45.91	45.91	3 / 7								
	reaction time		0.190		10.82		11.37		12.06		# of strides	11.66	10.82	11.37	12.06	22.48	23.43	0.95	
	interval velocity		8.58		9.24		8.80		8.29	8.71	176.0	8.58	9.24	8.80	8.29	8.90	8.54		

2023 Japanese National High School Championships (Sapporo, JPN)

FINAL

date 02-Aug-23

Takashima (2023) - national high school sports festival - biomechanics data

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Hirakawa, Kei (JPN)	time		11.26		22.12		33.85		46.63	46.63	5 / 1								
	reaction time		0.205		10.86		11.73		12.78		# of strides	11.26	10.86	11.73	12.78	22.12	24.51	2.39	
	interval velocity		8.88		9.21		8.53		7.82	8.58	178.0	8.88	9.21	8.53	7.82	9.04	8.16		
Hibio, Kikuta (JPN)	time		11.46		22.47		34.27		47.14	47.14	7 / 2								
	reaction time		0.256		11.01		11.80		12.87		# of strides	11.46	11.01	11.80	12.87	22.47	24.67	2.20	
	interval velocity		8.73		9.08		8.47		7.77	8.49	178.0	8.73	9.08	8.47	7.77	8.90	8.11		

Kouma, Masano (JPN)	time	11.61	22.52	34.58	47.23	47.23	9 / 3										
	reaction time	0.244	interval	10.91	12.06	12.65	# of strides	11.61	10.91	12.06	12.65	22.52	24.71	2.19			
	velocity	8.61	9.17	8.29	7.91	8.47		8.61	9.17	8.29	7.91	8.88	8.09				
庄龍 大翔	time	11.61	22.74	34.38	47.33	47.33	4 / 4										
	reaction time	0.209	interval	11.13	11.64	12.95	# of strides	11.61	11.13	11.64	12.95	22.74	24.59	1.85			
	velocity	8.61	8.98	8.59	7.72	8.45		8.61	8.98	8.59	7.72	8.80	8.13				
Yamano, Haruki (JPN)	time	11.63	22.81	34.85	47.75	47.75	2 / 5										
	reaction time	0.246	interval	11.18	12.04	12.90	# of strides	11.63	11.18	12.04	12.90	22.81	24.94	2.13			
	velocity	8.60	8.94	8.31	7.75	8.38		8.60	8.94	8.31	7.75	8.77	8.02				
Tanino, Yusei (JPN)	time	11.71	22.79	34.80	47.97	47.97	3 / 6										
	reaction time	0.203	interval	11.08	12.01	13.17	# of strides	11.71	11.08	12.01	13.17	22.79	25.18	2.39			
	velocity	8.54	9.03	8.33	7.59	8.34		8.54	9.03	8.33	7.59	8.78	7.94				
Kawai, Toshito (JPN)	time	11.68	22.96	35.19	48.06	48.06	8 / 7										
	reaction time	0.231	interval	11.28	12.23	12.87	# of strides	11.68	11.28	12.23	12.87	22.96	25.10	2.14			
	velocity	8.56	8.87	8.18	7.77	8.32		8.56	8.87	8.18	7.77	8.71	7.97				
Shirahata, Kentaro (JPN)	time	11.54	22.62	34.83	48.36	48.36	6 / 8										
	reaction time	0.232	interval	11.08	12.21	13.53	# of strides	11.54	11.08	12.21	13.53	22.62	25.74	3.12			
	velocity	8.67	9.03	8.19	7.39	8.27		8.67	9.03	8.19	7.39	8.84	7.77				

2023 London Athletics Meet (London, GBR)

FINAL

date 23-Jul-23

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
van Niekerc, Wayde (RSA)	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	
Deadmon, Bryce (USA) (19)	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	
Norwood, Vernon (USA) (1)	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	
Hudson-Smith, Matthew (C)	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	
Scotch, Leungo (BOT) (19)	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	
Willie, Ryan (USA) (2002)	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	
Bonevacija, Liemarvin (NED)	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	
Haydock-Wilson, Alex (GB)	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	

2023 Kamila Skolimowska Memorial (Silesia, POL)

FINAL

date 16-Jul-23

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	
van Niekerc, Wayde (RSA)	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		
Ndori, Bayapo (BOT) (1999)	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		
dos Santos, Alison (BRA)	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		
Nene, Zakhiti (RSA) (1998)	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		
Willie, Ryan (USA) (2002)	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		
Deadmon, Bryce (USA) (19)	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	
Norwood, Vernon (USA) (1time	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	
Zalewski, Karol (POL) (1993time	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	
Samukonga, Muzala (ZAM) 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						

2023 Bauhaus Galan (Stockholm, SWE)

FINAL

date 02-Jul-23

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
Nene, Zakhiti (RSA) (1998) 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	
Bamidele, Emmanuel (NGR) 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	
Hudson-Smith, Matthew (C) 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	
Coelho, João (POR) (1999) 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	
Molnár, Attila (HUN) (2002) 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	
Scotch, Leungo (BOT) (199) 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	
Ndori, Bayapo (BOT) (1999) 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	
Nakajima, Yuki Joseph (JPN) 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	

National FINAL

date 02-Jul-23

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	
Johansson, Emil (SWE) (20) 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		
Isaacs, Gardeo (RSA) (1998) 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		
Thid, David (SWE) (2003) time	6.27	11.53	16.96	22.60	28.42	34.55	40.92	47.75	47.75	8 / 3								
reaction time	0.153	interval	5.26	5.43	5.64	5.82	6.13	6.37	6.83	# of strides	11.53	11.07	11.95	13.20	22.60	25.15	2.55	
velocity	7.97		9.51	9.21	8.87	8.59	8.16	7.85	7.32	8.38	8.67	9.03	8.37	7.58	8.85	7.95		
Gahne, Gustav (SWE) (200) 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		
Waernulf, Mattias (SWE) (2) 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		
Nyström, Alexander (SWE) 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		
Yousif, Rabah (GBR) (1986) 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		

2023 Athletissima (Lausanne, SUI)

FINAL

date 30-Jun-23

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
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Scotch, Leungo (BOT) (1998)	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	
Borlée, Dylan (BEL) (1992)	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	
Spitz, Lionel (SUI) (2001)	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	
Re, Davide (ITA) (1993)	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	
Bonevacia, Liemarvin (NED)	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	
Petrucciani, Ricky (SUI) (20)	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	
Jordier, Thomas (FRA) (19)	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) (19)	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	

2023 Japanese Multi-Event National Championships (Akita, JPN)**Decathlon - Heat**

date 10-Jun-23

Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Maruyama, Yuma (JPN) (19)	time	6.57	11.96	17.64	23.47	29.44	35.73	42.36	49.47	49.47	6 / 2							
	reaction time	interval	5.39	5.68	5.83	5.97	6.29	6.63	7.11	# of strides	11.96	11.51	12.26	13.74	23.47	26.00	2.53	
	velocity	7.61	9.28	8.80	8.58	8.38	7.95	7.54	7.03	8.09		8.36	8.69	8.16	7.28	8.52	7.69	
Tau, Shun (JPN) (1997)	time	6.56	11.97	17.56	23.33	29.42	35.84	42.49	49.69	49.69	7 / 4							
	reaction time	interval	5.41	5.59	5.77	6.09	6.42	6.65	7.20	# of strides	11.97	11.36	12.51	13.85	23.33	26.36	3.03	
	velocity	7.62	9.24	8.94	8.67	8.21	7.79	7.52	6.94	8.05		8.35	8.80	7.99	7.22	8.57	7.59	

Decathlon - Heat

date 10-Jun-23

Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Nakamura, Akihiko (JPN) (1)	time	6.85	12.49	18.31	24.37	30.65	37.13	43.65	50.40	50.40	7 / 2							
	reaction time	interval	5.64	5.82	6.06	6.28	6.48	6.52	6.75	# of strides	12.49	11.88	12.76	13.27	24.37	26.03	1.66	
	velocity	7.30	8.87	8.59	8.25	7.96	7.72	7.67	7.41	7.94		8.01	8.42	7.84	7.54	8.21	7.68	
Ushiro, Keisuke (JPN) (198)	time	6.72	12.36	18.22	24.51	31.32	38.75	46.58	55.13	55.13	9 / 7							
	reaction time	interval	5.64	5.86	6.29	6.81	7.43	7.83	8.55	# of strides	12.36	12.15	14.24	16.38	24.51	30.62	6.11	
	velocity	7.44	8.87	8.53	7.95	7.34	6.73	6.39	5.85	7.26		8.09	8.23	7.02	6.11	8.16	6.53	

2023 FBK Games (Hengelo, NED)**FINAL**

date 04-Jun-23

Omega Timing (2023) - continental tour race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Kebinatshipi, Collen (BOT)	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	
Norwood, Vernon (USA) (1)	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
Nene, Zakhiti (RSA) (1998)	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
Borlée, Dylan (BEL) (1992)	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	
Bonevacia, Liemarvin (NED)	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
Makwala, Isaac (BOT) (1985)	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	
Pesela, Anthony (BOT) (20)	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	

Boers, Isayah (NED) (1999)	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	

2023 Japanese National Championships (Osaka, JPN)

FINAL

date 04-Jun-23

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Nakajima, Yuki Joseph (JPN)	time	6.22	11.20	16.28	21.54	26.97	32.72	38.77	45.15	45.15	7 / 1								
	reaction time	0.175	interval	4.98	5.08	5.26	5.43	5.75	6.05	6.38	PB	# of strides	11.20	10.34	11.18	12.43	21.54	23.61	2.07
	velocity	8.04	10.04	9.84	9.51	9.21	8.70	8.26	7.84	8.86	172.5	8.93	9.67	8.94	8.05	9.29	8.47		
Sato, Fuga (JPN) (1999)	time	6.06	11.11	16.22	21.47	26.90	32.62	38.74	45.26	45.26	6 / 2								
	reaction time	0.199	interval	5.05	5.11	5.25	5.43	5.72	6.12	6.52	PB	# of strides	11.11	10.36	11.15	12.64	21.47	23.79	2.32
	velocity	8.25	9.90	9.78	9.52	9.21	8.74	8.17	7.67	8.84	174.5	9.00	9.65	8.97	7.91	9.32	8.41		
Sato, Kentaro (JPN) (1994)	time	6.16	11.16	16.28	21.55	26.97	32.80	38.95	45.47	45.47	4 / 3								
	reaction time	0.232	interval	5.00	5.12	5.27	5.42	5.83	6.15	6.52		# of strides	11.16	10.39	11.25	12.67	21.55	23.92	2.37
	velocity	8.12	10.00	9.77	9.49	9.23	8.58	8.13	7.67	8.80		8.96	9.62	8.89	7.89	9.28	8.36		
Imaizumi, Kenki (JPN) (200)	time	6.16	11.18	16.32	21.67	27.21	33.04	39.09	45.54	45.54	5 / 4								
	reaction time	0.192	interval	5.02	5.14	5.35	5.54	5.83	6.05	6.45	PB	# of strides	11.18	10.49	11.37	12.50	21.67	23.87	2.20
	velocity	8.12	9.96	9.73	9.35	9.03	8.58	8.26	7.75	8.78	177.2	8.94	9.53	8.80	8.00	9.23	8.38		
Jinushi, Naohiro (JPN) (20)	time	6.46	11.85	17.32	22.83	28.37	34.00	39.78	45.97	45.97	9 / 5								
	reaction time	0.149	interval	5.39	5.47	5.51	5.54	5.63	5.78	6.19		# of strides	11.85	10.98	11.17	11.97	22.83	23.14	0.31
	velocity	7.74	9.28	9.14	9.07	9.03	8.88	8.65	8.08	8.70		8.44	9.11	8.95	8.35	8.76	8.64		

Heat 3

date 03-Jun-23

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Nakajima, Yuki Joseph (JPN)	time	6.17	11.12	16.20	21.52	27.07	32.94	39.06	45.49	45.49	5 / 1								
	reaction time	0.167	interval	4.95	5.08	5.32	5.55	5.87	6.12	6.43		# of strides	11.12	10.40	11.42	12.55	21.52	23.97	2.45
	velocity	8.10	10.10	9.84	9.40	9.01	8.52	8.17	7.78	8.79	172.0	8.99	9.62	8.76	7.97	9.29	8.34		

Heat 2

date 03-Jun-23

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Sato, Kentaro (JPN) (1994)	time	6.15	11.21	16.33	21.62	27.16	33.13	39.43	46.06	46.06	7 / 1								
	reaction time	0.185	interval	5.06	5.12	5.29	5.54	5.97	6.30	6.63		# of strides	11.21	10.41	11.51	12.93	21.62	24.44	2.82
	velocity	8.13	9.88	9.77	9.45	9.03	8.38	7.94	7.54	8.68	179.0	8.92	9.61	8.69	7.73	9.25	8.18		
Jinushi, Naohiro (JPN) (20)	time	6.37	11.68	17.07	22.51	28.04	33.80	39.86	46.35	46.35	5 / 2								
	reaction time	0.174	interval	5.31	5.39	5.44	5.53	5.76	6.06	6.49		# of strides	11.68	10.83	11.29	12.55	22.51	23.84	1.33
	velocity	7.85	9.42	9.28	9.19	9.04	8.68	8.25	7.70	8.63	177.2	8.56	9.23	8.86	7.97	8.88	8.39		

Heat 1

date 03-Jun-23

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Sato, Fuga (JPN) (1999)	time	6.13	11.12	16.22	21.53	27.10	32.95	39.06	45.62	45.62	6 / 1								
	reaction time	0.180	interval	4.99	5.10	5.31	5.57	5.85	6.11	6.56		# of strides	11.12	10.41	11.42	12.67	21.53	24.09	2.56
	velocity	8.16	10.02	9.80	9.42	8.98	8.55	8.18	7.62	8.77	175.0	8.99	9.61	8.76	7.89	9.29	8.30		
Imaizumi, Kenki (JPN) (200)	time	6.23	11.34	16.58	22.02	27.63	33.49	39.57	46.01	46.01	5 / 2								
	reaction time	0.168	interval	5.11	5.24	5.44	5.61	5.86	6.08	6.44		# of strides	11.34	10.68	11.47	12.52	22.02	23.99	1.97
	velocity	8.03	9.78	9.54	9.19	8.91	8.53	8.22	7.76	8.69	177.0	8.82	9.36	8.72	7.99	9.08	8.34		

2023 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)

FINAL

date 28-May-23

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	
Gardiner, Steven (BAH) (19)	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		
Norwood, Vernon (USA) (1)	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		
McDonald, Rusheen (JAM)	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		
Nene, Zakhiti (RSA) (1998)	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		
Ndori, Bayapo (BOT) (1999)	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		
Haydock-Wilson, Alex (GB)	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		
Dair, Hamza (MAR) (2002)	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
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Hudson-Smith, Matthew (C)	time	6.21	dnf	4 / --
reaction time	0.156	interval		# of strides
velocity	8.05			

National FINAL date 28-May-23

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	
Mhamdi, Rachid (MAR) (20)	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	
Mouttakil, Kamal (MAR) (2)	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	
El Guebbaz, Said (MAR) (1)	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	
Dimokrati, El Mehdi (MAR)	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	
Hssine, Yassine (MAR) (20)	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	
Taleb, Lahssen (MAR) (200)	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	
El Boussiri, Walid (MAR) (2)	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	
Hasnaoui, Farid (MAR) (20)	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	

2023 Shimane High School Championships (Izumo, JPN)**FINAL**

date 26-May-23

Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
箕光希也	time	11.57	22.73	35.34	49.89	49.89			49.89	6 / 1							
reaction time		interval	11.16	12.61	14.55					# of strides	11.57	11.16	12.61	14.55	22.73	27.16	4.43
velocity		8.64	8.96	7.93	6.87	8.02					8.64	8.96	7.93	6.87	8.80	7.36	
布野 新太郎	time	12.70	24.83	37.47	50.52	50.52			50.52	3 / 2							
reaction time		interval	12.13	12.64	13.05					# of strides	12.70	12.13	12.64	13.05	24.83	25.69	0.86
velocity		7.87	8.24	7.91	7.66	7.92					7.87	8.24	7.91	7.66	8.05	7.79	
藤本 隆司	time	12.35	24.32	37.11	51.04	51.04			51.04	8 / 3							
reaction time		interval	11.97	12.79	13.93					# of strides	12.35	11.97	12.79	13.93	24.32	26.72	2.40
velocity		8.10	8.35	7.82	7.18	7.84					8.10	8.35	7.82	7.18	8.22	7.49	
登川 天	time	12.93	25.30	38.06	51.33	51.33			51.33	4 / 4							
reaction time		interval	12.37	12.76	13.27					# of strides	12.93	12.37	12.76	13.27	25.30	26.03	0.73
velocity		7.73	8.08	7.84	7.54	7.79					7.73	8.08	7.84	7.54	7.91	7.68	
石橋 直明	time	12.20	24.17	37.08	51.54	51.54			51.54	7 / 5							
reaction time		interval	11.97	12.91	14.46					# of strides	12.20	11.97	12.91	14.46	24.17	27.37	3.20
velocity		8.20	8.35	7.75	6.92	7.76					8.20	8.35	7.75	6.92	8.27	7.31	
橋渡 誓生	time	12.57	24.92	38.23	52.28	52.28			52.28	5 / 6							
reaction time		interval	12.35	13.31	14.05					# of strides	12.57	12.35	13.31	14.05	24.92	27.36	2.44
velocity		7.96	8.10	7.51	7.12	7.65					7.96	8.10	7.51	7.12	8.03	7.31	
東原 舜	time	12.67	25.25	38.73	52.77	52.77			52.77	2 / 7							
reaction time		interval	12.58	13.48	14.04					# of strides	12.67	12.58	13.48	14.04	25.25	27.52	2.27
velocity		7.89	7.95	7.42	7.12	7.58					7.89	7.95	7.42	7.12	7.92	7.27	
椋 亮介	time	13.20	26.37	39.57	53.21	53.21			53.21	1 / 8							
reaction time		interval	13.17	13.20	13.64					# of strides	13.20	13.17	13.20	13.64	26.37	26.84	0.47
velocity		7.58	7.59	7.58	7.33	7.52					7.58	7.59	7.58	7.33	7.58	7.45	

2023 Seiko Golden Grand Prix (Yokohama, JPN)**FINAL**

date 21-May-23

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Nakajima, Yuki Joseph (JPN)	time	6.15	11.16	16.28	21.55	26.99	32.75	38.83	45.31	45.31	6 / 1							
reaction time	0.171	interval	5.01	5.12	5.27	5.44	5.76	6.08	6.48	PB	# of strides	11.16	10.39	11.20	12.56	21.55	23.76	2.21
velocity	8.13	9.98	9.77	9.49	9.19	8.68	8.22	7.72	8.83			8.96	9.62	8.93	7.96	9.28	8.42	
Sato, Fuga (JPN) (1999)	time	6.04	11.06	16.27	21.63	27.21	33.06	39.13	45.52	45.52	4 / 3							

reaction time	0.151	interval	5.02	5.21	5.36	5.58	5.85	6.07	6.39		# of strides	11.06	10.57	11.43	12.46	21.63	23.89	2.26
velocity	8.28		9.96	9.60	9.33	8.96	8.55	8.24	7.82	8.79	175.0	9.04	9.46	8.75	8.03	9.25	8.37	
Sato, Kentaro (JPN) (1994)	time	6.01	11.00	16.15	21.49	27.02	32.89	39.17	45.75	45.75	5 / 5							
reaction time	0.163	interval	4.99	5.15	5.34	5.53	5.87	6.28	6.58		# of strides	11.00	10.49	11.40	12.86	21.49	24.26	2.77
velocity	8.32		10.02	9.71	9.36	9.04	8.52	7.96	7.60	8.74	175.5	9.09	9.53	8.77	7.78	9.31	8.24	
Jinushi, Naohiro (JPN) (200)	time	6.32	11.51	16.82	22.25	27.76	33.43	39.36	45.76	45.76	2 / 6							
reaction time	0.159	interval	5.19	5.31	5.43	5.51	5.67	5.93	6.40	PB	# of strides	11.51	10.74	11.18	12.33	22.25	23.51	1.26
velocity	7.91		9.63	9.42	9.21	9.07	8.82	8.43	7.81	8.74		8.69	9.31	8.94	8.11	8.99	8.51	
Imaizumi, Kenki (JPN) (200)	time	6.11	11.23	16.48	21.94	27.56	33.43	39.43	45.76	45.76	8 / 6							
reaction time	0.148	interval	5.12	5.25	5.46	5.62	5.87	6.00	6.33		# of strides	11.23	10.71	11.49	12.33	21.94	23.82	1.88
velocity	8.18		9.77	9.52	9.16	8.90	8.52	8.33	7.90	8.74		8.90	9.34	8.70	8.11	9.12	8.40	

2023 Michitaka Kinami Memorial (Osaka, JPN)**Decathlon - Heat**

date 06-May-23

Matsubayashi (2024) - performance analysis of decathlon athletes in the 2023 season

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Taue, Shun (JPN) (1997)	time	6.49	11.74	17.11	22.79	28.82	35.12	41.76	48.94	8 / 2								
reaction time	0.141	interval	5.25	5.37	5.68	6.03	6.30	6.64	7.18		# of strides	11.74	11.05	12.33	13.82	22.79	26.15	3.36
velocity	7.70		9.52	9.31	8.80	8.29	7.94	7.53	6.96	8.17		8.52	9.05	8.11	7.24	8.78	7.65	
Ushiro, Keisuke (JPN) (198)	time	6.84	12.47	18.00	24.41	30.80	37.57	44.75	52.61	52.61	7 / 5							
reaction time	0.187	interval	5.63	5.53	6.41	6.39	6.77	7.18	7.86		# of strides	12.47	11.94	13.16	15.04	24.41	28.20	3.79
velocity	7.31		8.88	9.04	7.80	7.82	7.39	6.96	6.36	7.60		8.02	8.38	7.60	6.65	8.19	7.09	

2023 Doha Diamond League (Doha, QAT)**FINAL**

date 05-May-23

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	
Osman, Ashraf Hussien (QAT)	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	
Ibrahim Issaka, Hussein (QAT)	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	
Abdel, Youssouf (QAT)	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	
Maizen, Ali (QAT)	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	
Ebed, Amar Ebed (QAT) (2)	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	
Musa, Mubarak Abdulkarim	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	
Armadi, Daoud Ismail (SUD)	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	
Litvin Mikhail (KAZ) (1996)	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						

2022 Weltklasse (Zürich, SUI)**FINAL**

date 08-Sep-22

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	
James, Kirani (GRN) (1992)	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		9.12	9.96	9.18	8.09	9.52	8.60	
Deadmon, Bryce (USA) (19)	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	
Norwood, Vernon (USA) (1)	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		9.12	9.77	9.12	8.01	9.43	8.53	
Nene, Zakhiti (RSA) (1998)	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		9.04	9.59	9.08	8.17	9.31	8.60	
Petruciani, Ricky (SUI) (20)	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		8.87	9.51	8.97	8.08	9.18	8.50	

Makwala, Isaac (BOT) (1986)	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	
Bonevacia, Liemarvin (NED)	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	

National FINAL date 08-Sep-22

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
van Niekerk, Wayde (RSA) (1994)	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	9.11	9.68	8.90	8.45	9.39	8.67	
London, Wil (USA) (1997)	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	8.99	9.41	8.98	8.40	9.20	8.68	
Spitz, Lionel (SUI) (2001)	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	
Re, Davide (ITA) (1993)	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 (GB) (1997)	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	8.97	9.40	8.98	7.69	9.18	8.29	
Angela, Ramsey (NED) (1995)	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	
Devantay, Charles (SUI) (1993)	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	
Brand, Dany (SUI) (1996)	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	# 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	

2022 Memorial van Damme (Brussels, BEL)**FINAL** date 02-Sep-22

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
Borlée, Kévin (BEL) (1988)	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	
O'Donnell, Christopher (IR) (1992)	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	
Doom, Alexander (BEL) (1993)	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	
Borlée, Jonathan (BEL) (1993)	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	
Borlée, Dylan (BEL) (1992)	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	
Dobber, Jochem (NED) (1993)	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	
Sacoer, Jonathan (BEL) (1993)	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	
Jordier, Thomas (FRA) (1993)	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	

2022 European Athletics Championships (Munich, GER)**FINAL** date 17-Aug-22

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
Hudson-Smith, Matthew (CAN) (1993)	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	
Petruciani, Ricky (SUI) (20	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	
Haydock-Wilson, Alex (GBI) 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) 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	
Borlée, Dylan (BEL) (1992) 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	
Zalewski, Karol (POL) (1993) 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	
Spitz, Lionel (SUI) (2001) 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	
Jordier, Thomas (FRA) (19) 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	

2022 Commonwealth Games (Birmingham, GBR)**FINAL**

date 07-Aug-22

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
Samukonga, Muzala (ZAM) 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	
Hudson-Smith, Matthew (C) 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	
Jones, Jonathan (BAR) (19) 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	
Mwera, Boniface (KEN) (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	
Adoli, Aaron (UGA) (1994) 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	6.82	8.82	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	174.5	8.77	9.71	8.85	7.92	9.22	8.36	
Cox, Anthony (JAM) (2000) 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	172.7	8.62	9.35	8.70	8.08	8.97	8.38	
Solomon, Steven (AUS) (1) 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	172.7	8.70	9.26	8.70	8.05	8.97	8.36	
Allen, Nathon (JAM) (1995) 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	172.7	8.47	9.26	8.55	7.30	8.85	7.87	

2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)**FINAL**

date 06-Aug-22

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
Norman, Michael (USA) (19) 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	
James, Kirani (GRN) (1992) 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	
Deadmon, Bryce (USA) (19) time	6.28	11.29	16.37	21.60	27.08	32.72	38.50	44.68	44.68	2 / 3							
reaction time 0.164 interval		5.01	5.08	5.23	5.48	5.64	5.78	6.18		# of strides	11.29	10.31	11.12	11.96	21.60	23.08	1.48
velocity	7.96	9.98	9.84	9.56	9.12	8.87	8.65	8.09	8.95	157.0	8.86	9.70	8.99	8.36	9.26	8.67	
Norwood, Vernon (USA) (1) 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	

Allison, Champion (USA) (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	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	171.0	9.02	9.65	8.83	7.95	9.32	8.37	
Makwala, Isaac (BOT) (1986 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	5.01	5.15	5.31	5.54	5.79	6.07	6.52		# 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	183.0	8.90	9.56	8.99	7.94	9.22	8.43	
Cherry, Michael (USA) (199 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	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	162.2	9.00	9.58	8.83	7.96	9.28	8.37	
Bonevacia, Liemarvin (NED) 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	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	8.94	9.77	8.87	7.81	9.33	8.31		
Duszynski, Kajetan (POL) (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	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	8.92	9.61	8.73	7.69	9.25	8.18		

2022 Japanese National High School Championships (Naruto, JPN)

FINAL

date 03-Aug-22

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
Tominaga, Yuhei (JPN) (20 time		11.68		22.90		34.60		47.01	47.01	6 / 1							
reaction time		0.185		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	
Hayashi, Shinya (JPN) (200 time		11.78		22.73		34.55		47.23	47.23	4 / 2							
reaction time		0.187		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	
Harada, Masato (JPN) (200 time		11.72		22.60		34.62		47.97	47.97	8 / 3							
reaction time		0.175		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	
Nakamichi, Daiki (JPN) (200 time		11.92		23.19		35.51		48.01	48.01	7 / 4							
reaction time		0.164		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	
Maruyama, Tomoyo (JPN) (time		12.12		23.44		35.67		48.39	48.39	3 / 5							
reaction time		0.195		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	
Nagayoshi, Haruto (JPN) (time		11.78		22.80		35.07		48.53	48.53	9 / 6							
reaction time		0.167		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	
Kojima, Sota (JPN) (2004 time		11.95		23.45		35.80		48.68	48.68	2 / 7							
reaction time		0.162		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	
Shimato, Shin (JPN) (2004 time		11.67		23.09		36.04		50.14	50.14	5 / 8							
reaction time		0.196		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		

2022 World Athletics Championships (Eugene, OR)

Decathlon - Heat

date 23-Jul-22

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	
Owens-Delorme, Ayden (PL) time		11.04		21.29		32.67		45.07	45.07	7 / 1								
reaction time		0.189		10.25		11.38		12.40	NR PB	# of strides	11.04	10.25	11.38	12.40	21.29	23.78	2.49	
velocity		9.06		9.76		8.79		8.06	8.88	173.7	9.06	9.76	8.79	8.06	9.39	8.41		
Lepage, Pierce (CAN) (1996 time		11.44		22.60		34.36		46.84	46.84	4 / 2								
reaction time		0.194		11.16		11.76		12.48	PB	# of strides	11.44	11.16	11.76	12.48	22.60	24.24	1.64	
velocity		8.74		8.96		8.50		8.01	8.54	159.0	8.74	8.96	8.50	8.01	8.85	8.25		
Moloney, Ashley (AUS) (20 time		11.02		21.75		33.77		46.88	46.88	3 / 3								
reaction time		0.142		10.73		12.02		13.11		# of strides	11.02	10.73	12.02	13.11	21.75	25.13	3.38	
velocity		9.07		9.32		8.32		7.63	8.53	169.0	9.07	9.32	8.32	7.63	9.20	7.96		
Erm, Johannes (EST) (1998 time		11.26		21.94		33.84		47.02	47.02	8 / 4								
reaction time		0.169		10.68		11.90		13.18	PB	# of strides	11.26	10.68	11.90	13.18	21.94	25.08	3.14	
velocity		8.88		9.36		8.40		7.59	8.51	8.88	9.36	8.40	7.59	9.12	7.97			
Dubler, Cedric (AUS) (1995	0.127	no information available								47.71	5 / 5							# of strides
Bastien, Steven (USA) (199 time		11.60		22.94		35.42		47.95	47.95	2 / 6								
reaction time		0.148		11.34		12.48		12.53		# of strides	11.60	11.34	12.48	12.53	22.94	25.01	2.07	
velocity		8.62		8.82		8.01		7.98	8.34	8.62	8.82	8.01	7.98	8.72	8.00			
Neugebauer, Leo (GER) (2 time		11.78		22.77		34.84		48.34	48.34	6 / 7								
reaction time		0.151		10.99		12.07		13.50		# of strides	11.78	10.99	12.07	13.50	22.77	25.57	2.80	

velocity	8.49	9.10	8.29	7.41	8.27	8.49	9.10	8.29	7.41	8.78	7.82
Warner, Damian (CAN) (19) time	11.15				dnf					1 / --	
reaction time 0.139 interval										# of strides	11.15
velocity	8.97										8.97

Decathlon - Heat

date 23-Jul-22

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
Kaul, Niklas (GER) (1998) time	11.89	23.48		35.47		48.39		48.39	48.39	4 / 1							
reaction time 0.158 interval				11.59		11.99		12.92		# of strides	11.89	11.59	11.99	12.92	23.48	24.91	1.43
velocity	8.41	8.63		8.34		7.74		8.27		166.5	8.41	8.63	8.34	7.74	8.52	8.03	
Victor, Lindon (GRN) (1993) time	11.70	23.50		35.68		49.27		49.27	49.27	3 / 2							
reaction time 0.141 interval				11.80		12.18		13.59		# of strides	11.70	11.80	12.18	13.59	23.50	25.77	2.27
velocity	8.55	8.47		8.21		7.36		8.12		180.0	8.55	8.47	8.21	7.36	8.51	7.76	
Sýkora, Jiří (CZE) (1995) time	12.13	23.72		35.97		49.29		49.29	49.29	1 / 3							
reaction time 0.145 interval				11.59		12.25		13.32		# of strides	12.13	11.59	12.25	13.32	23.72	25.57	1.85
velocity	8.24	8.63		8.16		7.51		8.12		174.2	8.24	8.63	8.16	7.51	8.43	7.82	
Kazmirek, Kai (GER) (1991) time	11.60	22.68		35.14		49.33		49.33	49.33	7 / 4							
reaction time 0.145 interval				11.08		12.46		14.19		# of strides	11.60	11.08	12.46	14.19	22.68	26.65	3.97
velocity	8.62	9.03		8.03		7.05		8.11		174.2	8.62	9.03	8.03	7.05	8.82	7.50	
Mayer, Kevin (FRA) (1992) time	12.07	23.74		36.09		49.40		49.40	49.40	6 / 5							
reaction time 0.164 interval				11.67		12.35		13.31		# of strides	12.07	11.67	12.35	13.31	23.74	25.66	1.92
velocity	8.29	8.57		8.10		7.51		8.10		168.5	8.29	8.57	8.10	7.51	8.42	7.79	
Golubovic, Daniel (AUS) (1) time	12.05	23.73		36.08		49.44		49.44	49.44	2 / 6							
reaction time 0.149 interval				11.68		12.35		13.36		# of strides	12.05	11.68	12.35	13.36	23.73	25.71	1.98
velocity	8.30	8.56		8.10		7.49		8.09		179.0	8.30	8.56	8.10	7.49	8.43	7.78	
Garland, Kyle (USA) (2000) time	11.71	23.58		36.07		49.64		49.64	49.64	5 / 7							
reaction time 0.152 interval				11.87		12.49		13.57		# of strides	11.71	11.87	12.49	13.57	23.58	26.06	2.48
velocity	8.54	8.42		8.01		7.37		8.06		179.0	8.54	8.42	8.01	7.37	8.48	7.67	
Skotheim, Sander (NOR) (2) time	11.95	23.40		35.89		49.80		49.80	49.80	8 / 8							
reaction time 0.154 interval				11.45		12.49		13.91		# of strides	11.95	11.45	12.49	13.91	23.40	26.40	3.00
velocity	8.37	8.73		8.01		7.19		8.03		181.0	8.37	8.73	8.01	7.19	8.55	7.58	

Decathlon - Heat

date 23-Jul-22

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
Õiglane, Janek (EST) (1994) time	11.59	22.76		35.11		49.16		49.16	49.16	8 / 1							
reaction time 0.148 interval				11.17		12.35		14.05		# of strides	11.59	11.17	12.35	14.05	22.76	26.40	3.64
velocity	8.63	8.95		8.10		7.12		8.14		175.5	8.63	8.95	8.10	7.12	8.79	7.58	
Mullings, Ken (BAH) (1997) time	11.87	23.64		36.13		49.25		49.25	49.25	5 / 2							
reaction time 0.137 interval				11.77		12.49		13.12		# of strides	11.87	11.77	12.49	13.12	23.64	25.61	1.97
velocity	8.42	8.50		8.01		7.62		8.12		181.0	8.42	8.50	8.01	7.62	8.46	7.81	
Ziemek, Zachery (USA) (19) time	11.58	22.98		35.45		49.56		49.56	49.56	4 / 3							
reaction time 0.185 interval				11.40		12.47		14.11		# of strides	11.58	11.40	12.47	14.11	22.98	26.58	3.60
velocity	8.64	8.77		8.02		7.09		8.07		167.2	8.64	8.77	8.02	7.09	8.70	7.52	
Uibo, Maicel (EST) (1992) time	11.94	23.55		36.29		50.38		50.38	50.38	7 / 4							
reaction time 0.197 interval				11.61		12.74		14.09		# of strides	11.94	11.61	12.74	14.09	23.55	26.83	3.28
velocity	8.38	8.61		7.85		7.10		7.94		177.0	8.38	8.61	7.85	7.10	8.49	7.45	
Nowak, Tim (GER) (1995) time	11.86	23.17		36.03		50.94		50.94	50.94	2 / 5							
reaction time 0.161 interval				11.31		12.86		14.91		# of strides	11.86	11.31	12.86	14.91	23.17	27.77	4.60
velocity	8.43	8.84		7.78		6.71		7.85		186.0	8.43	8.84	7.78	6.71	8.63	7.20	

FINAL

date 22-Jul-22

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
Norman, Michael (USA) (19) time	10.83	21.12		32.04		44.29		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	
James, Kirani (GRN) (1992) time	10.81	20.95		31.98		44.48		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	
Hudson-Smith, Matthew (C) time	10.98	21.14		32.13		44.66		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	
Allison, Champion (USA) (time	11.22	21.57		32.76		44.77		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	
van Niekerk, Wayde (RSA) (time	10.98	21.33		32.21		44.97		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	

Ndori, Bayapo (BOT) (1999)	time	11.05	21.45	32.62	45.29	45.29	8 / 6												
	reaction time	0.137	interval	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	# of strides	11.05	10.40	11.17	12.67	21.45	23.84	2.39					
							178.0	9.05	9.62	8.95	7.89	9.32	8.39						
Taylor, Christopher (JAM)	time	10.91	21.43	32.81	45.30	45.30	1 / 7												
	reaction time	0.169	interval	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	# of strides	10.91	10.52	11.38	12.49	21.43	23.87	2.44					
							9.17	9.51	8.79	8.01	9.33	8.38							
Jones, Jonathan (BAR) (19)	time	11.07	21.46	32.86	46.13	46.13	2 / 8												
	reaction time	0.155	interval	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	# of strides	11.07	10.39	11.40	13.27	21.46	24.67	3.21					
							9.03	9.62	8.77	7.54	9.32	8.11							
Semi-Final 3	date	20-Jul-22	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
Allison, Champion (USA) (time		11.34	21.72	32.86	44.71	44.71	6 / 1											
	reaction time	0.155	interval	11.34	10.38	11.14	11.85	# of strides	11.34	10.38	11.14	11.85	21.72	22.99	1.27				
	velocity	8.82	9.63	8.98	8.44	8.95	168.0	8.82	9.63	8.98	8.44	9.21	8.70						
van Niekerk, Wayde (RSA) (time		10.84	20.97	32.35	44.75	44.75	4 / 2											
	reaction time	0.168	interval	10.84	10.13	11.38	12.40	# of strides	10.84	10.13	11.38	12.40	20.97	23.78	2.81				
	velocity	9.23	9.87	8.79	8.06	8.94	164.5	9.23	9.87	8.79	8.06	9.54	8.41						
Jones, Jonathan (BAR) (19)	time		11.27	21.49	32.57	44.78	44.78	3 / 3											
	reaction time	0.149	interval	11.27	10.22	11.08	12.21	# of strides	11.27	10.22	11.08	12.21	21.49	23.29	1.80				
	velocity	8.87	9.78	9.03	8.19	8.93	173.2	8.87	9.78	9.03	8.19	9.31	8.59						
Haydock-Wilson, Alex (GB) (time		11.46	21.88	32.90	45.08	45.08	8 / 4											
	reaction time	0.141	interval	11.46	10.42	11.02	12.18	PB	# of strides	11.46	10.42	11.02	12.18	21.88	23.20	1.32			
	velocity	8.73	9.60	9.07	8.21	8.87	168.2	8.73	9.60	9.07	8.21	9.14	8.62						
Borlée, Kevin (BEL) (1988)	time		11.39	21.81	33.00	45.26	45.26	2 / 5											
	reaction time	0.139	interval	11.39	10.42	11.19	12.26	# of strides	11.39	10.42	11.19	12.26	21.81	23.45	1.64				
	velocity	8.78	9.60	8.94	8.16	8.84	168.2	8.78	9.60	8.94	8.16	9.17	8.53						
Bonevacia, Liemarvin (NED)	time		11.54	21.77	32.86	45.50	45.50	5 / 6											
	reaction time	0.159	interval	11.54	10.23	11.09	12.64	# of strides	11.54	10.23	11.09	12.64	21.77	23.73	1.96				
	velocity	8.67	9.78	9.02	7.91	8.79	180.2	8.67	9.78	9.02	7.91	9.19	8.43						
Litvin, Mikhail (KAZ) (1996)	time		11.37	21.67	33.04	45.63	45.63	1 / 7											
	reaction time	0.189	interval	11.37	10.30	11.37	12.59	# of strides	11.37	10.30	11.37	12.59	21.67	23.96	2.29				
	velocity	8.80	9.71	8.80	7.94	8.77	174.0	8.80	9.71	8.80	7.94	9.23	8.35						
Makwala, Isaac (BOT) (1985)	time		11.40	21.89	32.87	46.04	46.04	7 / 8											
	reaction time	0.158	interval	11.40	10.49	10.98	13.17	# of strides	11.40	10.49	10.98	13.17	21.89	24.15	2.26				
	velocity	8.77	9.53	9.11	7.59	8.69	174.0	8.77	9.53	9.11	7.59	9.14	8.28						
Semi-Final 2	date	20-Jul-22	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
James, Kirani (GRN) (1992)	time		10.99	21.35	32.64	44.74	44.74	3 / 1											
	reaction time	0.148	interval	10.99	10.36	11.29	12.10	# of strides	10.99	10.36	11.29	12.10	21.35	23.39	2.04				
	velocity	9.10	9.65	8.86	8.26	8.94	160.0	9.10	9.65	8.86	8.26	9.37	8.55						
Ndori, Bayapo (BOT) (1999)	time		11.28	21.73	32.77	44.94	44.94	4 / 2											
	reaction time	0.141	interval	11.28	10.45	11.04	12.17	# of strides	11.28	10.45	11.04	12.17	21.73	23.21	1.48				
	velocity	8.87	9.57	9.06	8.22	8.90	174.5	8.87	9.57	9.06	8.22	9.20	8.62						
Samukonga, Muzala (ZAM)	time		11.45	22.03	33.15	45.02	45.02	6 / 3											
	reaction time	0.196	interval	11.45	10.58	11.12	11.87	PB	# of strides	11.45	10.58	11.12	11.87	22.03	22.99	0.96			
	velocity	8.73	9.45	8.99	8.42	8.88	175.0	8.73	9.45	8.99	8.42	9.08	8.70						
Cherry, Michael (USA) (199)	time		11.23	21.85	32.92	45.28	45.28	5 / 4											
	reaction time	0.143	interval	11.23	10.62	11.07	12.36	# of strides	11.23	10.62	11.07	12.36	21.85	23.43	1.58				
	velocity	8.90	9.42	9.03	8.09	8.83	159.7	8.90	9.42	9.03	8.09	9.15	8.54						
Sato, Fuga (JPN) (1996)	time		11.45	22.21	33.42	45.71	45.71	1 / 5											
	reaction time	0.175	interval	11.45	10.76	11.21	12.29	# of strides	11.45	10.76	11.21	12.29	22.21	23.50	1.29				
	velocity	8.73	9.29	8.92	8.14	8.75	175.0	8.73	9.29	8.92	8.14	9.00	8.51						
Doom, Alexander (BEL) (19)	time		11.50	21.78	33.25	45.80	45.80	7 / 6											
	reaction time	0.170	interval	11.50	10.28	11.47	12.55	# of strides	11.50	10.28	11.47	12.55	21.78	24.02	2.24				
	velocity	8.70	9.73	8.72	7.97	8.73	182.0	8.70	9.73	8.72	7.97	9.18	8.33						
O'Donnell, Christopher (IR)	time		11.54	22.20	33.52	46.01	46.01	2 / 7											
	reaction time	0.162	interval	11.54	10.66	11.32	12.49	# of strides	11.54	10.66	11.32	12.49	22.20	23.81	1.61				
	velocity	8.67	9.38	8.83	8.01	8.69	180.0	8.67	9.38	8.83	8.01	9.01	8.40						
Semi-Final 1	date	20-Jul-22	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
Norman, Michael (USA) (19)	time		10.85	21.16	32.19	44.30	44.30	6 / 1											
	reaction time	0.127	interval	10.85	10.31	11.03	12.11	# of strides	10.85	10.31	11.03	12.11	21.16	23.14	1.98				
	velocity	9.22	9.70	9.07	8.26	9.03	173.0	9.22	9.70	9.07	8.26	9.45	8.64						

Hudson-Smith, Matthew (C)	time	10.95	21.06	32.02	44.38	44.38	5 / 2										
	reaction time	0.160	interval	10.11	10.96	12.36	# of strides	10.95	10.11	10.96	12.36	21.06	23.32	2.26			
	velocity	9.13	9.89	9.12	8.09	9.01	166.0	9.13	9.89	9.12	8.09	9.50	8.58				
Taylor, Christopher (JAM)	time	11.16	21.66	32.89	44.97	44.97	3 / 3										
	reaction time	0.173	interval	10.50	11.23	12.08	# of strides	11.16	10.50	11.23	12.08	21.66	23.31	1.65			
	velocity	8.96	9.52	8.90	8.28	8.89	182.0	8.96	9.52	8.90	8.28	9.23	8.58				
Nene, Zakhiti (RSA) (1998)	time	10.92	21.28	32.68	45.24	45.24	7 / 4										
	reaction time	0.121	interval	10.36	11.40	12.56	# of strides	10.92	10.36	11.40	12.56	21.28	23.96	2.68			
	velocity	9.16	9.65	8.77	7.96	8.84	178.0	9.16	9.65	8.77	7.96	9.40	8.35				
Borlée, Dylan (BEL) (1992)	time	11.33	21.82	33.01	45.41	45.41	4 / 5										
	reaction time	0.163	interval	10.49	11.19	12.40	# of strides	11.33	10.49	11.19	12.40	21.82	23.59	1.77			
	velocity	8.83	9.53	8.94	8.06	8.81	174.0	8.83	9.53	8.94	8.06	9.17	8.48				
Walsh, Julian Jrummi (JPN)	time	11.03	21.46	32.72	45.75	45.75	1 / 6										
	reaction time	0.134	interval	10.43	11.26	13.03	# of strides	11.03	10.43	11.26	13.03	21.46	24.29	2.83			
	velocity	9.07	9.59	8.88	7.67	8.74	175.5	9.07	9.59	8.88	7.67	9.32	8.23				
Feliz, Lidio Andres (DOM)	time	11.04	21.38	32.96	46.19	46.19	8 / 7										
	reaction time	0.192	interval	10.34	11.58	13.23	# of strides	11.04	10.34	11.58	13.23	21.38	24.81	3.43			
	velocity	9.06	9.67	8.64	7.56	8.66		9.06	9.67	8.64	7.56	9.35	8.06				
Beck, Alex (AUS) (1992)	time	11.26	22.06	33.43	46.21	46.21	2 / 8										
	reaction time	0.140	interval	10.80	11.37	12.78	# of strides	11.26	10.80	11.37	12.78	22.06	24.15	2.09			
	velocity	8.88	9.26	8.80	7.82	8.66	172.0	8.88	9.26	8.80	7.82	9.07	8.28				

Heat 6

date 17-Jul-22

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
Hudson-Smith, Matthew (C)	time	11.13	21.47	32.74	45.49	45.49	2 / 1											
	reaction time	0.160	interval	10.34	11.27	12.75	# of strides	11.13	10.34	11.27	12.75	21.47	24.02	2.55				
	velocity	8.98	9.67	8.87	7.84	8.79	166.0	8.98	9.67	8.87	7.84	9.32	8.33					
Bonevacia, Liemarvin (NED)	time	11.65	22.33	33.76	45.82	45.82	6 / 2											
	reaction time	0.158	interval	10.68	11.43	12.06	# of strides	11.65	10.68	11.43	12.06	22.33	23.49	1.16				
	velocity	8.58	9.36	8.75	8.29	8.73	180.5	8.58	9.36	8.75	8.29	8.96	8.51					
Feliz, Lidio Andres (DOM)	time	11.58	22.24	33.78	45.87	45.87	5 / 3											
	reaction time	0.257	interval	10.66	11.54	12.09	# of strides	11.58	10.66	11.54	12.09	22.24	23.63	1.39				
	velocity	8.64	9.38	8.67	8.27	8.72	174.7	8.64	9.38	8.67	8.27	8.99	8.46					
O'Donnell, Christopher (IR)	time	11.60	22.48	33.81	46.01	46.01	8 / 4											
	reaction time	0.133	interval	10.88	11.33	12.20	# of strides	11.60	10.88	11.33	12.20	22.48	23.53	1.05				
	velocity	8.62	9.19	8.83	8.20	8.69	178.0	8.62	9.19	8.83	8.20	8.90	8.50					
Kawabata, Kaito (JPN) (199)	time	11.14	21.79	33.37	46.34	46.34	4 / 5											
	reaction time	0.128	interval	10.65	11.58	12.97	# of strides	11.14	10.65	11.58	12.97	21.79	24.55	2.76				
	velocity	8.98	9.39	8.64	7.71	8.63	187.7	8.98	9.39	8.64	7.71	9.18	8.15					
Carvalho, Lucas (BRA) (19)	time	11.59	22.60	34.11	47.53	47.53	7 / 6											
	reaction time	0.162	interval	11.01	11.51	13.42	# of strides	11.59	11.01	11.51	13.42	22.60	24.93	2.33				
	velocity	8.63	9.08	8.69	7.45	8.42	187.5	8.63	9.08	8.69	7.45	8.85	8.02					
Hazzard, Aiden (AIA) (1998)	time	11.75	23.40	36.39	51.44	51.44	3 / 7											
	reaction time	0.128	interval	11.65	12.99	15.05	# of strides	11.75	11.65	12.99	15.05	23.40	28.04	4.64				
	velocity	8.51	8.58	7.70	6.64	7.78		8.51	8.58	7.70	6.64	8.55	7.13					

Heat 5

date 17-Jul-22

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
Ndori, Bayapo (BOT) (1999)	time	11.17	21.46	32.55	44.87	44.87	8 / 1											
	reaction time	0.140	interval	10.29	11.09	12.32	# of strides	11.17	10.29	11.09	12.32	21.46	23.41	1.95				
	velocity	8.95	9.72	9.02	8.12	8.91	174.2	8.95	9.72	9.02	8.12	9.32	8.54					
James, Kirani (GRN) (1992)	time	11.42	21.96	33.12	45.29	45.29	4 / 2											
	reaction time	0.152	interval	10.54	11.16	12.17	# of strides	11.42	10.54	11.16	12.17	21.96	23.33	1.37				
	velocity	8.76	9.49	8.96	8.22	8.83	160.2	8.76	9.49	8.96	8.22	9.11	8.57					
Allen, Nathon (JAM) (1995)	time	11.48	22.13	33.45	45.61	45.61	3 / 3											
	reaction time	0.142	interval	10.65	11.32	12.16	# of strides	11.48	10.65	11.32	12.16	22.13	23.48	1.35				
	velocity	8.71	9.39	8.83	8.22	8.77	166.2	8.71	9.39	8.83	8.22	9.04	8.52					
Sato, Fuga (JPN) (1996)	time	11.25	21.72	33.19	45.88	45.88	5 / 4											
	reaction time	0.178	interval	10.47	11.47	12.69	# of strides	11.25	10.47	11.47	12.69	21.72	24.16	2.44				
	velocity	8.89	9.55	8.72	7.88	8.72	177.0	8.89	9.55	8.72	7.88	9.21	8.28					
Beck, Alex (AUS) (1992)	time	11.24	21.77	33.30	45.99	45.99	6 / 5											
	reaction time	0.170	interval	10.53	11.53	12.69	# of strides	11.24	10.53	11.53	12.69	21.77	24.22	2.45				
	velocity	8.90	9.50	8.67	7.88	8.70	175.0	8.90	9.50	8.67	7.88	9.19	8.26					
Scotti, Edoardo (ITA) (2000)	time	11.58	22.07	33.65	46.46	46.46	7 / 6											
	reaction time	0.170	interval	10.49	11.58	12.81	# of strides	11.58	10.49	11.58	12.81	22.07	24.39	2.32				
	velocity	8.64	9.53	8.64	7.81	8.61	176.0	8.64	9.53	8.64	7.81	9.06	8.20					

Mayorga, Dexter (NCA) (19	time	12.05	23.29	35.41	48.40	48.40	2 / 7									
reaction time	0.232	interval	11.24	12.12	12.99		# of strides	12.05	11.24	12.12	12.99	23.29	25.11	1.82		
velocity			8.30	8.90	8.25	7.70	191.7	8.30	8.90	8.25	7.70	8.59	7.96			

Heat 4

date 17-Jul-22

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
Allison, Champion (USA) (time	11.51	21.91	33.32	45.56	45.56	3 / 1											
reaction time	0.146	interval	10.40	11.41	12.24		# of strides	11.51	10.40	11.41	12.24	21.91	23.65	1.74				
velocity			8.69	9.62	8.76	8.17	8.78	168.0	8.69	9.62	8.76	8.17	9.13	8.46				
Borlée, Dylan (BEL) (1992)	time	11.47	21.79	33.26	45.70	45.70	7 / 2											
reaction time	0.148	interval	10.32	11.47	12.44		# of strides	11.47	10.32	11.47	12.44	21.79	23.91	2.12				
velocity			8.72	9.69	8.72	8.04	8.75	176.0	8.72	9.69	8.72	8.04	9.18	8.36				
Makwala, Isaac (BOT) (1985)	time	11.24	21.58	33.00	45.93	45.93	2 / 3											
reaction time	0.193	interval	10.34	11.42	12.93		# of strides	11.24	10.34	11.42	12.93	21.58	24.35	2.77				
velocity			8.90	9.67	8.76	7.73	8.71	183.2	8.90	9.67	8.76	7.73	9.27	8.21				
Litvin, Mikhail (KAZ) (1996)	time	11.33	21.49	33.27	46.00	46.00	8 / 4											
reaction time	0.206	interval	10.16	11.78	12.73		# of strides	11.33	10.16	11.78	12.73	21.49	24.51	3.02				
velocity			8.83	9.84	8.49	7.86	8.70	169.0	8.83	9.84	8.49	7.86	9.31	8.16				
Re, Davide (ITA) (1993)	time	11.72	22.33	33.91	46.49	46.49	4 / 5											
reaction time	0.148	interval	10.61	11.58	12.58		# of strides	11.72	10.61	11.58	12.58	22.33	24.16	1.83				
velocity			8.53	9.43	8.64	7.95	8.60	176.0	8.53	9.43	8.64	7.95	8.96	8.28				
St. Hilaire, Dwight (TTO) (1	time	11.49	22.25	33.96	46.60	46.60	5 / 6											
reaction time	0.166	interval	10.76	11.71	12.64		# of strides	11.49	10.76	11.71	12.64	22.25	24.35	2.10				
velocity			8.70	9.29	8.54	7.91	8.58	180.7	8.70	9.29	8.54	7.91	8.99	8.21				
Kijanović, Boško (SRB) (20	time	11.87	22.49	34.03	46.85	46.85	6 / 7											
reaction time	0.131	interval	10.62	11.54	12.82		# of strides	11.87	10.62	11.54	12.82	22.49	24.36	1.87				
velocity			8.42	9.42	8.67	7.80	8.54	171.5	8.42	9.42	8.67	7.80	8.89	8.21				

Heat 3

date 17-Jul-22

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
Cherry, Michael (USA) (199	time	11.16	21.84	33.16	45.81	45.81	3 / 1											
reaction time	0.137	interval	10.68	11.32	12.65		# of strides	11.16	10.68	11.32	12.65	21.84	23.97	2.13				
velocity			8.96	9.36	8.83	7.91	8.73	162.0	8.96	9.36	8.83	7.91	9.16	8.34				
Samukonga, Muzala (ZAM)	time	11.27	21.83	33.33	45.82	45.82	7 / 2											
reaction time	0.180	interval	10.56	11.50	12.49		# of strides	11.27	10.56	11.50	12.49	21.83	23.99	2.16				
velocity			8.87	9.47	8.70	8.01	8.73	180.0	8.87	9.47	8.70	8.01	9.16	8.34				
Doom, Alexander (BEL) (19	time	11.52	22.15	33.66	46.18	46.18	8 / 3											
reaction time	0.153	interval	10.63	11.51	12.52		# of strides	11.52	10.63	11.51	12.52	22.15	24.03	1.88				
velocity			8.68	9.41	8.69	7.99	8.66	186.0	8.68	9.41	8.69	7.99	9.03	8.32				
Powell, Jevaughn (JAM) (2)	time	11.26	21.99	33.53	46.42	46.42	6 / 4											
reaction time	0.142	interval	10.73	11.54	12.89		# of strides	11.26	10.73	11.54	12.89	21.99	24.43	2.44				
velocity			8.88	9.32	8.67	7.76	8.62	180.0	8.88	9.32	8.67	7.76	9.10	8.19				
Petruciani, Ricky (SUI) (20	time	11.26	22.13	33.55	46.60	46.60	5 / 5											
reaction time	0.165	interval	10.87	11.42	13.05		# of strides	11.26	10.87	11.42	13.05	22.13	24.47	2.34				
velocity			8.88	9.20	8.76	7.66	8.58	180.2	8.88	9.20	8.76	7.66	9.04	8.17				
Pesela, Anthony (BOT) (20)	time	11.49	22.86	34.51	47.36	47.36	2 / 6											
reaction time	0.135	interval	11.37	11.65	12.85		# of strides	11.49	11.37	11.65	12.85	22.86	24.50	1.64				
velocity			8.70	8.80	8.58	7.78	8.45	187.0	8.70	8.80	8.58	7.78	8.75	8.16				
Timbaci, Obediah (VAN) (2)	time	12.30	24.49	37.87	53.32	53.32	4 / 7											
reaction time	0.209	interval	12.19	13.38	15.45		# of strides	12.30	12.19	13.38	15.45	24.49	28.83	4.34				
velocity			8.13	8.20	7.47	6.47	7.50	8.13	8.20	7.47	6.47	8.17	6.94					

Heat 2

date 17-Jul-22

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
Norman, Michael (USA) (19	time	11.25	22.05	33.23	45.37	45.37	3 / 1											
reaction time	0.140	interval	10.80	11.18	12.14		# of strides	11.25	10.80	11.18	12.14	22.05	23.32	1.27				
velocity			8.89	9.26	8.94	8.24	8.82	174.2	8.89	9.26	8.94	8.24	9.07	8.58				
Taylor, Christopher (JAM)	time	11.32	22.16	33.51	45.68	45.68	4 / 2											
reaction time	0.167	interval	10.84	11.35	12.17		# of strides	11.32	10.84	11.35	12.17	22.16	23.52	1.36				
velocity			8.83	9.23	8.81	8.22	8.76	184.0	8.83	9.23	8.81	8.22	9.03	8.50				
Nene, Zakhiti (RSA) (1998)	time	11.29	22.18	33.42	45.69	45.69	7 / 3											
reaction time	0.123	interval	10.89	11.24	12.27		# of strides	11.29	10.89	11.24	12.27	22.18	23.51	1.33				
velocity			8.86	9.18	8.90	8.15	8.75	176.0	8.86	9.18	8.90	8.15	9.02	8.51				
Borlée, Kevin (BEL) (1988)	time	11.72	22.56	33.77	45.72	45.72	8 / 4											
reaction time	0.132	interval	10.84	11.21	11.95		# of strides	11.72	10.84	11.21	11.95	22.56	23.16	0.60				
velocity			8.53	9.23	8.92	8.37	8.75	8.53	9.23	8.92	8.37	8.87	8.64					

Vedel, Benjamin Lobo (DE) time	11.33	22.08	33.55	46.27	46.27	5 / 5											
reaction time 0.134 interval		10.75	11.47	12.72		# of strides	11.33	10.75	11.47	12.72	22.08	24.19	2.11				
velocity	8.83	9.30	8.72	7.86	8.64	173.0	8.83	9.30	8.72	7.86	9.06	8.27					
Avilés, Luis (MEX) (2002) time	11.41	22.56	34.24	46.47	46.47	2 / 6											
reaction time 0.140 interval		11.15	11.68	12.23		# of strides	11.41	11.15	11.68	12.23	22.56	23.91	1.35				
velocity	8.76	8.97	8.56	8.18	8.61		8.76	8.97	8.56	8.18	8.87	8.36					
Duszyński, Kajetan (POL) (time	11.29	22.11	33.60	46.57	46.57	6 / 7											
reaction time 0.132 interval		10.82	11.49	12.97		# of strides	11.29	10.82	11.49	12.97	22.11	24.46	2.35				
velocity	8.86	9.24	8.70	7.71	8.59		8.86	9.24	8.70	7.71	9.05	8.18					

Heat 1

date 17-Jul-22

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
van Niekerk, Wayde (RSA) (time	10.96	21.39	32.73	45.18	45.18	6 / 1											
reaction time 0.200 interval		10.43	11.34	12.45		# of strides	10.96	10.43	11.34	12.45	21.39	23.79	2.40				
velocity	9.12	9.59	8.82	8.03	8.85	164.0	9.12	9.59	8.82	8.03	9.35	8.41					
Jones, Jonathan (BAR) (19 time	11.34	21.93	33.02	45.46	45.46	3 / 2											
reaction time 0.169 interval		10.59	11.09	12.44		# of strides	11.34	10.59	11.09	12.44	21.93	23.53	1.60				
velocity	8.82	9.44	9.02	8.04	8.80	174.0	8.82	9.44	9.02	8.04	9.12	8.50					
Haydock-Wilson, Alex (GB) time	11.45	22.19	33.25	45.62	45.62	7 / 3											
reaction time 0.156 interval		10.74	11.06	12.37		# of strides	11.45	10.74	11.06	12.37	22.19	23.43	1.24				
velocity	8.73	9.31	9.04	8.08	8.77		8.73	9.31	9.04	8.08	9.01	8.54					
Walsh, Julian Jrummi (JPN) time	11.07	21.63	32.96	45.90	45.90	2 / 4											
reaction time 0.126 interval		10.56	11.33	12.94		# of strides	11.07	10.56	11.33	12.94	21.63	24.27	2.64				
velocity	9.03	9.47	8.83	7.73	8.71	176.7	9.03	9.47	8.83	7.73	9.25	8.24					
Šorm, Patrik (CZE) (1993) time	11.42	22.15	33.45	46.07	46.07	4 / 5											
reaction time 0.174 interval		10.73	11.30	12.62		# of strides	11.42	10.73	11.30	12.62	22.15	23.92	1.77				
velocity	8.76	9.32	8.85	7.92	8.68		8.76	9.32	8.85	7.92	9.03	8.36					
Solomon, Steven (AUS) (19 time	11.71	22.50	33.65	46.87	46.87	5 / 6											
reaction time 0.152 interval		10.79	11.15	13.22		# of strides	11.71	10.79	11.15	13.22	22.50	24.37	1.87				
velocity	8.54	9.27	8.97	7.56	8.53		8.54	9.27	8.97	7.56	8.89	8.21					

2022 Meeting de Paris (Paris, FRA)

FINAL

date 18-Jun-22

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
Gardiner, Steven (BAH) (19 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	
Feliz, Lidio Andres (DOM) (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	
Nene, Zakhiti (RSA) (1998) 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	
Stewart, Trevor (USA) (199 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	
Bonevacia, Liemarvin (NED) 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	
Prevot, Loïc (FRA) (1998) 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	
Borlée, Kevin (BEL) (1988) 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	

2022 Bislett Games (Oslo, NOR)

FINAL

date 16-Jun-22

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
James, Kirani (GRN) (1992) 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	8.74	8.43	8.08	8.93	160.0	9.05	9.63	8.90	8.25	9.33	8.57	
Makwala, Isaac (BOT) (1986) 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	
Taylor, Christopher (JAM) 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	

Nene, Zakhiti (RSA) (1998)	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	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
	interval		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	
	velocity																	
Bonevacia, Liemarvin (NED)	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	5.01	5.19	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
	interval		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	
	velocity																	
Vedel, Benjamin Lobo (DEI)	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	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
	interval		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	
	velocity																	
Santos, Luquelin (DOM) (1)	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	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
	interval		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	
	velocity																	
Ingvalsen, Håvard Bentdal	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	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
	interval		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	
	velocity																	

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

date 09-Jun-22

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
James, Kirani (GRN) (1992)	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	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
	interval		10.12	9.78	9.52	9.28	8.83	8.52	8.16	8.98	175.7	8.98	9.65	9.05	8.33	9.31	8.68	
	velocity																	
Norwood, Vernon (USA) (1)	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	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
	interval		10.02	9.58	9.47	9.23	8.88	8.65	7.87	8.93	175.7	8.98	9.52	9.05	8.24	9.25	8.63	
	velocity																	
Cherry, Michael (USA) (199)	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	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
	interval		10.00	9.71	9.47	9.17	8.79	8.36	7.53	8.84	175.7	9.05	9.59	8.98	7.92	9.31	8.42	
	velocity																	
Feliz, Lidio Andres (DOM)	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	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
	interval		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	
	velocity																	
Taylor, Christopher (JAM)	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	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
	interval		10.04	9.60	9.31	9.01	8.64	8.31	7.67	8.80	175.7	9.08	9.45	8.82	7.97	9.26	8.38	
	velocity																	
Bonevacia, Liemarvin (NED)	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	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
	interval		9.91	9.75	9.54	9.28	8.91	8.70	8.38	8.74	175.7	8.73	9.41	8.93	7.99	9.06	8.44	
	velocity																	
Scotti, Edoardo (ITA) (2000)	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	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
	interval		9.97	9.84	9.73	9.36	8.90	8.59	7.59	8.72	171.5	8.81	9.54	8.74	7.92	9.16	8.31	
	velocity																	
Makwala, Isaac (BOT) (1986)	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	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
	interval		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	
	velocity																	
Petruciani, Ricky (SUI) (20)	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	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
	interval		9.89	9.52	9.16	8.94	8.64	8.12	7.50	8.67	184.0	8.90	9.34	8.79	7.79	9.11	8.26	
	velocity																	

2022 FBK Games (Hengelo, NED)**FINAL**

date 06-Jun-22

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
Norwood, Vernon (USA) (1)	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	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
	interval		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	
	velocity																	
Taylor, Christopher (JAM)	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	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
	interval		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	
	velocity																	
Stewart, Trevor (USA) (199)	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	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
	interval		9.80	9.62	9.26	8.77	8.62	8.33	7.66	8.71	175.7	8.85	9.43	8.70	7.98	9.13	8.32	
	velocity																	
Bonevacia, Liemarvin (NED)	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	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
	interval		10.00	9.80	9.26													

velocity	8.36	10.55	9.92	9.42	9.07	8.77	8.36	7.66	8.93	175.5	9.33	9.66	8.92	7.99	9.49	8.43
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Cherry, Michael (USA) (199	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	158.5	9.03	9.52	9.07	8.03	9.27	8.52	
Makwala, Isaac (BOT) (1986	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	185.7	8.79	9.62	9.14	7.91	9.19	8.48	
Deadmon, Bryce (USA) (19	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	173.0	8.83	9.55	8.99	8.04	9.18	8.49	
Montgomery, Kahmari (US	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	178.2	9.10	9.37	8.78	7.70	9.23	8.20	

2022 Shimane High School Championships (Izumo, JPN)

FINAL

date 26-May-22

Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
新井伊織	time	12.18		24.05		36.61		49.99	49.99	8 / 1								
reaction time	interval		11.87		11.87		12.56		13.38	# of strides	12.18	11.87	12.56	13.38	24.05	25.94	1.89	
	velocity	8.21		8.42		7.96		7.47	8.00	# of strides	8.21	8.42	7.96	7.47	8.32	7.71		
三島聡太	time	12.12		24.00		26.56		50.03	50.03	4 / 2								
reaction time	interval		11.88		11.88		2.56		23.47	# of strides	12.12	11.88	2.56	23.47	24.00	26.03	2.03	
	velocity	8.25		8.42		39.06		4.26	8.00	# of strides	8.25	8.42	39.06	4.26	8.33	7.68		
新井裕太	time	12.28		23.93		36.68		50.54	50.54	5 / 3								
reaction time	interval		11.65		11.65		12.75		13.86	# of strides	12.28	11.65	12.75	13.86	23.93	26.61	2.68	
	velocity	8.14		8.58		7.84		7.22	7.91	# of strides	8.14	8.58	7.84	7.22	8.36	7.52		
宮寄夢太	time	12.43		24.33		37.48		51.85	51.85	9 / 4								
reaction time	interval		11.90		11.90		13.15		14.37	# of strides	12.43	11.90	13.15	14.37	24.33	27.52	3.19	
	velocity	8.05		8.40		7.60		6.96	7.71	# of strides	8.05	8.40	7.60	6.96	8.22	7.27		
登川天	time	12.97		25.43		38.28		51.99	51.99	7 / 5								
reaction time	interval		12.46		12.46		12.85		13.71	# of strides	12.97	12.46	12.85	13.71	25.43	26.56	1.13	
	velocity	7.71		8.03		7.78		7.29	7.69	# of strides	7.71	8.03	7.78	7.29	7.86	7.53		
藤本隆司	time	12.65		24.70		38.16		52.16	52.16	2 / 6								
reaction time	interval		12.05		12.05		13.46		14.00	# of strides	12.65	12.05	13.46	14.00	24.70	27.46	2.76	
	velocity	7.91		8.30		7.43		7.14	7.67	# of strides	7.91	8.30	7.43	7.14	8.10	7.28		
錦織遊心	time	12.65		25.30		39.29		54.68	54.68	3 / 7								
reaction time	interval		12.65		12.65		13.99		15.39	# of strides	12.65	12.65	13.99	15.39	25.30	29.38	4.08	
	velocity	7.91		7.91		7.15		6.50	7.32	# of strides	7.91	7.91	7.15	6.50	7.91	6.81		
橋渡智生	time	12.40		24.72		39.39		56.79	56.79	6 / 8								
reaction time	interval		12.32		12.32		14.67		17.40	# of strides	12.40	12.32	14.67	17.40	24.72	32.07	7.35	
	velocity	8.06		8.12		6.82		5.75	7.04	# of strides	8.06	8.12	6.82	5.75	8.09	6.24		

2022 Müller Birmingham Diamond League (Birmingham, GBR)

FINAL

date 21-May-22

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
Hudson-Smith, Matthew (C	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	164.2	9.09	9.47	9.16	7.79	9.28	8.42		
Deadmon, Bryce (USA) (19	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	173.0	8.86	9.43	8.80	8.16	9.14	8.47		
Montgomery, Kahmari (US	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	176.5	9.10	9.47	8.72	8.00	9.28	8.34		
Norwood, Vernon (USA) (1	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	177.7	9.02	9.43	9.04	7.83	9.22	8.39		
Makwala, Isaac (BOT) (1986	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	181.7	8.86	9.42	8.87	7.82	9.13	8.31		
Bonevacia, Liemarvin (NED	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	185.7	8.76	9.60	8.67	7.69	9.16	8.15		
Haydock-Wilson, Alex (GBI	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	# of strides	8.77	9.12	8.70	7.92	8.94	8.29	

London, Wilbert (USA) (19	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	
Dobber, Jochem (NED) (19	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	

B FINAL

date 21-May-22

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
Brier, Joseph (GBR) (1999)	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	7.56	8.66	181.0	8.93	9.52	8.47	7.87	9.22	8.16	
Metzger, Kevin (GBR) (199	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	7.75	8.59	180.5	8.77	9.26	8.40	8.03	9.01	8.21	
Higgins, Ben (GBR) (2000)	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	7.59	8.59	194.0	8.77	9.43	8.47	7.82	9.09	8.13	
Chalmers, Cameron (GBR)	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	8.93	9.52	8.40	7.64	9.22	8.00	
Rhoden-Stevens, Jamal (G	time	6.1	11.1	16.5	22.0	27.8	33.9	40.1	47.28	47.28	7 / 4							
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
Yousif, Rabah (GBR) (1986	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
Thompson, Lee (GBR) (19	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
Okoro, Efekemo (GBR) (19	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	

2022 Michitaka Kinami Memorial (Osaka, JPN)**Decathlon - Heat**

date 30-Apr-22

Takefu (2023) - performance analysis 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
Okuda, Keisuke (JPN) (199	time	6.32	11.65	17.08	22.79	28.73	34.97	41.67	49.18	49.18	3 / 1							
reaction time	0.157	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	
Taue, Shun (JPN) (1997)	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	
Nakamura, Akihiko (JPN) (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	

Decathlon - Heat

date 30-Apr-22

Takefu (2023) - performance analysis 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
Maruyama, Yuma (JPN) (19	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	
Ushiro, Keisuke (JPN) (198	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	

2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)**Final**

date 23-Oct-21

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

		50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Hirakawa, Kira (JPN) (2005)	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)	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) (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		

Shimizu, Tkeru (JPN) (2004) time	6.27	11.31	16.67	22.21	27.86	33.87		33.87	2 / 4								
reaction time	0.205		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		
Shibutani, Hiroya (JPN) (20) time	6.13	11.09	16.32	21.81	27.61	34.02		34.02	7 / 5								
reaction time	0.198		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) (20) time	6.36	11.48	16.87	22.52	28.28	34.28		34.28	5 / 6								
reaction time	0.222		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		

2021 All Japan Corporate Championships (Osaka, JPN)**FINAL**

date 25-Sep-21

@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
Sato, Fuga (JPN) (1996) time		11.09		21.80		33.42		45.73	45.84	7 / 1							
reaction time	0.192			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	
Kawauchi, Mitsuki (JPN) (1) time		11.39		22.26		33.62		46.05	46.17	8 / 2							
reaction time	0.193			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	
Ikeda, Kohsuke (JPN) (1995) time		11.44		22.16		33.58		46.08	46.20	6 / 3							
reaction time	0.223			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	
Yoshizu, Takuho (JPN) (19) time		11.58		22.49		33.78		46.18	46.29	5 / 4							
reaction time	0.204			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	
Itahana, Kohei (JPN) (1994) time		11.54		22.41		34.02		46.86	46.96	2 / 5							
reaction time	0.216			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	
Katayama, Yuto (JPN) (199) time		11.64		22.67		34.30		47.01	47.22	9 / 6							
reaction time	0.191			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	
Obuchi, Mizuki (JPN) (1997) time		11.38		22.26		33.75		48.21	48.34	4 / 7							
reaction time	0.188			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	

Heat 3

date 25-Sep-21

@ohnishigundan (2021) - <https://twitter.com/ohnishigundan/status/1441598727207063561>

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Sato, Fuga (JPN) (1996) time		10.99		21.52		33.23		46.21	46.38	5 / 1							
reaction time	0.202			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	
Yoshizu, Takuho (JPN) (19) time		11.28		22.31		34.13		46.84	46.99	8 / 2							
reaction time	0.200			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	
Tkashi, Yuma (JPN) (199) time		11.56		22.79		34.22		46.88	47.04	7 / 3							
reaction time	0.166			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	
Itahana, Kohei (JPN) (1994) time		11.41		22.49		34.33		46.89	47.06	9 / 4							
reaction time	0.194			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	

Heat 2

date 25-Sep-21

@ohnishigundan (2021) - <https://twitter.com/ohnishigundan/status/1441598727207063561>

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Obuchi, Mizuki (JPN) (1997) time		11.36		22.14		33.75		46.85	46.87	7 / 1							
reaction time	0.183			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	
Kawauchi, Mitsuki (JPN) (1) time		1.34		21.99		33.82		47.01	47.05	8 / 2							
reaction time	0.183			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	

Heat 1

date 25-Sep-21

@ohnishigundan (2021) - <https://twitter.com/ohnishigundan/status/1441598727207063561>

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Ikeda, Kohsuke (JPN) (1995) time		11.55		22.37		33.93		46.81	46.94	2 / 1							
reaction time	0.216			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	
Katayama, Yuto (JPN) (199) time		11.33		22.24		33.91		47.06	47.19	3 / 2							
reaction time	0.172			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	

2021 Weltklasse (Zürich, SUI)**FINAL**

date 09-Sep-21

Omega Timing (2021) - diamond league race analysis

Warholm, Karsten (NOR) (19	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		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
	interval										170.2	9.01	9.62	8.77	7.93	9.30	8.33	
	velocity	8.20	10.00	9.80	9.43	8.93	8.62	8.20	7.68	8.79								
Norwood, Vernon (USA) (11	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		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
	interval										9.01	9.43	8.93	7.88	9.22	8.37		
	velocity	8.20	10.00	9.62	9.26	9.09	8.77	8.20	7.59	8.77								
Dobber, Jochem (NED) (19	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		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
	interval										8.77	9.52	8.77	8.03	9.13	8.39		
	velocity	7.94	9.80	9.62	9.43	8.93	8.62	8.20	7.87	8.74								
Petruciani, Ricky (SUI) (20	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		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
	interval										8.77	9.17	8.93	7.74	8.97	8.29		
	velocity	7.94	9.80	9.43	8.93	9.09	8.77	8.20	7.33	8.62								
Devantay, Charles (SUI) (19	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		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
	interval										8.77	9.17	8.55	7.73	8.97	8.12		
	velocity	7.94	9.80	9.43	8.93	8.77	8.33	8.06	7.43	8.52								

B Race

date 26-Aug-21

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
Spitz, Lionel (SUI) (2001)	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		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
	interval										8.62	9.09	8.55	8.10	8.85	8.32		
	velocity	7.81	9.62	9.26	8.93	8.62	8.47	8.33	7.87	8.57								
Gyger, Nathan (SUI) (1992)	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		5.30	5.40	5.50	5.90	6.20	6.37		# of strides	11.80	10.90	11.40	12.57	22.70	23.97	1.27
	interval										8.47	9.17	8.77	7.96	8.81	8.34		
	velocity	7.69	9.43	9.26	9.09	9.09	8.47	8.06	7.85	8.57								
Flück, Luca (SUI) (1996)	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		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
	interval										8.40	8.77	8.20	7.61	8.58	7.89		
	velocity	7.69	9.26	8.93	8.62	8.33	8.06	7.94	7.31	8.22								
Mfomkpa, Alain-Hervé (SUI)	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		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
	interval										8.33	8.70	8.20	7.37	8.51	7.76		
	velocity	7.69	9.09	8.93	8.47	8.33	8.06	7.69	7.07	8.12								
Dieterle, Cédric (SUI) (2000)	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		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
	interval										8.47	8.62	8.13	7.32	8.55	7.70		
	velocity	7.81	9.26	8.77	8.47	8.20	8.06	7.58	7.08	8.10								
Amherd, Fabian (SUI) (200)	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		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
	interval										8.26	8.62	8.06	7.47	8.44	7.75		
	velocity	7.58	9.09	8.93	8.33	8.33	7.81	7.69	7.26	8.08								
Gendre, Vincent (SUI) (200)	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		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
	interval										8.13	8.70	7.94	7.46	8.40	7.69		
	velocity	7.46	8.93	8.93	8.47	8.06	7.81	7.69	7.24	8.03								
Steinmann, Matthias (SUI)	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		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
	interval										8.26	8.55	8.00	6.93	8.40	7.43		
	velocity	7.46	9.26	8.62	8.47	8.33	7.69	7.35	6.55	7.88								

2020 Olympic Games (Tokyo, JPN)**FINAL**

date 03-Aug-21

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Gardiner, Steven (BAH) (19	0.179									43.85	7 / 1						# of strides	157.0
Zambrano, Anthony (COL)	0.166									44.08	5 / 2						# of strides	182.7
James, Kirani (GRN) (1992)	0.157									44.19	4 / 3						# of strides	161.2
Cherry, Michael (USA) (199	0.179								PB	44.21	6 / 4						# of strides	157.5
Norman, Michael (USA) (19	0.148									44.31	8 / 5						# of strides	171.2
Taylor, Christopher (JAM)	0.158								PB	44.79	9 / 6						# of strides	181.0
Makwala, Isaac (BOT) (1985	0.167									44.94	2 / 7						# of strides	177.7
Bonevacija, Liemarvin (NED)	0.168									45.07	3 / 8						# of strides	182.7

2021 Japanese High School National Championships (Fukui, JPN)**FINAL**

date 28-Jul-21

Shibayama (2021) - national high school and U20 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
Suzuki, Osuke (JPN) (2003)	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		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
	interval										8.47	8.85	8.58	7.95	8.66	8.25		
	velocity	7.84	9.23	8.93	8.77	8.70	8.47	8.17	7.74	8.45								
Koyama, Ren (JPN) (2003)	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		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
	interval										8.35	9.03	8.39	7.85	8.68	8.11		
	velocity	7.55	9.35	9.17	8.88	8.55	8.24	8.09	7.62	8.38								
Hirakawa, Kira (JPN) (2005)	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		5.23	5.43	5.63	5.74	5.95	6.40									

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
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Satake, Yuzuki (JPN) (2003) 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	
Machida, Reo (JPN) (2003) 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	
Asano, Daichi (JPN) (2004) 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	
Kawauchi, Shogo (JPN) (2) 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	

2021 Müller British Grand Prix (Gateshead, GBR)**FINAL**

date 13-Jul-21

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
Baker, Nicklas (GBR) (1994) 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	
Brier, Joseph (GBR) (1999) 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	
Thompson, Lee (GBR) (199) 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	
Haydock-Wilson, Alex (GB) 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	
Ohioze, Michael (GBR) (199) 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	
Smith, Owen (GBR) (1994) 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	
Rooney, Martyn (GBR) (199) 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	
Hudson-Smith, Matthew (C) 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	

2021 Bauhaus Galan (Stockholm, SWE)**FINAL**

date 04-Jul-21

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
James, Kirani (GRN) (1992) 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
Lendore, Deon (TTO) (1992) 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	
Bonevacia, Liemarvin (NED) time	6.5	11.5	16.4	21.5	26.8	32.5	38.4	44.80	44.80	3 / 3							
reaction time 0.202 interval		5.00	4.90	5.10	5.30	5.70	5.90	6.40		# of strides	11.50	10.00	11.00	12.30	21.50	23.30	1.80
velocity	7.69	10.00	10.20	9.80	9.43	8.77	8.47	7.81	8.93		8.70	10.00	9.09	8.13	9.30	8.58	
Norwood, Vernon (USA) (1) 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	
London, Wil (USA) (1997) 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
Makwala, Isaac (BOT) (1986) 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
Ogando, Alexander (DOM) 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	

Johansson, Emil (SWE) (20	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	

2021 Japanese National Championships (Osaka, JPN)

Final

date 25-Jun-21

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
Kawabata, Kaito (JPN) (199	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	
Sato, Kentaro (JPN) (1994)	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	
Suzuki, Aoto (JPN) (2001)	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	
Ito, Rikiya (JPN) (1998)	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	
Sato, Fuga (JPN) (1996)	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	
Ikeda, Kohsuke (JPN) (1995)	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	

2021 Japanese U20 National Championships (Osaka, JPN)

Final

date 25-Jun-21

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
Yoshiki, Tsubasa (JPN) (20	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	8.87	9.44	8.83	7.46	9.15	8.09	
Kinoshita, Yuichi (JPN) (20	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	8.71	9.11	8.57	7.93	8.90	8.24	
Morimoto, Ren (JPN) (2003)	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	
Kiyota, Yuki (JPN) (2002)	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	
Kasai, Kuraki (JPN) (2002)	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	

2021 Golden Gala Pietro Mennea (Florence, ITA)

FINAL

date 10-Jun-21

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
Zambrano, Anthony (COL)	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	
Re, Davide (ITA) (1993)	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	
Hudson-Smith, Matthew (C	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	
Nene, Zakhiti (RSA) (1998)	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
Petrucciani, Ricky (SUI) (20	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	
Scotti, Edoardo (ITA) (2000)	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
Aceti, Vladimir (ITA) (1998)	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	
Cedenio, Machel (TTO) (19)	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						

2021 Denka Athletics Challenge Cup (Niigata, JPN)

Final

date 06-Jun-21

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
Walsh, Julian (JPN) (1996)	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	
Sato, Kentaro (JPN) (1994)	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	
Sato, Fuga (JPN) (1996)	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
Ito, Rikuya (JPN) (1998)	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) (199)	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	
Kawauchi, Mitsuki (JPN) (1)	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	

B Final

date 06-Jun-21

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
Yamaki, Kakeru (JPN) (1996)	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
Suzuki, Aoto (JPN) (2001)	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

C Final

date 06-Jun-21

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
Nakajima, Yuki Joseph (JPN)	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

2021 Doha Diamond League (Doha, QAT)

FINAL

date 28-May-21

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
Norman, Michael (USA) (19)	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
Zambrano, Anthony (COL)	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	5.60	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	
Kerley, Fred (USA) (1995)	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	5.80	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	
James, Kirani (GRN) (1992)	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	5.90	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			9.01	9.62	9.09	8.26	9.30	8.65	
Norwood, Vernon (USA) (1)	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	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
Al-Yassin, Mazen (KSA) (1)	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
Yahia Ibrahim, Ammar Isma	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	
Borlée, Kevin (BEL) (1988)	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
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B FINAL

date 28-May-21

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
Luchembe, Kennedy (ZAM) 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	
Jelassi, Mohamed Fares (TUN) 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	
Balti, Rami (TUN) (2001) 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	
Ibrahim Issaka, Hussein (QAT) 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	
Futayni, Ibrahim (KSA) (19) 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	5.60	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	
Abdulrahman, Mohamed M 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	
Mohadjir, Abdel Madjid (QAT) 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	

2021 Shimane High School Championships (Izumo, JPN)**FINAL**

date 28-May-21

Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
梶間 絢斗 time		12.15		23.47		35.67		49.64	49.64	4 / 1							
reaction time				11.32		12.20		13.97									
interval										# of strides	12.15	11.32	12.20	13.97	23.47	26.17	2.70
velocity		8.23		8.83		8.20		7.16	8.06		8.23	8.83	8.20	7.16	8.52	7.64	
山根 悠介 time		12.05		23.38		35.76		50.00	50.00	3 / 2							
reaction time				11.33		12.38		14.24									
interval										# of strides	12.05	11.33	12.38	14.24	23.38	26.62	3.24
velocity		8.30		8.83		8.08		7.02	8.00		8.30	8.83	8.08	7.02	8.55	7.51	
新井 伊織 time		12.45		24.48		36.88		50.52	50.52	5 / 3							
reaction time				12.03		12.40		13.64									
interval										# of strides	12.45	12.03	12.40	13.64	24.48	26.04	1.56
velocity		8.03		8.31		8.06		7.33	7.92		8.03	8.31	8.06	7.33	8.17	7.68	
新井 裕太 time		13.13		25.37		37.73		51.15	51.15	8 / 4							
reaction time				12.24		12.36		13.42									
interval										# of strides	13.13	12.24	12.36	13.42	25.37	25.78	0.41
velocity		7.62		8.17		8.09		7.45	7.82		7.62	8.17	8.09	7.45	7.88	7.76	
三島 聡太 time		12.80		25.55		37.90		51.20	51.20	6 / 5							
reaction time				12.75		12.35		13.30									
interval										# of strides	12.80	12.75	12.35	13.30	25.55	25.65	0.10
velocity		7.81		7.84		8.10		7.52	7.81		7.81	7.84	8.10	7.52	7.83	7.80	
中尾 彪聖 time		12.95		25.03		37.79		51.79	51.79	1 / 6							
reaction time				12.08		12.76		14.00									
interval										# of strides	12.95	12.08	12.76	14.00	25.03	26.76	1.73
velocity		7.72		8.28		7.84		7.14	7.72		7.72	8.28	7.84	7.14	7.99	7.47	
北村 泰一 time		12.80		24.93		37.83		52.99	52.99	2 / 7							
reaction time				12.13		12.90		15.16									
interval										# of strides	12.80	12.13	12.90	15.16	24.93	28.06	3.13
velocity		7.81		8.24		7.75		6.60	7.55		7.81	8.24	7.75	6.60	8.02	7.13	
鐘築 識 time		13.53		26.72		40.22		54.01	54.01	7 / 8							
reaction time				13.19		13.50		13.79									
interval										# of strides	13.53	13.19	13.50	13.79	26.72	27.29	0.57
velocity		7.39		7.58		7.41		7.25	7.41		7.39	7.58	7.41	7.25	7.49	7.33	

2021 South Eastern Conference Championships (College Station, TX)**FINAL**

date 15-May-21

Vazel (2021) - <https://twitter.com/pjvazel/status/1393829441172803591?s=21>

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Godwin, Elija (USA) (1999) time		10.6		20.4		31.5		44.61	44.61	4 / 3							
reaction time				9.80		11.10		13.11	PB								
interval										# 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		9.43	10.20	9.01	7.63	9.80	8.26	

2021 Ready Steady Tokyo (Tokyo, JPN)**FINAL**

date 09-May-21

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
Sato, Kentaro (JPN) (1994) 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		9.15	9.62	8.59	7.91	9.38	8.24	
Ito, Rikuya (JPN) (1998) 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						

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
Kawabata, Kaito (JPN) (199) 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
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
Ikeda, Kohsuke (JPN) (1995) 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
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
Kawauchi, Mitsuki (JPN) (1) 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
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	
Itahana, Kohei (JPN) (1994) 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
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	

2021 Shizuoka International Athletics Meeting (Fukuroi, JPN)

FINAL

date 03-May-21

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
Kawauchi, Mitsuki (JPN) (1) 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	
Nose, Daiki (JPN) (2001) 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	
Kitadani, Naoki (JPN) (1998) 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		
Kobayashi, Naoki (JPN) (19) 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	

B FINAL

date 03-May-21

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
Sato, Fuga (JPN) (1996) 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		
Obuchi, Mizuki (JPN) (1997) 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		
Imoto, Yoshinobu (JPN) (1) 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		

2020 Japanese U20 National Championships (Hiroshima, JPN)

FINAL

date 23-Oct-20

Kobayashi (2002) - national high school and U20 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
Fujiyoshi, Shunta (JPN) (2) 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	
川上 聡太 time	6.40	11.59	16.92	22.49	28.37	34.45	40.78	47.44	47.44	6 / 2							
reaction time 0.176 interval		5.19	5.33	5.57	5.88	6.08	6.33	6.66		# of strides	11.59	10.90	11.96	12.99	22.49	24.95	2.46
velocity	7.81	9.63	9.38	8.98	8.50	8.22	7.90	7.51	8.43	177.0	8.63	9.17	8.36	7.70	8.89	8.02	
Nose, Hiroki (JPN) (2001) 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	
Imaizumi, Takaki (JPN) (200) 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	
佐藤 恵斗 time	6.56	11.99	17.52	23.27	29.29	35.41	41.61	48.05	48.05	1 / 5							
reaction time 0.148 interval		5.43	5.53	5.75	6.02	6.12	6.20	6.44		# of strides	11.99	11.28	12.14	12.64	23.27	24.78	1.51
velocity	7.62	9.21	9.04	8.70	8.31	8.17	8.06	7.76	8.32	186.9	8.34	8.87	8.24	7.91	8.59	8.07	
中島 佑気ジョセフ time	6.46	11.85	17.40	23.15	29.08	35.17	41.43	48.12	48.12	3 / 6							
reaction time 0.188 interval		5.39	5.55	5.75	5.93	6.09	6.26	6.69		# of strides	11.85	11.30	12.02	12.95	23.15	24.97	1.82
velocity	7.74	9.28	9.01	8.70	8.43	8.21	7.99	7.47	8.31	173.7	8.44	8.85	8.32	7.72	8.64	8.01	

Heat 3

date 23-Oct-20

Kobayashi (2002) - national high school and U20 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
Imaizumi, Takaki (JPN) (200) 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	

Kinoshita, Yuichi (JPN) (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	

2020 Japanese National Championships (Niigata, JPN)

FINAL

date 02-Oct-20

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
Ito, Rikuya (JPN) (1998)	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	
Inoue, Daichi (JPN) (1999)	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	
Sato, Fuga (JPN) (1996)	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	
Yoshizu, Takuho (JPN) (1997)	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	
Obuchi, Mizuki (JPN) (1997)	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	
Sato, Kentaro (JPN) (1994)	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	
Kitakani, Naoki (JPN) (1998)	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	

Heat 3

date 01-Oct-20

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
Sato, Fuga (JPN) (1996)	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	185.1	8.51	9.19	8.68	7.87	8.84	8.25	
Inoue, Daichi (JPN) (1999)	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	186.9	8.69	8.96	8.55	7.97	8.82	8.25	
Imoto, Yoshinobu (JPN) (1997)	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	188.8	8.88	9.14	8.49	7.69	9.01	8.07	
Kawauchi, Mitsuki (JPN) (1997)	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	185.5	8.55	9.11	8.42	7.52	8.82	7.95	

Heat 2

date 01-Oct-20

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
Ito, Rikuya (JPN) (1998)	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	189.1	8.91	9.52	8.47	7.89	9.21	8.17	
Obuchi, Mizuki (JPN) (1997)	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	189.0	8.90	9.32	8.50	7.70	9.11	8.08	
Wakabayashi, Kota (JPN) (1997)	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	189.2	8.92	9.26	8.19	6.91	9.09	7.49	

Heat 1

date 01-Oct-20

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
Sato, Kentaro (JPN) (1994)	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	189.8	8.98	9.62	8.46	7.45	9.29	7.92	
Kitakani, Naoki (JPN) (1998)	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	188.2	8.82	9.41	8.51	7.49	9.10	7.97	
Kimura, Kazushi (JPN) (1997)	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	186.7	8.67	9.22	8.47	7.37	8.93	7.88	

2020 Japanese Multi-Event National Championships (Nagano, JPN)

Decathlon - Heat

date 26-Sep-20

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
Taue, Shun (JPN) (1997)	time	6.57	12.02	17.60	23.36	29.36	35.55	42.09	49.12	49.12	6 / 3							
	reaction time		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
	interval 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	
Nakamura, Akihiko (JPN) (†)	time	6.52	12.00	17.68	23.52	29.55	35.83	42.38	49.39	49.39	5 / 6							
	reaction time		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
	interval 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	

Decathlon - Heat date 26-Sep-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
Ushiro, Keisuke (JPN) (1998)	time	6.71	12.34	18.17	24.30	30.61	37.24	44.30	52.11	52.11	5 / 6							
	reaction time		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
	interval 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	

2020 All Japan Corporate Championships (Kumagaya, JPN)**FINAL** date 19-Sep-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
Sato, Fuga (JPN) (1996)	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	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
	interval 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	
Obuchi, Mizuki (JPN) (1997)	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	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
	interval 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	
Wakabayashi, Kota (JPN) (†)	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	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
	interval 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	
Sato, Kentaro (JPN) (1994)	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	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
	interval 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	

2020 World Athletics Trials (Fuji, JPN)**FINAL** date 06-Sep-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
Sato, Fuga (JPN) (1996)	time	6.39	11.58	16.83	22.19	27.70	33.38	39.44	46.15	46.15	3 / 1							
	reaction time		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
	interval 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	
Wakabayashi, Kota (JPN) (†)	time	6.30	11.47	16.73	22.29	28.14	34.17	40.47	47.40	47.40	5 / 3							
	reaction time		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
	interval 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	

2020 Bauhaus Galan (Stockholm, SWE)**FINAL** date 23-Aug-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
Warholm, Karsten (NOR) (†)	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	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
	interval 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	
Janežič, Luka (SLO) (1995)	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	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
	interval 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	
Dobber, Jochem (NED) (19)	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	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
	interval 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	
Yousif, Rabah (GBR) (1986)	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	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
	interval 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	
Schlegel, Marvin (GER) (19)	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	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
	interval 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	
Re, Davide (ITA) (1993)	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	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
	interval 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	
Ekelund-Arenander, Nick (†)	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	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
	interval 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	
Johansson, Emil (SWE) (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	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
	interval 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	

2020 Seiko Golden Grand Prix (Tokyo, JPN)**FINAL** date 23-Aug-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
<i>Yamanaka (2020) - 400m race analysis of men and women during 2020 season</i>																		

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Ito, Rikuya (JPN) (1998)	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 velocity	8.28	10.18	9.90	9.49	8.99	8.42	7.97	7.36	8.73	# of strides	10.95 9.13	10.32 9.69	11.50 8.70	13.06 7.66	21.27 9.40	24.56 8.14	3.29
Obuchi, Mizuki (JPN) (1997)	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 velocity	8.10	9.90	9.71	9.38	8.82	8.52	8.06	7.34	8.65	# of strides	11.22 8.91	10.48 9.54	11.54 8.67	13.01 7.69	21.70 9.22	24.55 8.15	2.85
Imoto, Yoshinobu (JPN) (1997)	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 velocity	8.25	10.14	9.65	9.01	8.74	8.33	7.86	7.28	8.57	# of strides	10.99 9.10	10.73 9.32	11.72 8.53	13.23 7.56	21.72 9.21	24.95 8.02	3.23
Sato, Kentaro (JPN) (1994)	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 velocity	8.26	10.06	9.78	9.21	8.80	8.10	7.66	7.13	8.52	# of strides	11.02 9.07	10.54 9.49	11.85 8.44	13.54 7.39	21.56 9.28	25.39 7.88	3.83
Kimura, Kazushi (JPN) (1995)	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 velocity	8.08	9.90	9.75	9.28	8.83	8.28	7.73	6.80	8.46	# of strides	11.24 8.90	10.52 9.51	11.70 8.55	13.82 7.24	21.76 9.19	25.52 7.84	3.76
Kawauchi, Mitsuki (JPN) (1995)	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 velocity	7.89	9.52	9.29	9.03	8.61	8.29	7.96	7.51	8.46	# of strides	11.59 8.63	10.92 9.16	11.84 8.45	12.94 7.73	22.51 8.88	24.78 8.07	2.27
Wakabayashi, Kota (JPN) (1996)	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 velocity	8.01	9.80	9.63	9.11	8.62	8.12	7.69	6.91	8.38	# of strides	11.34 8.82	10.68 9.36	11.96 8.36	13.74 7.28	22.02 9.08	25.70 7.78	3.68

2020 Shimane High School Championships (Izumo, JPN)**FINAL**

date 11-Jul-20

Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
松浦 大雅	time	11.38			22.73		35.41		49.24	49.24	6 / 1							
	reaction time				11.35		12.68		13.83									
	interval velocity	8.79			8.81		7.89		7.23	8.12	# of strides	11.38 8.79	11.35 8.81	12.68 7.89	13.83 7.23	22.73 8.80	26.51 7.54	3.78
飛田 陸	time	11.81			23.50		36.53		50.72	50.72	7 / 2							
	reaction time				11.69		13.03		14.19									
	interval velocity	8.47			8.55		7.67		7.05	7.89	# of strides	11.81 8.47	11.69 8.55	13.03 7.67	14.19 7.05	23.50 8.51	27.22 7.35	3.72
久代 逸心	time	12.14			24.08		36.83		50.80	50.80	4 / 3							
	reaction time				11.94		12.75		13.97									
	interval velocity	8.24			8.38		7.84		7.16	7.87	# of strides	12.14 8.24	11.94 8.38	12.75 7.84	13.97 7.16	24.08 8.31	26.72 7.49	2.64
山根 悠介	time	11.91			24.00		37.41		51.85	51.85	8 / 4							
	reaction time				12.09		13.41		14.44									
	interval velocity	8.40			8.27		7.46		6.93	7.71	# of strides	11.91 8.40	12.09 8.27	13.41 7.46	14.44 6.93	24.00 8.33	27.85 7.18	3.85

2019 Japanese National U18/U20 Championships (Hiroshima, JPN)**U20 FINAL**

date 18-Oct-19

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
Daichi, Tomita (JPN) (2001)	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 velocity	7.94	9.65	9.45	8.91	8.70	8.42	8.21	7.72	8.58	# of strides	11.48 8.71	10.90 9.17	11.69 8.55	12.57 7.96	22.38 8.94	24.26 8.24	1.88
Tatsunami, Clay Aaron (JPI) (2001)	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 velocity	7.65	9.35	9.24	8.94	8.71	8.49	8.20	7.69	8.49	# of strides	11.89 8.41	11.00 9.09	11.63 8.60	12.60 7.94	22.89 8.74	24.23 8.25	1.34
Suzuki, Aoto (JPN) (2001)	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 velocity	7.78	9.31	9.12	8.65	8.33	8.24	8.14	7.79	8.39	# of strides	11.80 8.47	11.26 8.88	12.07 8.29	12.56 7.96	23.06 8.67	24.63 8.12	1.57
Koshimizu, Yusuke (JPN) (2001)	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 velocity	7.96	9.78	9.51	8.77	8.43	8.05	7.63	7.20	8.34	# of strides	11.39 8.78	10.96 9.12	12.14 8.24	13.49 7.41	22.35 8.95	25.63 7.80	3.28
Fujiyoshi, Shunta (JPN) (2001)	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 velocity	7.65	9.56	9.42	8.91	8.40	8.10	7.85	7.33	8.33	# of strides	11.77 8.50	10.92 9.16	12.12 8.25	13.19 7.58	22.69 8.81	25.31 7.90	2.62

U18 FINAL (300m)

date 18-Oct-19

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
Kinoshita, Yuichi (JPN) (2002)	time	11.12			21.58		33.07			33.07	4 / 1							
	reaction time				10.46		11.49											
	interval velocity	8.99			9.56		8.70			9.07	# of strides	11.12 8.99	10.46 9.56	11.49 8.70		21.58 9.27		100m-300m 21.95 9.11
Inoue, Futoshi (JPN) (2002)	time	11.38			21.92		33.46			33.46	5 / 2							
	reaction time				10.54		11.54											
	interval velocity	8.79			9.49		8.67			8.97	# of strides	11.38 8.79	10.54 9.49	11.54 8.67		21.92 9.12		100m-300m 22.08 9.06
Hirano, Yuki (JPN) (2002)	time	11.29			22.23		33.87			33.87	7 / 3							
	reaction time				10.94		11.64											
	interval velocity										# of strides	11.29 8.50	10.94 9.16	11.64 8.25		22.23 8.81		100m-300m 22.58

	velocity	8.86	9.14	8.59	8.86	140.0	8.86	9.14	8.59	9.00	8.86
眞々田 洸大 (JPN)	time	11.39	22.07	34.00	34.00	3 / 4					100m-300m
	reaction time	0.160					# of strides	11.39	10.68	11.93	22.07
	interval		10.68	11.93							22.61
	velocity	8.78	9.36	8.38	8.82	145.7	8.78	9.36	8.38	9.06	8.85
平井 聖人 (JPN)	time	11.59	22.41	34.25	34.25	6 / 5					100m-300m
	reaction time	0.153					# of strides	11.59	10.82	11.84	22.41
	interval		10.82	11.84							22.66
	velocity	8.63	9.24	8.45	8.76	138.0	8.63	9.24	8.45	8.92	8.83
岩垣 勇司 (JPN)	time	11.45	22.36	34.79	34.79	2 / 6					100m-300m
	reaction time	0.123					# of strides	11.45	10.91	12.43	22.36
	interval		10.91	12.43							23.34
	velocity	8.73	9.17	8.05	8.62	8.73	9.17	8.05	8.94	8.57	
山田 怜央 (JPN)	time	11.69	22.96	35.28	35.28	8 / 7					100m-300m
	reaction time	0.204					# of strides	11.69	11.27	12.32	22.96
	interval		11.27	12.32							23.59
	velocity	8.55	8.87	8.12	8.50	8.55	8.87	8.12	8.71	8.48	
中島 佑気ジョセフ (JPN)	time	12.10	23.57	35.70	35.70	1 / 8					100m-300m
	reaction time	0.184					# of strides	12.10	11.47	12.13	23.57
	interval		11.47	12.13							23.60
	velocity	8.26	8.72	8.24	8.40	8.26	8.72	8.24	8.49	8.47	

2019 IAAF World Championships (Doha, QAT)

FINAL date 04-Oct-19 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	
Gardiner, Steven (BAH) (19)	6.22	11.00	15.92	20.96	26.15	31.59	37.32	43.48	43.48	4 / 1								
	reaction time	0.164									# of strides	11.00	9.96	10.63	11.89	20.96	22.52	1.56
	interval		4.78	4.92	5.04	5.19	5.44	5.73	6.16	NR PB								
	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	
Zambrano, Anthony (COL)	6.08	10.98	15.98	21.13	26.54	32.10	37.91	44.15	44.15	8 / 2								
	reaction time	0.182									# of strides	10.98	10.15	10.97	12.05	21.13	23.02	1.89
	interval		4.90	5.00	5.15	5.41	5.56	5.81	6.24	AR PB								
	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	
Kerley, Fred (USA) (1995)	6.03	10.87	15.78	20.87	26.16	31.79	37.74	44.17	44.17	5 / 3								
	reaction time	0.144									# of strides	10.87	10.00	10.92	12.38	20.87	23.30	2.43
	interval		4.84	4.91	5.09	5.29	5.63	5.95	6.43									
	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	
Gaye, Demish (JAM) (1993)	0.171	no information available							PB	44.46	3 / 4			# of strides	178.2			
James, Kirani (GRN) (1992)	0.127	no information available							44.54	7 / 5			# of strides	164.7				
Korir, Emmanuel (KEN) (19)	0.160	no information available							44.94	9 / 6			# of strides	178.2				
Cedenio, Machel (TTO) (19)	6.01	10.78	15.67	20.73	26.07	31.83	38.05	45.30	45.30	6 / 7								
	reaction time	0.221									# of strides	10.78	9.95	11.10	13.47	20.73	24.57	3.84
	interval		4.77	4.89	5.06	5.34	5.76	6.22	7.25									
	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	
Bloomfield, Akeem (JAM) (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									# of strides	11.15	10.25	11.26	12.70	21.40	23.96	2.56
	interval		4.82	5.00	5.25	5.44	5.82	6.08	6.62									
	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	

Semi-Final 3 date 02-Oct-19 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	
Cedenio, Machel (TTO) (19)	6.05	10.84	15.76	20.98	26.45	32.17	38.07	44.41	44.41	7 / 1								
	reaction time	0.239									# of strides	10.84	10.14	11.19	12.24	20.98	23.43	2.45
	interval		4.79	4.92	5.22	5.47	5.72	5.90	6.34									
	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	
Zambrano, Anthony (COL)	6.15	11.09	16.19	21.56	27.07	32.67	38.42	44.55	44.55	8 / 2								
	reaction time	0.183									# of strides	11.09	10.47	11.11	11.88	21.56	22.99	1.43
	interval		4.94	5.10	5.37	5.51	5.60	5.75	6.13	NR PB								
	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	
Bloomfield, Akeem (JAM) (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									# of strides	11.14	10.11	11.09	12.43	21.25	23.52	2.27
	interval		4.90	4.98	5.13	5.41	5.68	5.95	6.48									
	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	
Walsh, Julian Jrummi (JPN)	6.14	11.16	16.33	21.72	27.22	32.91	38.84	45.13	45.13	5 / 4								
	reaction time	0.132									# of strides	11.16	10.56	11.19	12.22	21.72	23.41	1.69
	interval		5.02	5.17	5.39	5.50	5.69	5.93	6.29	PB								
	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	

Semi-Final 2 date 02-Oct-19 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	
Gardiner, Steven (BAH) (19)	6.09	10.98	15.91	21.09	26.40	32.00	37.88	44.13	44.13	6 / 1								
	reaction time	0.154									# of strides	10.98	10.11	10.91	12.13	21.09	23.04	1.95
	interval		4.89	4.93	5.18	5.31	5.60	5.88	6.25									
	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	
James, Kirani (GRN) (1992)	6.02	10.89	15.84	21.02	26.40	32.02	37.93	44.23	44.23	5 / 2								
	reaction time	0.119									# of strides	10.89	10.13	11.00	12.21	21.02	23.21	2.19
	interval		4.87	4.95	5.18	5.38	5.62	5.91	6.30									
	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	
Gaye, Demish (JAM) (1993)	6.07	10.89	15.82	21.07	26.58	32.33	38.25	44.66	44.66	7 / 3								
	reaction time	0.188									# of strides	10.89	10.18	11.26	12.33	21.07	23.59	2.52
	interval		4.82	4.93	5.25	5.51	5.75	5.92	6.41									
	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	

Semi-Final 1 date 02-Oct-19 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
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WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

Kerley, Fred (USA) (1995)	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									# of strides	10.83	9.98	11.00	12.44	20.81	23.44	2.63
	interval		4.77	4.90	5.08	5.35	5.65	5.96	6.48		170.7	9.23	10.02	9.09	8.04	9.61	8.53	
	velocity	8.25	10.48	10.20	9.84	9.35	8.85	8.39	7.72	9.04								
Korir, Emmanuel (KEN) (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									# of strides	11.15	10.09	11.01	12.12	21.24	23.13	1.89
	interval		4.87	4.92	5.17	5.39	5.62	5.88	6.24		176.5	8.97	9.91	9.08	8.25	9.42	8.65	
	velocity	7.96	10.27	10.16	9.67	9.28	8.90	8.50	8.01	9.02								

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

date 09-Sep-19

European Athletics (2019) - race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Cherry, Michael (USA) (199	time		10.99		21.24		32.55		45.13	45.13	3 / 1							
	reaction time	0.163									# of strides	10.99	10.25	11.31	12.58	21.24	23.89	2.65
	interval				10.25	11.31	12.58				165.0	9.10	9.76	8.84	7.95	9.42	8.37	
	velocity		9.10		9.76	8.84	7.95	8.86										
London, Wil (USA) (1997)	time		11.41		21.96		33.20		45.39	45.39	5 / 2							
	reaction time	0.204									# of strides	11.41	10.55	11.24	12.19	21.96	23.43	1.47
	interval				10.55	11.24	12.19				178.2	8.76	9.48	8.90	8.20	9.11	8.54	
	velocity		8.76		9.48	8.90	8.20	8.81										
Re, Davide (ITA) (1993)	time		11.34		21.96		33.45		46.05	46.05	4 / 3							
	reaction time	0.154									# of strides	11.34	10.62	11.49	12.60	21.96	24.09	2.13
	interval				10.62	11.49	12.60				176.0	8.82	9.42	8.70	7.94	9.11	8.30	
	velocity		8.82		9.42	8.70	7.94	8.69										
Richard, Tyrell (USA) (1997	time		11.54		22.51		34.09		46.38	46.38	9 / 4							
	reaction time	0.145									# of strides	11.54	10.97	11.58	12.29	22.51	23.87	1.36
	interval				10.97	11.58	12.29				176.7	8.67	9.12	8.64	8.14	8.88	8.38	
	velocity		8.67		9.12	8.64	8.14	8.62										
Zalewski, Karol (POL) (1993	time		11.30		22.06		33.65		46.57	46.57	2 / 5							
	reaction time	0.171									# of strides	11.30	10.76	11.59	12.92	22.06	24.51	2.45
	interval				10.76	11.59	12.92				175.2	8.85	9.29	8.63	7.74	9.07	8.16	
	velocity		8.85		9.29	8.63	7.74	8.59										
Yousif, Rabah (GBR) (1986	time		11.42		21.89		33.48		46.76	46.76	6 / 6							
	reaction time	0.166									# of strides	11.42	10.47	11.59	13.28	21.89	24.87	2.98
	interval				10.47	11.59	13.28				167.0	8.76	9.55	8.63	7.53	9.14	8.04	
	velocity		8.76		9.55	8.63	7.53	8.55										
Janežič, Luka (SLO) (1995)	time		11.61		22.39		34.09		46.89	46.89	8 / 7							
	reaction time	0.205									# of strides	11.61	10.78	11.70	12.80	22.39	24.50	2.11
	interval				10.78	11.70	12.80				167.5	8.61	9.28	8.55	7.81	8.93	8.16	
	velocity		8.61		9.28	8.55	7.81	8.53										
Strother, Nathan (USA) (19	time		11.46		22.15		33.64		47.15	47.15	7 / 8							
	reaction time	0.215									# of strides	11.46	10.69	11.49	13.51	22.15	25.00	2.85
	interval				10.69	11.49	13.51				184.0	8.73	9.35	8.70	7.40	9.03	8.00	
	velocity		8.73		9.35	8.70	7.40	8.48										

2019 Memorial van Damme (Brussels, BEL)**FINAL**

date 06-Sep-19

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
Norman, Michael (USA) (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									# of strides	10.80	10.20	11.10	12.16	21.00	23.26	2.26
	interval		4.8	4.9	5.3	5.4	5.7	6.0	6.2		171.0	9.26	9.80	9.01	8.22	9.52	8.60	
	velocity	8.33	10.42	10.20	9.43	9.26	8.77	8.33	8.12	9.04								
Kerley, Fred (USA) (1995)	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									# of strides	10.80	10.00	11.20	12.46	20.80	23.66	2.86
	interval		4.7	5.0	5.5	5.7	6.0	6.2			173.0	9.26	10.00	8.93	8.03	9.62	8.45	
	velocity	8.20	10.64	10.00	10.00	9.09	8.77	8.33	8.03	9.00								
Bloomfield, Akeem (JAM) (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									# of strides	10.90	9.90	11.20	12.67	20.80	23.87	3.07
	interval		4.7	4.9	5.0	5.4	5.8	6.0	12.7		164.0	9.17	10.10	8.93	7.89	9.62	8.38	
	velocity	8.06	10.64	10.20	10.00	9.26	8.62	8.33	7.89	8.95								
Igbokwe, Obi (USA) (1997)	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									# of strides	11.00	10.20	11.20	12.56	21.20	23.76	2.56
	interval		4.9	5.0	5.2	5.4	5.8	6.0	12.6		170.0	9.09	9.80	8.93	7.96	9.43	8.42	
	velocity	8.20	10.20	10.00	9.62	9.26	8.62	8.33	7.96	8.90								
Montgomery, Kahmari (US	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									# of strides	10.80	10.30	11.30	12.91	21.10	24.21	3.11
	interval		4.8	5.1	5.2	5.5	5.8	6.1	12.9		170.0	9.26	9.71	8.85	7.75	9.48	8.26	
	velocity	8.33	10.42	9.80	9.62	9.09	8.62	8.20	7.75	8.83								
Cherry, Michael (USA) (199	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									# of strides	11.00	10.10	11.40	13.05	21.10	24.45	3.35
	interval		4.8	4.9	5.2	5.5	5.9	6.1	13.1		170.0	9.09	9.90	8.77	7.66	9.48	8.18	
	velocity	8.06	10.42	10.20	9.62	9.09	8.47	8.20	7.66	8.78								
Sacoor, Jonathan (BEL) (1	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									# of strides	11.10	10.40	11.40	12.82	21.50	24.22	2.72
	interval		4.9	5.1	5.3	5.6	5.8	6.1	12.8		170.0	9.01	9.62	8.77	7.80	9.30	8.26	
	velocity	8.06	10.20	9.80	9.43	8.93	8.62	8.20	7.80	8.75								
Allen, Nathon (JAM) (1995)	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									# of strides	11.30	10.30	11.70	12.87	21.60	24.57	2.97
	interval		4.9	5.1	5.2	5.7	6.0	6.3	12.9		170.0	8.85	9.71	8.55	7.77	9.26	8.14	
	velocity	7.81	10.20	9.80	9.62	8.77	8.33	7.94	7.77	8.66								
Strother, Nathan (USA) (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																

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Cedenio, Machel (TTO) (1997)	6.3	11.2	16.3	21.6	27.1	32.9	38.8	44.93	44.93	4 / 1							
reaction time		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
interval		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	
velocity	7.94																
Hudson-Smith, Matthew (CAN) (1997)	6.2	11.2	16.2	21.5	26.9	32.8	38.9	45.63	45.63	6 / 2							
reaction time		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
interval		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	
velocity	8.06																
Borlée, Kevin (BEL) (1988)	6.4	11.4	16.6	21.9	27.4	33.3	39.3	45.89	45.89	5 / 3							
reaction time		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
interval		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	
velocity	7.81																
Agard, Terrence (NED) (1997)	6.4	11.4	16.6	21.9	27.4	33.3	39.5	46.29	46.29	2 / 4							
reaction time		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
interval		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	
velocity	7.81																
Watrin, Julien (BEL) (1992)	6.4	11.4	16.6	22.0	27.7	33.6	39.8	46.60	46.60	3 / 5							
reaction time		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
interval		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	
velocity	7.81																
Borlée, Dylan (BEL) (1992)	6.3	11.2	16.3	21.7	27.3	33.4	39.8	46.69	46.69	7 / 6							
reaction time		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
interval		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	
velocity	7.94																
Badji, Asamti (BEL) (1995)	6.4	11.5	16.8	22.3	28.1	34.3	40.8	48.00	48.00	9 / 7							
reaction time		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
interval		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	
velocity	7.81																
Makwala, Isaac (BOT) (1985)	6.4	11.3	16.5	21.9	27.3	33.1	39.4	???	???	8 / --							
reaction time		4.9	5.2	5.4	5.4	5.8	6.3		DQ	# of strides	11.30	10.60	11.20		21.90		
interval		10.20	9.62	9.26	9.26	8.62	7.94				8.85	9.43	8.93		9.13		
velocity	7.81																

2019 Japanese World Championships Trials (Fujiyoshida, JPN)

FINAL

date 01-Sep-19

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
Walsh, Julian Jrummi (JPN) (1997)	6.13	11.01	16.10	21.43	27.00	32.84	38.87	45.21	45.21	5 / 1							
reaction time		4.88	5.09	5.33	5.57	5.84	6.03	6.34	PB	# of strides	11.01	10.42	11.41	12.37	21.43	23.78	2.35
interval		10.25	9.82	9.38	8.98	8.56	8.29	7.89	8.85		9.08	9.60	8.76	8.08	9.33	8.41	
velocity	8.16																
Wakabayashi, Kota (JPN) (1997)	6.25	11.23	16.35	21.68	27.31	33.23	39.38	46.04	46.04	4 / 2							
reaction time		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
interval		10.04	9.77	9.38	8.88	8.45	8.13	7.51	8.69		8.90	9.57	8.66	7.81	9.23	8.21	
velocity	8.00																
Tamura, Tomoya (JPN) (1997)	6.33	11.41	16.63	22.04	27.56	33.35	39.51	46.28	46.28	8 / 3							
reaction time		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
interval		10.25	9.82	9.38	8.98	8.56	8.29	7.89	8.85		9.08	9.60	8.76	8.08	9.33	8.41	
velocity	7.90																
Sato, Kentaro (JPN) (1994)	6.30	11.32	16.52	21.95	27.59	33.56	39.75	46.36	46.36	6 / 4							
reaction time		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
interval		10.25	9.82	9.38	8.98	8.56	8.29	7.89	8.85		9.08	9.60	8.76	8.08	9.33	8.41	
velocity	7.94																
Kawauchi, Mitsuki (JPN) (1997)	6.27	11.46	16.77	22.21	27.78	33.64	39.76	46.40	46.40	3 / 5							
reaction time		5.19	5.31	5.44	5.57	5.86	6.12	6.64		# of strides	11.46	10.75	11.43	12.76	22.21	24.19	1.98
interval		10.25	9.82	9.38	8.98	8.56	8.29	7.89	8.85		9.08	9.60	8.76	8.08	9.33	8.41	
velocity	7.97																
Ito, Rikiya (JPN) (1998)	6.42	11.54	16.73	22.17	27.85	33.74	39.94	46.71	46.71	7 / 6							
reaction time		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
interval		10.25	9.82	9.38	8.98	8.56	8.29	7.89	8.85		9.08	9.60	8.76	8.08	9.33	8.41	
velocity	7.79																

2019 Müller Grand Prix (Birmingham, GBR)

FINAL

date 18-Aug-19

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
Bloomfield, Akeem (JAM) (1997)		11.4		21.8		33.0		45.04	45.04	6 / 1							
reaction time	0.191			10.4		11.2		12.0		# of strides	11.40	10.40	11.20	12.04	21.80	23.24	1.44
interval				9.62		8.93		8.31	8.88		8.77	9.62	8.93	8.31	9.17	8.61	
velocity	8.77																
Igbokwe, Obi (USA) (1997)		11.1		21.5		33.0		45.53	45.53	1 / 2							
reaction time	0.136			10.4		11.5		12.5		# of strides	11.10	10.40	11.50	12.53	21.50	24.03	2.53
interval				9.62		8.70		7.98	8.79		9.01	9.62	8.70	7.98	9.30	8.32	
velocity	9.01																
Hudson-Smith, Matthew (CAN) (1997)		11.3		21.9		33.1		45.55	45.55	7 / 3							
reaction time	0.165			10.6		11.2		12.5		# of strides	11.30	10.60	11.20	12.45	21.90	23.65	1.75
interval				9.43		8.93		8.03	8.78		8.85	9.43	8.93	8.03	9.13	8.46	
velocity	8.85																
Montgomery, Kahmari (USA) (1997)		11.2		21.7		33.1		45.59	45.59	2 / 4							
reaction time	0.213			10.5		11.4		12.5		# of strides	11.20	10.50	11.40	12.49	21.70	23.89	2.19
interval				9.52		8.77		8.01	8.77		8.93	9.52	8.77	8.01	9.22	8.37	
velocity	8.93																
Cherry, Michael (USA) (1997)		11.4		22.3		33.5		45.61	45.61	8 / 5							
reaction time	0.148			10.9		11.2		12.1		# of strides	11.40	10.90	11.20	12.11	22.30	23.31	1.01
interval				9.17		8.93		8.26	8.77		8.77</						

Gaye, Demish (JAM) (1993) 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					
Norwood, Vernon (USA) (11) 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					

2019 Japanese National High School Championships (Okinawa, JPN)

FINAL

date 04-Aug-19

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
Kinoshita, Yuichi (JPN) (20) 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		
Yoshikawa, Ryo (JPN) (200) 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		
Fujiyoshi, Shunta (JPN) (21) 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		
Tomita, Daichi (JPN) (2001) 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		
Imaizumi, Takaki (JPN) (200) 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		
Otsuki, Ohori (JPN) (2002) 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	5.70	5.99	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		
Kosaka, Akihiro (JPN) (200) 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		
Jinushi, Naohiro (JPN) (20) 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		

2019 Müller Anniversary Games (London, GBR)

FINAL

date 21-Jul-19

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
Bloomfield, Akeem (JAM) (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					
Jones, Jonathan (BAR) (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					
Allen, Nathon (JAM) (1995) 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					
Igbokwe, Obi (USA) (1997) 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					
Gaye, Demish (JAM) (1993) 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					
Thebe, Baboloki (BOT) (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					
Janežič, Luka (SLO) (1995) 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	165.2	8.77	9.71	8.70	8.14	9.22	8.41					
Yousif, Rabah (GBR) (1986) 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					
Chambers, Marcus (USA) (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	183.0	8.93	9.43	8.62	7.78	9.17	8.18					

2019 Herculis Meeting International d'Athlétisme (Monaco, MON)

FINAL

date 12-Jul-19

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
Gardiner, Steven (BAH) (19)	time	11.2		21.4		32.6		44.51	44.51	5 / 1							
reaction time	0.128			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	
Samba, Abderrahman (QAT)	time	11.2		21.6		32.8		45.00	45.00	3 / 2							
reaction time	0.141			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	
Strother, Nathan (USA) (19)	time	11.3		21.9		33.2		45.54	45.54	2 / 3							
reaction time	0.179			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	
Janežič, Luka (SLO) (1995)	time	11.4		21.9		33.4		45.76	45.76	1 / 4							
reaction time	0.180			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	
Montgomery, Kahmari (US)	time	11.4		22.1		33.6		46.02	46.02	4 / 5							
reaction time	0.167			10.7		11.5		12.4	DQ	# of strides	11.40	10.70	11.50	12.42	22.10	23.92	1.82
velocity		8.77		9.35		8.70		8.05	8.69		8.77	9.35	8.70	8.05	9.05	8.36	
Re, Davide (ITA) (1993)	time	11.3		21.9		33.3		46.21	46.21	6 / 5							
reaction time	0.137			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	
Jones, Jonathan (BAR) (19)	time	11.2		21.5		32.6	nt	nt	nt	7 / --							
reaction time				10.3		11.1		DNS		# of strides	11.20	10.30	11.10		21.50		did not hear the recall gun for the false start in lane 4
velocity		8.93		9.71		9.01					8.93	9.71	9.01		9.30		
Zambrano, Anthony José (CUB)	time	11.3		21.9		32.6	nt	nt	nt	8 / --							
reaction time				10.6		11.1		DNS		# of strides	11.30	10.60			21.90		did not hear the recall gun for the false start in lane 4
velocity		8.85		9.43		9.01					8.85	9.43			9.13		

2019 Japanese National Championships (Fukuoka, JPN)

FINAL

date 28-Jun-19

Yamanaka (2019) - research on athlete performance and technique- 2019 data book

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Walsh, Julian Jrummi (JPN)	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			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	
Obuchi, Mizuki (JPN) (1997)	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			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	
Sato, Kentaro (JPN) (1994)	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			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	
Kawauchi, Mitsuki (JPN) (1)	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			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	
Wakabayashi, Kota (JPN) (1)	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			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	
Ito, Rikiya (JPN) (1998)	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			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	
Matsukiyo, Kazuki (JPN) (1)	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			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	
Suzuki, Taichi (JPN) (1996)	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			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	

Heat 3

date 27-Jun-19

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	
Sato, Kentaro (JPN) (1994)	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			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	
Kawauchi, Mitsuki (JPN) (1)	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			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	
Ito, Rikiya (JPN) (1998)	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			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	

Horii, Kosuke (JPN) (1994)	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									# of strides	11.33	10.91	11.85	12.83	22.24	24.68	2.44
	interval		5.12	5.30	5.61	5.80	6.05	6.26	6.57			8.83	9.17	8.44	7.79	8.99	8.10	
	velocity	8.05	9.77	9.43	8.91	8.62	8.26	7.99	7.61	8.53								
Kimura, Jun (JPN) (1991)	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									# of strides	11.24	10.76	11.81	13.14	22.00	24.95	2.95
	interval		5.05	5.21	5.55	5.81	6.00	6.27	6.87			8.90	9.29	8.47	7.61	9.09	8.02	
	velocity	8.08	9.90	9.60	9.01	8.61	8.33	7.97	7.28	8.52								

Heat 2

date 27-Jun-19

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
Wakabayashi, Kota (JPN) (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									# of strides	11.25	10.61	11.67	12.74	21.86	24.41	2.55
	interval		5.01	5.15	5.46	5.71	5.96	6.14	6.60			8.89	9.43	8.57	7.85	9.15	8.19	
	velocity	8.01	9.98	9.71	9.16	8.76	8.39	8.14	7.58	8.64								
Obuchi, Mizuki (JPN) (1997)	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									# of strides	11.10	10.66	11.76	12.79	21.76	24.55	2.79
	interval		4.98	5.17	5.49	5.78	5.98	6.16	6.63			9.01	9.38	8.50	7.82	9.19	8.15	
	velocity	8.17	10.04	9.67	9.11	8.65	8.36	8.12	7.54	8.64								
Matsukiyo, Kazuki (JPN) (1	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									# of strides	11.91	10.99	11.29	12.36	22.90	23.65	0.75
	interval		5.42	5.47	5.52	5.60	5.69	5.88	6.48			8.40	9.10	8.86	8.09	8.73	8.46	
	velocity	7.70	9.23	9.14	9.06	8.93	8.79	8.50	7.72	8.59								

Heat 1

date 27-Jun-19

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
Walsh, Julian Jrummi (JPN)	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									# of strides	11.25	10.56	11.34	12.30	21.81	23.64	1.83
	interval		5.07	5.20	5.36	5.59	5.75	5.95	6.35			8.89	9.47	8.82	8.13	9.17	8.46	
	velocity	8.09	9.86	9.62	9.33	8.94	8.70	8.40	7.87	8.80								
Suzuki, Taichi (JPN) (1996)	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									# of strides	11.37	11.17	11.82	12.50	22.54	24.32	1.78
	interval		5.17	5.45	5.72	5.88	5.94	6.02	6.48			8.80	8.95	8.46	8.00	8.87	8.22	
	velocity	8.06	9.67	9.17	8.74	8.50	8.42	8.31	7.72	8.54								
Kitakani, Naoki (JPN) (1998)	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									# of strides	11.42	10.95	11.90	12.91	22.37	24.81	2.44
	interval		5.14	5.35	5.60	5.82	6.08	6.29	6.62			8.76	9.13	8.40	7.75	8.94	8.06	
	velocity	7.96	9.73	9.35	8.93	8.59	8.22	7.95	7.55	8.48								
Tamura, Tomoya (JPN) (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									# of strides	11.37	10.74	11.68	13.41	22.11	25.09	2.98
	interval		5.11	5.25	5.49	5.71	5.97	6.39	7.02			8.80	9.31	8.56	7.46	9.05	7.97	
	velocity	7.99	9.78	9.52	9.11	8.76	8.38	7.82	7.12	8.47								

2019 Bislett Games (Oslo, NOR)

National FINAL

date 13-Jun-19

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
Thompson, Luca (NOR) (2)	time	12.2		23.3		35.2		47.97	47.97	47.97	3 / 1							
	reaction time	0.143									# of strides	12.20	11.10	11.90	12.77	23.30	24.67	1.37
	interval			11.1		11.9		12.8	PB			8.20	9.01	8.40	7.83	8.58	8.11	
	velocity		8.20	9.01		8.40		7.83	8.34									
Sigurdson, Simen (NOR) (1)	time	11.5		22.6		34.7		48.11	48.11	48.11	6 / 2							
	reaction time	0.144									# of strides	11.50	11.10	12.10	13.41	22.60	25.51	2.91
	interval			11.1		12.1		13.4				8.70	9.01	8.26	7.46	8.85	7.84	
	velocity	8.70		9.01		8.26		7.46	8.31									
Nielsen, Gustav Lundholm	time	11.8		23.0		35.0		48.16	48.16	48.16	4 / 3							
	reaction time	0.201									# of strides	11.80	11.20	12.00	13.16	23.00	25.16	2.16
	interval			11.2		12.0		13.2				8.47	8.93	8.33	7.60	8.70	7.95	
	velocity	8.47		8.93		8.33		7.60	8.31									
Claridge, Ben (GBR) (1997)	time	11.5		22.4		34.6		48.64	48.64	48.64	5 / 4							
	reaction time	0.160									# of strides	11.50	10.90	12.20	14.04	22.40	26.24	3.84
	interval			10.9		12.2		14.0				8.70	9.17	8.20	7.12	8.93	7.62	
	velocity	8.70		9.17		8.20		7.12	8.22									
Lysne, Torbjørn (NOR) (19	time	11.9		23.4		35.9		48.95	48.95	48.95	1 / 5							
	reaction time	0.178									# of strides	11.90	11.50	12.50	13.05	23.40	25.55	2.15
	interval			11.5		12.5		13.1				8.40	8.70	8.00	7.66	8.55	7.83	
	velocity	8.40		8.70		8.00		7.66	8.17									
Berner, Markus Nikolai (NO	time	11.6		22.7		35.3		48.99	48.99	48.99	8 / 6							
	reaction time	0.210									# of strides	11.60	11.10	12.60	13.69	22.70	26.29	3.59
	interval			11.1		12.6		13.7	PB			8.62	9.01	7.94	7.30	8.81	7.61	
	velocity	8.62		9.01		7.94		7.30	8.16									
Stølen, Lars Gausemel (NO	time	11.8		23.0		35.6		49.75	49.75	49.75	7 / 7							
	reaction time	0.171									# of strides	11.80	11.20	12.60	14.15	23.00	26.75	3.75
	interval			11.2		12.6		14.2				8.47	8.93	7.94	7.07	8.70	7.48	
	velocity	8.47		8.93		7.94		7.07	8.04									
Tveit, Espen (NOR) (1991)	time	12.2		23.9		36.4		49.92	49.92	49.92	2 / 8							
	reaction time	0.194									# of strides	12.20	11.70	12.50	13.52	23.90	26.02	2.12
	interval			11.7		12.5		13.5				8.20	8.55	8.00	7.40	8.37	7.69	
	velocity	8.20		8.55		8.00		7.40	8.01									

2019 Japanese National Multi-Event Championships (Nagano, JPN)

Decathlon - Heat

date 08-Jun-19

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
Nakamura, Akihiko (JPN) (1	time	6.45	11.90	17.48	23.39	29.57	35.95											

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Maruyama, Yuma (JPN) (19)	6.41	11.81	17.38	23.29	29.49	35.85	42.65	49.99	49.99	5 / 1							
reaction time		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
interval																	
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	
Ushiro, Keisuke (JPN) (198)	6.65	12.28	18.05	24.15	30.54	36.97	43.85	51.46	51.46	6 / 4							
reaction time		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
interval																	
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	

2019 Bauhaus Galan (Stockholm, SWE)

FINAL

date 30-May-19

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
Norman, Michael (USA) (19)		11.0		21.8		32.6		44.53	44.53	5 / 1							
reaction time	0.158			10.8		10.8		11.9		# of strides	11.00	10.80	10.80	11.93	21.80	22.73	0.93
interval																	
velocity		9.09		9.26		9.26		8.38	8.98		9.09	9.26	9.26	8.38	9.17	8.80	
Benjamin, Rai (USA) (1997)		11.1		21.7		32.6		45.13	45.13	6 / 2							
reaction time	0.179			10.6		10.9		12.5		# of strides	11.10	10.60	10.90	12.53	21.70	23.43	1.73
interval																	
velocity		9.01		9.43		9.17		7.98	8.86		9.01	9.43	9.17	7.98	9.22	8.54	
Cherry, Michael (USA) (199)		11.3		22.1		33.5		46.30	46.30	4 / 3							
reaction time	0.189			10.8		11.4		12.8		# of strides	11.30	10.80	11.40	12.80	22.10	24.20	2.10
interval																	
velocity		8.85		9.26		8.77		7.81	8.64		8.85	9.26	8.77	7.81	9.05	8.26	
Norwood, Vernon (USA) (1)		11.3		22.5		33.8		46.39	46.39	1 / 4							
reaction time	0.176			11.2		11.3		12.6		# of strides	11.30	11.20	11.30	12.59	22.50	23.89	1.39
interval																	
velocity		8.85		8.93		8.85		7.94	8.62		8.85	8.93	8.85	7.94	8.89	8.37	
Janežič, Luka (SLO) (1995)		11.4		22.2		33.8		46.60	46.60	8 / 5							
reaction time	0.162			10.8		11.6		12.8		# of strides	11.40	10.80	11.60	12.80	22.20	24.40	2.20
interval																	
velocity		8.77		9.26		8.62		7.81	8.58		8.77	9.26	8.62	7.81	9.01	8.20	
Strother, Nathan (USA) (19)		11.5		22.5		34.1		46.64	46.64	7 / 6							
reaction time	0.199			11.0		11.6		12.5		# of strides	11.50	11.00	11.60	12.54	22.50	24.14	1.64
interval																	
velocity		8.70		9.09		8.62		7.97	8.58		8.70	9.09	8.62	7.97	8.89	8.29	
Taplin, Bralon (GRN) (1992)		11.4		22.1		33.5		46.87	46.87	2 / 7							
reaction time	0.152			10.7		11.4		13.4		# of strides	11.40	10.70	11.40	13.37	22.10	24.77	2.67
interval																	
velocity		8.77		9.35		8.77		7.48	8.53		8.77	9.35	8.77	7.48	9.05	8.07	
Thebe, Baboloki (BOT) (19)		11.3		22.2		33.9		48.85	48.85	3 / 8							
reaction time	0.170			10.9		11.7		15.0		# of strides	11.30	10.90	11.70	14.95	22.20	26.65	4.45
interval																	
velocity		8.85		9.17		8.55		6.69	8.19		8.85	9.17	8.55	6.69	9.01	7.50	

2019 Shimane High School Championships (Izumo, JPN)

FINAL

date 24-May-19

Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
齋藤 城納		12.09		23.71		36.00		49.30	49.30	6 / 1							
reaction time				11.62		12.29		13.30		# of strides	12.09	11.62	12.29	13.30	23.71	25.59	1.88
interval																	
velocity		8.27		8.61		8.14		7.52	8.11		8.27	8.61	8.14	7.52	8.44	7.82	
三成 玲緒		12.82		24.82		37.25		50.53	50.53	5 / 2							
reaction time				12.00		12.43		13.28		# of strides	12.82	12.00	12.43	13.28	24.82	25.71	0.89
interval																	
velocity		7.80		8.33		8.05		7.53	7.92		7.80	8.33	8.05	7.53	8.06	7.78	
土江 流空		12.34		24.27		37.01		50.82	50.82	2 / 3							
reaction time				11.93		12.74		13.81		# of strides	12.34	11.93	12.74	13.81	24.27	26.55	2.28
interval																	
velocity		8.10		8.38		7.85		7.24	7.87		8.10	8.38	7.85	7.24	8.24	7.53	
坂本 陽斗		12.90		25.36		38.03		50.97	50.97	7 / 4							
reaction time				12.46		12.67		12.94		# of strides	12.90	12.46	12.67	12.94	25.36	25.61	0.25
interval																	
velocity		7.75		8.03		7.89		7.73	7.85		7.75	8.03	7.89	7.73	7.89	7.81	
飛田 陸		12.09		24.21		37.47		50.99	50.99	8 / 5							
reaction time				12.12		13.26		13.52		# of strides	12.09	12.12	13.26	13.52	24.21	26.78	2.57
interval																	
velocity		8.27		8.25		7.54		7.40	7.84		8.27	8.25	7.54	7.40	8.26	7.47	
大場みずなら		12.37		24.36		37.35		51.03	51.03	3 / 6							
reaction time				11.99		12.99		13.68		# of strides	12.37	11.99	12.99	13.68	24.36	26.67	2.31
interval																	
velocity		8.08		8.34		7.70		7.31	7.84		8.08	8.34	7.70	7.31	8.21	7.50	
堀西 洸博		12.65		25.04		38.05		51.05	51.05	4 / 7							
reaction time				12.39		13.01		13.00		# of strides	12.65	12.39	13.01	13.00	25.04	26.01	0.97
interval																	
velocity		7.91		8.07		7.69		7.69	7.84		7.91	8.07	7.69	7.69	7.99	7.69	
正木 亮太郎		13.04		25.66		38.71		51.72	51.72	9 / 8							
reaction time				12.62		13.05		13.01		# of strides	13.04	12.62	13.05	13.01	25.66	26.06	0.40
interval																	
velocity		7.67		7.92		7.66		7.69	7.73		7.67	7.92	7.66	7.69	7.79	7.67	

2019 Seiko Golden Grand Prix (Osaka, JPN)

FINAL

date 19-May-19

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
Norwood, Vernon (USA) (1)	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		
Walsh, Julian Jrummi (JPN)	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		
Kawauchi, Mitsuki (JPN) (1	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		
Sato, Kentaro (JPN) (1994)	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		
Kitakani, Naoki (JPN) (1998)	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		
Wakabayashi, Kota (JPN) (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		

2019 Shanghai (Shanghai, CHN)**FINAL**

date 18-May-19

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
Kerley, Fred (USA) (1995)	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	
Cherry, Michael (USA) (199)	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	
Strother, Nathan (USA) (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	
Allen, Nathon (JAM) (1995)	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	
Taplin, Bralon (GRN) (1992)	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	
Wu Yuang (CHN) (1998)	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	
Makwala, Isaac (BOT) (1986)	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		

2019 Doha (Doha, QAT)**National FINAL**

date 03-May-19

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
Humaida, Bassem (QAT) (2	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	
Bamidele, Emmanuel (NGR)	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	
Salem, Abdulaziz (QAT)	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) (200	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	
Zakaria, Abdulmajid (QAT)	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	
Haroun, Mohamed Darm (C	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	

2019 Shizuoka International Athletics Meeting (Fukuoi, JPN)**A FINAL**

date 03-May-19

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
Kawauchi, Mitsuki (JPN) (1	6.27	11.42	16.67	22.07	27.73	33.68	39.86	46.48	46.48	5 / 1							
reaction time		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
interval		7.97	9.71	9.52	9.26	8.83	8.40	8.09	8.61	189.7	8.76	9.39	8.61	7.81	9.06	8.19	
velocity																	
Sato, Kentaro (JPN) (1994)	6.21	11.26	16.48	21.83	27.51	33.58	39.94	46.55	46.55	2 / 2							
reaction time		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
interval		8.05	9.90	9.58	9.35	8.80	8.24	7.86	8.59	179.2	8.88	9.46	8.51	7.71	9.16	8.09	
velocity																	
Kitakani, Naoki (JPN) (1998)	6.17	11.18	16.42	21.91	27.66	33.67	39.97	46.68	46.68	4 / 4							
reaction time		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
interval		8.10	9.98	9.54	9.11	8.70	8.32	7.94	8.57	179.2	8.94	9.32	8.50	7.69	9.13	8.07	
velocity																	
Ito, Rikiya (JPN) (1998)	6.20	11.20	16.30	21.63	27.28	33.39	39.83	46.77	46.77	6 / 5							
reaction time		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
interval		8.06	10.00	9.80	9.38	8.85	8.18	7.76	8.55	190.0	8.93	9.59	8.50	7.47	9.25	7.96	
velocity																	
Horii, Kosuke (JPN) (1994)	6.26	11.36	16.62	22.14	27.96	34.07	40.43	47.11	47.11	3 / 6							
reaction time		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
interval		7.99	9.80	9.51	9.06	8.59	8.18	7.86	8.49	179.2	8.80	9.28	8.38	7.67	9.03	8.01	
velocity																	
Wakabayashi, Kota (JPN) (1998)	6.18	11.15	16.27	21.68	27.40	33.52	40.00	47.25	47.25	7 / 7							
reaction time		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
interval		8.09	10.06	9.77	9.24	8.74	8.17	7.72	8.47	175.5	8.97	9.50	8.45	7.28	9.23	7.82	
velocity																	
Tamura, Tomoya (JPN) (1998)	6.21	11.32	16.57	22.06	27.81	33.93	40.44	47.79	47.79	9 / 8							
reaction time		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
interval		8.05	9.78	9.52	9.11	8.70	8.17	7.68	8.37	183.0	8.83	9.31	8.42	7.22	9.07	7.77	
velocity																	

B FINAL

date 03-May-19

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
Kimura, Jun (JPN) (1991)	6.24	11.44	16.84	22.57	28.47	34.65	41.04	47.90	47.90	4 / 3							
reaction time		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
interval		8.01	9.62	9.26	8.73	8.47	8.09	7.82	8.35	183.0	8.74	8.98	8.28	7.55	8.86	7.90	
velocity																	

2019 Asian Athletics Championships (Doha, QAT)**FINAL**

date 22-Apr-19

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
Karam, Youssef (KUW) (1998)	6.20	11.17	16.22	21.49	26.94	32.58	38.44	44.84	44.84	6 / 1							
reaction time 0.149		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
interval		8.06	10.06	9.90	9.49	9.17	8.87	8.53	8.92	167.2	8.95	9.69	9.02	8.16	9.31	8.57	
velocity																	
Abubaker, Abbas (BRN) (1998)	6.20	11.15	16.23	21.56	27.03	32.62	38.49	45.14	45.14	7 / 2							
reaction time 0.170		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
interval		8.06	10.10	9.84	9.38	9.14	8.94	8.52	8.86	175.0	8.97	9.61	9.04	7.99	9.28	8.48	
velocity																	
Litvin, Mikhail (KAZ) (1996)	6.30	11.39	16.53	21.92	27.45	33.15	39.02	45.25	45.25	9 / 3							
reaction time 0.162		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
interval		7.94	9.82	9.73	9.28	9.04	8.77	8.52	8.84	164.0	8.78	9.50	8.90	8.26	9.12	8.57	
velocity																	
Walsh, Julian Jrummi (JPN) (1998)	6.20	11.21	16.37	21.67	27.24	33.09	39.12	45.55	45.55	2 / 5							
reaction time 0.151		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
interval		8.06	9.98	9.69	9.43	8.98	8.55	8.29	8.78	183.0	8.92	9.56	8.76	8.03	9.23	8.38	
velocity																	

Semi-Final 2

date 21-Apr-19

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
Ito, Rikiya (JPN) (1998)	6.30	11.49	16.83	22.37	28.11	34.05	40.15	46.52	46.52	7 / 3							
reaction time 0.153		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
interval		7.94	9.63	9.36	9.03	8.71	8.42	8.20	8.60	179.2	8.70	9.19	8.56	8.02	8.94	8.28	
velocity																	

Semi-Final 1

date 21-Apr-19

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
Walsh, Julian Jrummi (JPN) (1998)	6.14	11.23	16.43	21.82	27.44	33.20	39.22	45.67	45.67	4 / 4							
reaction time 0.139		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
interval		8.14	9.82	9.62	9.28	8.90	8.68	8.31	8.76	183.0	8.90	9.44	8.79	8.02	9.17	8.39	
velocity																	

2018 Japanese National Junior (U20) Championships (Nagano, JPN)**FINAL**

date 19-Oct-18

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
Kawakami, Sota (JPN) (2000)	6.40	11.58	16.90	22.41	28.23	34.32	40.67	47.44	47.44	6 / 1							
reaction time 0.189		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
interval		7.81	9.65	9.40	9.07	8.59	8.21	7.87	8.43	178.0	8.64	9.23	8.40	7.62	8.92	7.99	
velocity																	
Umetani, Hoshia (JPN) (1998)	6.61	11.70	16.97	22.52	28.38	34.51	40.85	47.50	47.50	3 / 2							
reaction time 0.185		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
interval		7.56	9.82	9.49	9.01	8.53	8.16	7.89	8.42	184.7	8.55	9.24	8.34	7.70	8.88	8.01	

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) (2 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	
Kotake, Rion (JPN) (1999) 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	
Yamasaki, Nenji (JPN) (200 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	
Noguchi, Kohei (JPN) (200 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	

2018 Japanese National Youth (U18) Championships (Nagano, JPN)

FINAL

date 19-Oct-18

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
Yoshikawa, Ryo (JPN) (200 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	
Imaizumi, Kenki (JPN) (200 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	
Ono, Kona (JPN) (2002) 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	
Fujiyoshi, Shunta (JPN) (2 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	
Jinushi, Naohiro (JPN) (20 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	
Miyagawa, Sota (JPN) (200 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		
Nomura, Shotaro (JPN) (20 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		
Masuda, Shion (JPN) (2001 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		

2018 National Sports Festival (Fukui, JPN)

FINAL

date 08-Oct-18

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
Kawauchi, Mitsuki (JPN) (1 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) 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		
Wakabayashi, Kota (JPN) (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		
Imoto, Yoshinobu (JPN) (1 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		
Azuma, Kaiki (JPN) (1993) 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) (19 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		
Kimura, Jun (JPN) (1991) 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		

U20 FINAL		date 08-Oct-18		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	
Fujiyoshi, Shunta (JPN) (2f)	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		
Shoji, Kosuke (JPN) (2001)	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		
Kidachi, Muto (JPN)	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		

2018 Japanese Corporate Championships (Osaka, JPN)

FINAL		date 23-Sep-18		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	
Itahana, Kohei (JPN) (1994)	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		
Kimura, Kazushi (JPN) (1995)	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		
Azuma, Kaiki (JPN) (1993)	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		
Kimura, Jun (JPN) (1991)	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		
Horii, Kosuke (JPN) (1994)	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		

2018 Weltklasse (Zürich, SUI)

FINAL		date 30-Aug-18		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
Kerley, Fred (USA) (1995)	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		9.01	9.80	8.93	8.13	9.39	8.51	
Strother, Nathan (USA) (1991)	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		8.85	9.62	9.09	8.18	9.22	8.61	
Hudson-Smith, Matthew (CAN) (1991)	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		9.09	9.71	8.93	8.03	9.39	8.46	
Dedewo, Paul (USA) (1991)	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		8.77	9.62	8.93	8.21	9.17	8.55	
Thebe, Baboloki (BOT) (1991)	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	
Santos, Luguelin (DOM) (1991)	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	
Conradie, Pieter (RSA) (1991)	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	
Gardiner, Steven (BAH) (1991)	time		12.1							dnf	4 / --							
	reaction time		0.126								# of strides	12.10						
	velocity		8.26									8.26						

2018 Asian Games (Jakarta, INA)

FINAL		date 26-Aug-18		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
Haroun, Abdaleh (QAT) (1991)	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		8.95	9.58	8.89	8.31	9.25	8.59	
Anas, Y. Muhammed (IND) (1991)	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													

Abbas, Abdulrahman Khar	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		
Rajiv, Arokia (IND) (1991)	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		
Walsh, Julian Jrummi (JPN)	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		
Litvin, Mikhail (KAZ) (1996)	0.171	no information available								46.17	2 / 6									
Abubaker, Abbas (BRN) (1)	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		
Kumarage, H.K. Kalinga (SI)	0.159	no information available								46.49	1 / 8									
Semi Final 3	date	25-Aug-18										<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>								
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
Haroun, Abdaleh (QAT) (1)	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			
Abbas, Abdulrahman Khar	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			
Semi Final 2	date	25-Aug-18										<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>								
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
Anas, Y. Muhammed (IND)	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			
Walsh, Julian Jrummi (JPN)	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			
Semi Final 1	date	25-Aug-18										<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>								
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
Abubaker, Abbas (BRN) (1)	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			
Rajiv, Arokia (IND) (1991)	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			
Heat 5	date	25-Aug-18										<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>								
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
Abbas, Abdulrahman Khar	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			
Heat 4	date	25-Aug-18										<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>								
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
Haroun, Abdaleh (QAT) (1)	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			
Rajiv, Arokia (IND) (1991)	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			
Heat 3	date	25-Aug-18										<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>								
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
Abubaker, Abbas (BRN) (1)	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			
Walsh, Julian Jrummi (JPN)	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			
Heat 1	date	25-Aug-18										<i>Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition</i>								
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
Anas, Y. Muhammed (IND)	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			

2018 Müller Grand Prix (Birmingham, GBR)

FINAL

date 18-Aug-18

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	
Kerley, Fred (USA) (1995)	time		11.3		22.0		33.3		45.54	45.54	6 / 1								
	reaction time	0.145			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		
Hudson-Smith, Matthew (C)	time		11.3		22.0		33.2		45.59	45.59	5 / 2								
	reaction time	0.141			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		
Dedewo, Paul (USA) (1991)	time		11.5		22.1		33.4		45.62	45.62	4 / 3								
	reaction time	0.233			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		
Taylor, Christian (USA) (19)	time		11.1		21.5		32.9		45.78	45.78	7 / 4								
	reaction time	0.157			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		
Santos, Luguelín (DOM) (1)	time		11.8		22.6		33.8		45.81	45.81	3 / 5								
	reaction time	0.207			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		
Borlée, Jonathan (BEL) (19)	time		11.4		22.3		33.9		46.27	46.27	1 / 6								
	reaction time	0.149			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		
Thebe, Baboloki (BOT) (19)	time		11.5		22.6		33.8		46.35	46.35	2 / 7								
	reaction time	0.167			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		
Cowan, Dwayne (GBR) (19)	time		11.3		22.1		33.8		46.94	46.94	8 / 8								
	reaction time	0.144			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		

2018 Japanese National High School Championships (Nagoya, JPN)

FINAL

date 02-Aug-18

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	
Mori, Shushi (JPN)	time	6.45	11.69	17.00	22.35	27.90	33.90	40.29	47.14	47.14	6 / 1								
	reaction time		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		
Kosuke, Soji (JPN)	time	6.49	11.68	16.98	22.46	28.27	34.38	40.62	47.22	47.22	9 / 2								
	reaction time		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		
Noguchi, Kohei (JPN) (2000)	time	6.41	11.64	16.98	22.57	28.39	34.44	40.75	47.43	47.43	4 / 3								
	reaction time		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		
Yamazaki, Norihiro (JPN)	time	6.36	11.57	16.98	22.57	28.43	34.75	41.17	47.68	47.68	5 / 4								
	reaction time		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		
Matsuoka, Tomonori (JPN)	time	6.28	11.27	16.53	22.16	28.12	34.32	40.82	47.74	47.74	8 / 5								
	reaction time		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		
Meldrum, Alan (JPN)	time	6.55	12.00	17.32	22.72	28.50	34.58	40.99	47.86	47.86	2 / 6								
	reaction time		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		
Kaneda, Riki (JPN) (2000)	time	6.32	11.59	16.93	22.57	28.49	34.60	41.00	47.93	47.93	3 / 7								
	reaction time		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		
Matsumoto, Shion (JPN)	time	6.55	11.93	17.45	23.29	29.37	35.64	41.81	48.24	48.24	7 / 8								
	reaction time		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		

2018 Müller Anniversary Games (London, GBR)

FINAL

date 21-Jul-18

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	
Haroun, Abdalleh (QAT)	time		11.3		21.5		32.5		44.07	44.07	4 / 1								
	reaction time	0.189			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		
Dedewo, Paul (USA) (1991)	time		11.2		21.3		32.3		44.43	44.43	6 / 2								
	reaction time	0.159			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		
James, Kirani (GRN) (1992)	time		11.0		21.0		32.2		44.50	44.50	7 / 3								
	reaction time	0.154			10.0		11.2		12.3		# of strides	11.00	10.00	11.20	12.30	21.00	23.50	2.50	
	velocity																		

	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		
Thebe, Baboloki (BOT) (19)	time	11.6	21.9	32.8	44.54	44.54	9 / 4								
	reaction time	0.165	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		
Samba, Abderrahaman, (Q)	time	11.4	21.8	32.8	44.62	44.62	2 / 5								
	reaction time	0.179	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		
Hudson-Smith, Matthew (C)	time	11.2	21.5	32.6	44.63	44.63	8 / 6								
	reaction time	0.151	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		
Allen, Nathon (JAM) (1995)	time	11.2	21.3	32.2	44.72	44.72	5 / 7								
	reaction time	0.186	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		
Strother, Nathan (USA) (19)	time	11.6	22.1	33.1	45.17	45.17	3 / 8								
	reaction time	0.170	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		
Yousif, Rabah (GBR) (1986)	time	11.3	21.9	33.3	46.07	46.07	1 / 9								
	reaction time	0.153	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		

National FINAL

date 21-Jul-18

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	
Cowan, Dwayne (GBR) (19)	time	11.2	21.7	33.1	45.65	45.65	6 / 1												
	reaction time	0.131	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						
Rooney, Martyn (GBR) (19)	time	11.4	22.0	33.3	46.11	46.11	5 / 2												
	reaction time	0.140	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						
Rhoden-Stevens, Jamal (G)	time	11.6	22.6	34.1	46.54	46.54	3 / 3												
	reaction time	0.138	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						
Smith, Owen (GBR) (1994)	time	11.8	22.5	34.1	46.93	46.93	4 / 4												
	reaction time	0.138	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						
Plenderleith, Grant (GBR) (1)	time	11.5	22.2	33.7	47.01	47.01	7 / 5												
	reaction time	0.163	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						
Snaith, Ben (GBR) (1995)	time	11.7	22.3	33.9	47.15	47.15	8 / 6												
	reaction time	0.162	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						
Claridge, Ben (GBR) (1997)	time	11.6	22.4	34.1	47.35	47.35	1 / 7												
	reaction time	0.138	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						
Hazel, Sam (GBR) (1996)	time	11.8	22.6	34.4	47.37	47.37	9 / 8												
	reaction time	0.170	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						
Dunn, Jarryd (GBR) (1992)	time	11.8	22.7	34.7	48.05	48.05	2 / 9												
	reaction time	0.157	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						

2018 IAAF World Junior Championships (Tampere, FIN)

FINAL

date 13-Jul-18

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	
Sacoer, Jonathan (BEL) (1)	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	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		
Taylor, Christopher (JAM)	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	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		
Sawyers, Chantz (JAM) (19)	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	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		
Scotti, Edoardo (ITA) (2000)	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	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		

Fields, Howard (USA) (1996)	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	
Stewart-Baynes, Khamal (C)	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	
Misener-Daley, Myles (CAN)	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	
Jones, Jonathan (BAR) (19)	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	5.26	5.33	5.66	5.81	6.06	6.49	7.16	# 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	

Heat 4

date 11-Jul-18

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
Mori, Syuji (JPN) (2000)	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	

Heat 2

date 11-Jul-18

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	
Sawa, Daichi (JPN) (2000)	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		

2018 Japanese National Championships (Yamaguchi, JPN)

FINAL

date 23-Jun-18

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	
Walsh, Julian Jrummi (JPN)	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	
Kimura, Jun (JPN) (1991)	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	
Ito, Rikiya (JPN) (1998)	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	
Tamura, Tomoya (JPN) (19)	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	
Kimura, Kazushi (JPN) (19)	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	
Kanemaru, Yuzo (JPN) (19)	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		

Heat 3

date 22-Jun-18

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
Kimura, Jun (JPN) (1991)	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	
Tamura, Tomoya (JPN) (19)	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	

Heat 2

date 22-Jun-18

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
Kimura, Kazushi (JPN) (19)	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	
Ito, Rikiya (JPN) (1998)	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	
Horii, Kosuke (JPN) (1994)	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	

Heat 1

date 22-Jun-18

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
Walsh, Julian Jrummi (JPN)	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	
Kanemaru, Yuzo (JPN) (19) 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	

2018 Japanese National Multi-Event Championships (Nagano, JPN)

Decathlon - Heat

date 16-Jun-18

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
Nakamura, Akihiko (JPN) (1) 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	
Morimoto, Kimihito (JPN) (1) 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	

Decathlon - Heat

date 16-Jun-18

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
Maruyama, Yuma (JPN) (19) 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	

Decathlon - Heat

date 16-Jun-18

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
Ushiro, Keisuke (JPN) (198) 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	

2018 Shimane High School Championships (Izumo, JPN)

FINAL

date 25-May-18

Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
伊藤 千紀 time	12.43		24.50		36.71		49.60	49.60	49.60	6 / 1							
reaction time interval			12.07		12.21		12.89			# of strides	12.43	12.07	12.21	12.89	24.50	25.10	0.60
velocity	8.05		8.29		8.19		7.76		8.06		8.05	8.29	8.19	7.76	8.16	7.97	
齋藤 城納 time	12.26		24.27		39.63		50.08	50.09	50.09	5 / 2							
reaction time interval			12.01		15.36		10.45			# of strides	12.26	12.01	15.36	10.45	24.27	25.81	1.54
velocity	8.16		8.33		6.51		9.57		7.99		8.16	8.33	6.51	9.57	8.24	7.75	
田中 皇 time	12.43		24.47		36.93		50.13	50.13	50.13	4 / 3							
reaction time interval			12.04		12.46		13.20			# of strides	12.43	12.04	12.46	13.20	24.47	25.66	1.19
velocity	8.05		8.31		8.03		7.58		7.98		8.05	8.31	8.03	7.58	8.17	7.79	
勝手 泰治 time	12.08		23.98		36.49		50.92	50.92	50.92	3 / 4							
reaction time interval			11.90		12.51		14.43			# of strides	12.08	11.90	12.51	14.43	23.98	26.94	2.96
velocity	8.28		8.40		7.99		6.93		7.86		8.28	8.40	7.99	6.93	8.34	7.42	
青木 大空 time	12.48		24.75		37.33		51.69	51.69	51.69	2 / 5							
reaction time interval			12.27		12.58		14.36			# of strides	12.48	12.27	12.58	14.36	24.75	26.94	2.19
velocity	8.01		8.15		7.95		6.96		7.74		8.01	8.15	7.95	6.96	8.08	7.42	
森永 夏野 time	12.83		25.33		38.28		52.33	52.33	52.33	8 / 6							
reaction time interval			12.50		12.95		14.05			# of strides	12.83	12.50	12.95	14.05	25.33	27.00	1.67
velocity	7.79		8.00		7.72		7.12		7.64		7.79	8.00	7.72	7.12	7.90	7.41	
錢本 捺 time	12.47		24.95		38.23		52.57	52.57	52.57	1 / 7							
reaction time interval			12.48		13.28		14.34			# of strides	12.47	12.48	13.28	14.34	24.95	27.62	2.67
velocity	8.02		8.01		7.53		6.97		7.61		8.02	8.01	7.53	6.97	8.02	7.24	
松村 康平 time	13.18		26.18		39.98		55.21	55.21	55.21	7 / 8							
reaction time interval			13.00		13.80		15.23			# of strides	13.18	13.00	13.80	15.23	26.18	29.03	2.85
velocity	7.59		7.69		7.25		6.57		7.25		7.59	7.69	7.25	6.57	7.64	6.89	

2018 Seiko Golden Grand Prix (Osaka, JPN)

FINAL

date 20-May-18

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
Walsh, Julian Jrummi (JPN) 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	
Kimura, Atsushi (JPN) 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	
Kimura, Kazushi (JPN) (19) 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	
Kanemaru, Yuzo (JPN) (19) 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	

Horii, Kosuke (JPN) (1994)	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	
Kobayashi, Naoki (JPN) (19)	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	

2018 Shizuoka International Meeting (Fukuroi, JPN)**A FINAL**

date 03-May-18

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
Kanemaru, Yuzo (JPN) (19)	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	
Walsh, Julian Jrummi (JPN)	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) (19)	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	182.2	8.61	9.37	8.90	7.60	8.97	8.20	
Horii, Kosuke (JPN) (1994)	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	
Tamura, Tomoya (JPN) (19)	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	

B FINAL

date 03-May-18

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	
Imoto, Yoshinobu (JPN) (1)	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		
Kitakani, Naoki (JPN) (1998)	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	175.0	8.75	9.33	8.65	8.15	9.03	8.39		
Wakabayashi Kota (JPN) (1)	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	6.16	6.85	7.30	# 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		

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

date 21-Apr-18

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
Nakamura, Akihiko (JPN) (1)	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	184.1	8.41	8.98	8.15	7.36	8.68	7.73	
Shimizu, Tsuyoshi (JPN) (1)	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	182.5	8.25	8.70	7.93	6.89	8.47	7.37	

Decathlon - Heat

date 21-Apr-18

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
Ushiro, Keisuke (JPN) (198)	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	182.6	8.26	8.64	7.87	6.93	8.45	7.37	

2017 National Sports Festival (Matsuyama, JPN)**U19 FINAL**

date 09-Oct-17

(2017) - tldata-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
Imoto, Yoshinobu (JPN) (1)	time	11.22	22.26	33.80	46.38	46.38	4 / 1											
	reaction time	0.165	interval	11.04	11.54	12.58	PB	# of strides	11.22	11.04	11.54	12.58	22.26	24.12	1.86			
	velocity	8.91	9.06	8.67	7.95	8.62	201.0	8.91	9.06	8.67	7.95	8.98	8.29					
Mori, Zhou (JPN) (2000)	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					
Matsuo, Shuhei (JPN) (199)	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)	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					

Hosoi, Brian (JPN) (1999)	time	11.79	23.12	35.03	47.79	47.79	5 / 5										
	reaction time	0.170						# of strides	11.79	11.33	11.91	12.76	23.12	24.67	1.55		
	interval 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			
Asano, Kurodo (JPN) (1995)	time	11.89	23.32	35.38	48.13	48.13	3 / 6										
	reaction time	0.194						# of strides	11.89	11.43	12.06	12.75	23.32	24.81	1.49		
	interval 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			
Noda, Taiga (JPN) (1999)	time	11.96	23.46	35.75	48.28	48.28	9 / 7										
	reaction time	0.179						# of strides	11.96	11.50	12.29	12.53	23.46	24.82	1.36		
	interval 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			
Kotake, Rion (JPN) (1999)	time	11.88	23.68	36.31	49.92	49.92	2 / 8										
	reaction time	0.148						# of strides	11.88	11.80	12.63	13.61	23.68	26.24	2.56		
	interval 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			

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

(2017) - tfdata-store.com/2017/10/12/post-1100/

FINAL

date 08-Oct-17

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Walsh, Julian Jrummi (JPN)	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									# of strides	11.19	10.55	11.61	12.73	21.74	24.34	2.60
	interval 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
Watanabe, Yoshihiro (JPN)	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									# of strides	11.02	10.73	11.76	13.04	21.75	24.80	3.05
	interval 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
Kimura, Kazushi (JPN) (1995)	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									# of strides	11.41	11.09	11.64	12.73	22.50	24.37	1.87
	interval 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
Wakabayashi, Kota (JPN) (1995)	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									# of strides	11.40	10.90	11.90	12.85	22.30	24.75	2.45
	interval 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
Sato, Fuga (JPN) (1996)	time		11.55	22.69	34.59	47.37	47.37				2 / 5							
	reaction time	0.215									# of strides	11.55	11.14	11.90	12.78	22.69	24.68	1.99
	interval 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
Naoki, Masafumi (JPN) (1995)	time		11.36	22.64	34.59	47.74	47.74				3 / 6							
	reaction time	0.170									# of strides	11.36	11.28	11.95	13.15	22.64	25.10	2.46
	interval 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
Ikeda, Kosuke (JPN) (1995)	time		11.69	22.75	34.92	48.02	48.02				6 / 7							
	reaction time	0.172									# of strides	11.69	11.06	12.17	13.10	22.75	25.27	2.52
	interval 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
Obuchi, Mizuki (JPN) (1997)	time		11.74	23.27	35.19	48.25	48.25				9 / 8							
	reaction time	0.173									# of strides	11.74	11.53	11.92	13.06	23.27	24.98	1.71
	interval 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

U19 Semi-Final 2

date 08-Oct-17

(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	
Hosoi, Brian (JPN) (1999)	time		11.63	22.29	34.05	47.06	47.06				6 / 1							
	reaction time	0.179									# of strides	11.63	10.66	11.76	13.01	22.29	24.77	2.48
	interval 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
Matsuo, Shuhei (JPN) (1999)	time		11.55	22.43	34.37	47.24	47.24				4 / 2							
	reaction time	0.156									# of strides	11.55	10.88	11.94	12.87	22.43	24.81	2.38
	interval 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
Noda, Taiga (JPN) (1999)	time		11.57	22.39	34.35	47.29	47.29				7 / 3							
	reaction time	0.171									# of strides	11.57	10.82	11.96	12.94	22.39	24.90	2.51
	interval 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
Kotake, Rion (JPN) (1999)	time		11.71	22.66	34.44	47.31	47.31				5 / 4							
	reaction time	0.163									# of strides	11.71	10.95	11.78	12.87	22.66	24.65	1.99
	interval 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
Hashimoto, Yoshinari (JPN)	time		11.37	22.07	34.23	48.13	48.13				8 / 5							
	reaction time	0.187									# of strides	11.37	10.70	12.16	13.90	22.07	26.06	3.99
	interval 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
Matsumoto, Akira (JPN) (1995)	time		11.66	22.27	34.25	48.28	48.28				9 / 6							
	reaction time	0.182									# of strides	11.66	10.61	11.98	14.03	22.27	26.01	3.74
	interval 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
Nabeshima, Ebisu (JPN) (2000)	time		11.62	22.54	34.98	48.56	48.56				2 / 7							
	reaction time	0.197									# of strides	11.62	10.92	12.44	13.58	22.54	26.02	3.48
	interval 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
Kakuho, Miyauchi (JPN) (1995)	time		11.87	23.24	35.58	49.05	49.05				3 / 8							
	reaction time	0.244									# of strides	11.87	11.37	12.34	13.47	23.24	25.81	2.57
	interval 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

U19 Semi-Final 1 date 08-Oct-17

(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
Imoto, Yoshinobu (JPN) (1 time)	11.04	21.68	33.51	46.81	46.81	5 / 1											
reaction time	0.164	10.64	11.83	13.30		# of strides	11.04	10.64	11.83	13.30	21.68	25.13	3.45				
interval		9.06	9.40	8.45	7.52	198.0	9.06	9.40	8.45	7.52	9.23	7.96					
velocity																	
Mori, Zhou (JPN) (2000)	11.68	22.34	34.20	47.21	47.21	2 / 2											
reaction time	0.191	10.66	11.86	13.01		# of strides	11.68	10.66	11.86	13.01	22.34	24.87	2.53				
interval		8.56	9.38	8.43	7.69	185.0	8.56	9.38	8.43	7.69	8.95	8.04					
velocity																	
Meldrum, Alan (JPN) (2000)	11.76	22.66	34.55	47.27	47.27	4 / 3											
reaction time	0.178	10.90	11.89	12.72		# of strides	11.76	10.90	11.89	12.72	22.66	24.61	1.95				
interval		8.50	9.17	8.41	7.86	182.0	8.50	9.17	8.41	7.86	8.83	8.13					
velocity																	
Asano, Kurodo (JPN) (1995)	11.63	22.59	34.36	47.28	47.28	9 / 4											
reaction time	0.169	10.96	11.77	12.92		# of strides	11.63	10.96	11.77	12.92	22.59	24.69	2.10				
interval		8.60	9.12	8.50	7.74	191.7	8.60	9.12	8.50	7.74	8.85	8.10					
velocity																	
Saito, Ryohei (JPN) (1999)	11.68	22.72	34.44	47.52	47.52	6 / 5											
reaction time	0.198	11.04	11.72	13.08		# of strides	11.68	11.04	11.72	13.08	22.72	24.80	2.08				
interval		8.56	9.06	8.53	7.65	181.0	8.56	9.06	8.53	7.65	8.80	8.06					
velocity																	
Hanada, Shion (JPN) (1999)	11.54	22.59	34.70	47.75	47.75	7 / 6											
reaction time	0.156	11.05	12.11	13.05		# of strides	11.54	11.05	12.11	13.05	22.59	25.16	2.57				
interval		8.67	9.05	8.26	7.66	177.5	8.67	9.05	8.26	7.66	8.85	7.95					
velocity																	
Hokkaido, Kunieda (JPN) (1 time)	11.67	22.51	34.82	48.38	48.38	3 / 7											
reaction time	0.193	10.84	12.31	13.56		# of strides	11.67	10.84	12.31	13.56	22.51	25.87	3.36				
interval		8.57	9.23	8.12	7.37	178.5	8.57	9.23	8.12	7.37	8.88	7.73					
velocity																	
Katayama, Takuya (JPN) (2 time)	11.98	23.43	35.60	48.75	48.75	8 / 8											
reaction time	0.209	11.45	12.17	13.15		# of strides	11.98	11.45	12.17	13.15	23.43	25.32	1.89				
interval		8.35	8.73	8.22	7.60	179.0	8.35	8.73	8.22	7.60	8.54	7.90					
velocity																	

Heat 2 date 08-Oct-17

(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
Wakabayashi, Kota (JPN) (1 time)	11.45	21.92	33.69	46.66	46.66	3 / 1											
reaction time	0.191	10.47	11.77	12.97		# of strides	11.45	10.47	11.77	12.97	21.92	24.74	2.82				
interval		8.73	9.55	8.50	7.71	173.2	8.73	9.55	8.50	7.71	9.12	8.08					
velocity																	
Ikeda, Kosuke (JPN) (1995)	11.64	22.28	33.98	46.67	46.67	5 / 2											
reaction time	0.193	10.64	11.70	12.69	PB	# of strides	11.64	10.64	11.70	12.69	22.28	24.39	2.11				
interval		8.59	9.40	8.55	7.88	180.5	8.59	9.40	8.55	7.88	8.98	8.20					
velocity																	
Sato, Fuga (JPN) (1996)	11.46	21.97	33.71	46.80	46.80	4 / 3											
reaction time	0.205	10.51	11.74	13.09		# of strides	11.46	10.51	11.74	13.09	21.97	24.83	2.86				
interval		8.73	9.51	8.52	7.64	180.0	8.73	9.51	8.52	7.64	9.10	8.05					
velocity																	
Naoki, Masafumi (JPN) (1995)	11.46	22.16	33.73	47.29	47.29	2 / 4											
reaction time	0.164	10.70	11.57	13.56		# of strides	11.46	10.70	11.57	13.56	22.16	25.13	2.97				
interval		8.73	9.35	8.64	7.37	181.0	8.73	9.35	8.64	7.37	9.03	7.96					
velocity																	
Yamaki, Kakeru (JPN) (1996)	11.41	22.21	34.14	47.72	47.72	6 / 5											
reaction time	0.155	10.80	11.93	13.58		# of strides	11.41	10.80	11.93	13.58	22.21	25.51	3.30				
interval		8.76	9.26	8.38	7.36	185.0	8.76	9.26	8.38	7.36	9.00	7.84					
velocity																	
Asakawa, Hiroki (JPN) (1991)	11.66	22.53	34.43	48.12	48.12	9 / 6											
reaction time	0.215	10.87	11.90	13.69	PB	# of strides	11.66	10.87	11.90	13.69	22.53	25.59	3.06				
interval		8.58	9.20	8.40	7.30	185.0	8.58	9.20	8.40	7.30	8.88	7.82					
velocity																	
Matsukiyo, Kazuki (JPN) (1 time)	11.88	22.86	34.62	48.12	48.12	8 / 7											
reaction time	0.214	10.98	11.76	13.50		# of strides	11.88	10.98	11.76	13.50	22.86	25.26	2.40				
interval		8.42	9.11	8.50	7.41	194.5	8.42	9.11	8.50	7.41	8.75	7.92					
velocity																	

Heat 1 date 08-Oct-17

(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
Kimura, Kazushi (JPN) (1995)	11.44	22.38	34.25	47.22	47.22	5 / 1											
reaction time	0.191	10.94	11.87	12.97		# of strides	11.44	10.94	11.87	12.97	22.38	24.84	2.46				
interval		8.74	9.14	8.42	7.71	186.7	8.74	9.14	8.42	7.71	8.94	8.05					
velocity																	
Obuchi, Mizuki (JPN) (1997)	11.49	22.64	34.47	47.40	47.40	6 / 2											
reaction time	0.176	11.15	11.83	12.93		# of strides	11.49	11.15	11.83	12.93	22.64	24.76	2.12				
interval		8.70	8.97	8.45	7.73	192.0	8.70	8.97	8.45	7.73	8.83	8.08					
velocity																	
Kimura, Jun (JPN) (1991)		22.80	34.71	47.86	47.86	9 / 3											
reaction time	0.212	11.91	13.15		# of strides						11.91	13.15	22.80	25.06	2.26		
interval		8.77	8.40	7.60	8.36						8.40	7.60	8.77	7.98			
velocity																	
Kawabata, Kenta (JPN) (1991)	12.22	23.63	35.51	48.32	48.32	8 / 4											
reaction time	0.172	11.41	11.88	12.81	PB	# of strides	12.22	11.41	11.88	12.81	23.63	24.69	1.06				
interval		8.18	8.76	8.42	7.81	198.0	8.18	8.76	8.42	7.81	8.46	8.10					
velocity																	

Yano, Takuto (JPN) (1994)	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				
Hirose, Hideyuki (JPN) (198	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				
Kawauchi, Mitsuki (JPN) (1	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				
Kudo, Taisei (JPN) (1996)	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				

U19 Heat 1

date 08-Oct-17

(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
Imoto, Yoshinobu (JPN) (1	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					
Okawa, Noda (JPN) (1999)	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					
Hashimoto, Yasushige (JPI	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					
Nabeshima, Ebisu (JPN) (2)	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					
Tsunaga, Kanno (JPN) (19	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					
Kajiya, Kaitama (JPN) (1	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					
Nakazawa, Shunsuke (JPN)	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					

2017 All Japan Corporate Championships (Osaka, JPN)

FINAL

date 24-Sep-17

(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
Azuma, Kaiki (JPN) (1993)	time	11.64	22.63	34.12	46.79	46.79	5 / 1											
	reaction time	interval	10.99	11.49	12.67	22.63	# 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					
Yamada, Atsushi (JPN) (19	time	11.28	22.06	33.73	46.93	46.93	4 / 2											
	reaction time	0.145	interval	11.67	13.20	13.20	# 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					
Itahana, Kohei (JPN) (1994)	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					
Kobayashi, Naoki (JPN) (19	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					
Kimura, Jun (JPN) (1991)	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					
Yagai, Hirofumi (JPN) (199	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					
Yamazaki, Kengo (JPN) (19	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					
Kimura, Kazushi (JPN) (19	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					

2017 Chinese National Games (Tianjin, CHN)

FINAL

date 03-Sep-17

Xu (2018) - a comparative analysis of the kinematic characteristics of Guo Zhongze and Wayde van Niekerk

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Guo Zhongze (CHN) (1996) time		10.7		21.5		33.0		45.2	45.14	/ 1							
reaction time				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	

2017 IAAF World Championships (London, GBR)**FINAL**

date 08-Aug-17

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
van Niekerk, Wayde (RSA) 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			4.79	4.86	5.13	5.35	5.49	5.82	# 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	
Gardiner, Steven (BAH) (19) 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			4.91	4.92	5.07	5.33	5.61	5.95	# 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	
Haroun, Abdalelah (QAT) (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			5.07	5.11	5.27	5.44	5.60	5.79	# 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	
Thebe, Baboloki (BOT) (19) 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			4.88	4.96	5.13	5.30	5.50	5.97	# 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	
Allen, Nathon (JAM) (1995) 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			4.91	4.93	5.09	5.37	5.66	6.07	# 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	
Gaye, Demish (JAM) (1993) 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			4.86	4.89	5.12	5.46	5.75	6.11	# 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	
Kerley, Fred (USA) (1995) 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			4.92	5.01	5.17	5.44	5.72	6.12	# 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	
Makwala, Isaac (BOT) (1986)									dns								

Semi-Final 3

date 06-Aug-17

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
Makwala, Isaac (BOT) (1986) time		10.66		20.60		31.39	37.37	44.05	44.30	5 / 1							
reaction time	0.248			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	
Gaye, Demish (JAM) (1993) time		10.88		20.84		31.88	37.88	44.39	44.55	6 / 2							
reaction time	0.157			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	
Roberts, Gil (USA) (1989) time		10.68		20.68		31.84	37.94	44.67	44.84	7 / 3							
reaction time	0.170			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	
Walton, Jamal (CAY) (1998) time		10.98		21.21		32.25	38.37	45.01	45.16	9 / 4							
reaction time	0.153			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	
Borlée, Jonathan (BEL) (19) time		10.91		21.19		32.47	38.55	45.03	45.23	3 / 5							
reaction time	0.203			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	
Maslák, Pavel (CZE) (1991) time		11.05		21.33		32.57	38.58	45.09	45.24	2 / 6							
reaction time	0.146			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	
Cedenio, Machel (TTO) (19) time		10.83		21.01		32.37	38.56	45.69	45.91	8 / 7							
reaction time	0.221			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	
Re, Davide (ITA) (1993) time		11.13		21.80		33.13	39.19	45.76	45.95	4 / 8							
reaction time	0.186			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	

Semi-Final 2

date 06-Aug-17

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
van Niekerk, Wayde (RSA) time		10.74		20.82		29.20	34.97	44.05	44.22	6 / 1							
reaction time	0.168			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	
Thebe, Baboloki (BOT) (19) time		10.85		21.02		31.82	37.68	44.15	44.33	5 / 2							
reaction time	0.178			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	
Haroun, Abdalelah (QAT) (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						
Hudson-Smith, Matthew (C)	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						
Gordon, Lalonde (TTO) (19)	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						
Gregan, Brian (IRL) (1989)	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						
Merritt, LaShawn (USA) (15)	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						
Mweresa, Boniface (KEN) (1)	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						
Semi-Final 1	date	06-Aug-17								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		
Gardiner, Steven (BAH) (19)	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			
Allen, Nathon (JAM) (1995)	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			
Kerley, Fred (USA) (1995)	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			
Borlée, Kévin (BEL) (1988)	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			
London, Wil (USA) (1997)	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			
Husillos, Óscar (ESP) (1993)	time			10.93		21.25		32.41	38.48	45.00	45.16	3 / 6									
reaction time	0.163	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			
Omelko, Rafał (POL) (1989)	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			
Cowan, Dwayne (GBR) (19)	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			
2017 Japanese National High School Championships (Yamagata, JPN)																					
FINAL	date	29-Jul-17											Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data collection								
			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential		
Mori, Zhou (JPN)	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			
Meldrum, Alan (JPN)	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			
Matsuo, Shuhei (JPN) (199)	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			
Asanobu, Hiroto (JPN)	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			
Hosoi, Brian (JPN)	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			
Noda, Taiga (JPN) (1999)	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			

Aieda, Kyoya (JPN)	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	

2017 Herculis Meeting International d'Athlétisme (Monaco, MON)**FINAL**

date 21-Jul-17

(2017.07.21) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
van Niekerk, Wayde (RSA)	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	162.5	9.28	9.87	9.09	8.46	9.56	8.76	
Makwala, Isaac (BOT) (1986)	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	

2017 Nanbu Memorial Meeting (Sapporo, JPN)**A FINAL**

date 09-Jul-17

(2017) - tdata-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
Kanemaru, Yuzo (JPN) (1994)	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	
Horii, Kosuke (JPN) (1994)	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	
Mihara, Taiki (JPN) (1995)	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	
Tamura, Tomoya (JPN) (1994)	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	
Obuchi, Mizuki (JPN) (1997)	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	
Choshi, Mori (JPN)	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	
Ishii, Yuto (JPN) (1990)	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	

B FINAL

date 09-Jul-17

(2017) - tdata-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
Kimura, Kazushi (JPN) (1994)	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	
Nakagawa, Yuichiro (JPN)	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	
Umeiuchi, Eiichi (JPN)	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	

2017 Athletissima (Lausanne, SUI)**FINAL**

date 06-Jul-17

Vazel (2018) - *historical analysis and coaching commentary - biomechanical report - London 2017 - Men's 400m*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
van Niekerk, Wayde (RSA)	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	
Thebe, Baboloki (BOT) (1986)	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	

2017 Golden Spike (Ostrava, CZE) (300m)**FINAL**

date 28-Jun-17

(2017.07.01) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en

		50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	0-200m	Differential
van Niekerk, Wayde (RSA)	time	10.49		19.98		30.81		30.81	5 / 1					
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)	time	10.64		20.39		31.44		31.44	6 / 2					
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) (1981)	time	10.55	20.42	31.61	31.61	3 / 3													
reaction time	0.155	interval	9.87	11.19	9.49	WJR	# of strides	10.55	9.87	11.19	20.42	21.06							
velocity	9.48	10.13	8.94				136.2	9.48	10.13	8.94	9.79	9.50							

2017 USATF National Championships (Sacramento, CA)

FINAL

date 24-Jun-17

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	
Kerley, Fred (USA) (1995)	time	11.27	21.18	32.02	44.03	44.03	4 / 1												
reaction time	interval	9.91	10.84	12.01	8.33	9.08	# 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	8.33	9.08	11.27	10.09	9.23	8.33	9.44	8.75							
Roberts, Gil (USA) (1989)	time	10.98	20.86	31.92	44.22	44.22	6 / 2												
reaction time	interval	9.88	11.06	12.30	8.13	9.05	# 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	8.13	9.05	10.98	10.12	9.04	8.13	9.59	8.56							
London, Wil (USA) (1997)	time	11.41	21.82	32.67	44.47	44.47	1 / 3												
reaction time	interval	10.41	10.85	11.80	8.47	8.99	# 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	8.47	8.99	11.41	9.61	9.22	8.47	9.17	8.83							
Nellum, Bryshon (USA) (1991)	time	11.09	21.15	32.31	44.50	44.50	7 / 4												
reaction time	interval	10.06	11.16	12.19	8.20	8.99	# 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	8.20	8.99	11.09	9.94	8.96	8.20	9.46	8.57							
McQuay, Tony (USA) (1990)	time	11.04	21.04	32.04	44.51	44.51	2 / 5												
reaction time	interval	10.00	11.00	12.47	8.02	8.99	# 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	8.02	8.99	11.04	10.00	9.09	8.02	9.51	8.52							
Cherry, Michael (USA) (1991)	time	11.08	21.28	32.33	44.67	44.67	5 / 6												
reaction time	interval	10.20	11.05	12.34	8.10	8.95	# 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	8.10	8.95	11.08	9.80	9.05	8.10	9.40	8.55							
Norman, Michael (USA) (1989)	time	11.05	21.25	32.52	44.80	44.80	3 / 7												
reaction time	interval	10.20	11.27	12.28	8.14	8.93	# 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	8.14	8.93	11.05	9.80	8.87	8.14	9.41	8.49							
Collins, Kyle (USA) (1994)	time	11.27	21.49	32.78	45.49	45.49	8 / 8												
reaction time	interval	10.22	11.29	12.71	8.77	8.79	# 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	7.87	8.79	11.27	9.78	8.86	7.87	9.31	8.33							

Semi-Final 1

date 23-Jun-17

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	
Roberts, Gil (USA) (1989)	time	11.24	21.52	32.40	44.33	44.33	1 / 2												
reaction time	interval	10.28	10.88	11.93	8.38	9.02	# 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	8.38	9.02	11.24	9.73	9.19	8.38	9.29	8.77							

Heat 2

date 22-Jun-17

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	
Roberts, Gil (USA) (1989)	time	11.08	21.19	32.32	44.63	44.63	1 / 1												
reaction time	interval	10.11	11.13	12.31	8.12	8.96	# 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	8.12	8.96	11.08	9.89	8.98	8.12	9.44	8.53							

2017 Japanese National Championships (Osaka, JPN)

FINAL

date 24-Jun-17

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

(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	
Kitagawa, Takamasa (JPN)	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			
Sato, Kentaro (JPN) (1994)	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			
Kimura, Kazushi (JPN) (1991)	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			
Horii, Kosuke (JPN) (1994)	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	7.59	8.31	8.62	183.0	8.73	9.27	8.65	7.93	8.99	8.27			
Obuchi, Mizuki (JPN) (1997)	time	11.47	22.30	33.91	46.69	46.69	3 / 5												
reaction time	0.169	interval	10.83	11.61	12.78	8.57	8.57	194.0	8.72	9.23	8.61	7.82	8.97	8.20					
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							
Mihara, Taiki (JPN) (1995)	time	11.52	22.19	33.69	46.86	46.86	8 / 6												
reaction time	0.219	interval	10.67	11.50	13.17	8.54	8.54	180.5	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	11.52	10.67	11.50	13.17	9.01	8.11							
Kanemaru, Yuzo (JPN) (1991)	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			

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	
Matsukiyo, Kazuki (JPN) (1 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	

2017 NCAA Championships (Eugene, OR)

FINAL date 09-Jun-17 *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
Kerley, Fred (USA) (1995)	time				21.4	32.1	44.1	44.1	44.10		4 / 1							
reaction time	interval				12.00	10.70	12.00	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	
Allen, Nathon (JAM) (1995)	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	
Cherry, Michael (USA) (1999)	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	
Norman, Michael (USA) (1999)	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	

2017 NCAA Championships - West Preliminary (Austin, TX)

Quarter-Final 1 date 26-May-17 *Vazel (2018) - historical analysis and coaching commentary - biomechanical report - London 2017 - Men's 400m*

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Kerley, Fred (USA) (1995)	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	

2017 Shimane High School Championships (Izumo, JPN)

FINAL date 26-May-17 *Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
桐原 勇斗	time		12.28		23.87	36.82	49.89	49.89			7 / 1							
reaction time	interval				11.59	12.95	13.07				# of strides	12.28	11.59	12.95	13.07	23.87	26.02	2.15
velocity			8.14		8.63	7.72	7.65	8.02				8.14	8.63	7.72	7.65	8.38	7.69	
伊藤 千紀	time		12.43		24.47	37.57	51.18	51.18			9 / 2							
reaction time	interval				12.04	13.10	13.61				# of strides	12.43	12.04	13.10	13.61	24.47	26.71	2.24
velocity			8.05		8.31	7.63	7.35	7.82				8.05	8.31	7.63	7.35	8.17	7.49	
足立 悠旗	time		12.53		24.27	37.73	51.56	51.56			5 / 3							
reaction time	interval				11.74	13.46	13.83				# of strides	12.53	11.74	13.46	13.83	24.27	27.29	3.02
velocity			7.98		8.52	7.43	7.23	7.76				7.98	8.52	7.43	7.23	8.24	7.33	
渡部 晃希	time		12.87		25.50	39.03	52.70	52.70			4 / 4							
reaction time	interval				12.63	13.53	13.67				# of strides	12.87	12.63	13.53	13.67	25.50	27.20	1.70
velocity			7.77		7.92	7.39	7.32	7.59				7.77	7.92	7.39	7.32	7.84	7.35	
宮崎 幹太	time		12.47		24.87	38.63	52.73	52.73			6 / 5							
reaction time	interval				12.40	13.76	14.10				# of strides	12.47	12.40	13.76	14.10	24.87	27.86	2.99
velocity			8.02		8.06	7.27	7.09	7.59				8.02	8.06	7.27	7.09	8.04	7.18	

2017 Kanto Collegiate Championships (Yokohama, JPN)

Division 1 FINAL date 26-May-17 *(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
Kitagawa, Takamasa (JPN)	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				8.68	9.18	8.77	8.09	8.92	8.42	
Obuchi, Mizuki (JPN) (1997)	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				8.71	9.17	8.61	8.20	8.94	8.40	
Yamaki, Kakeru (JPN) (1998)	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				8.83	9.23	8.60	7.62	9.03	8.08	
Uike, Yuji (JPN) (1998)	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				8.56	9.04	8.47	8.01	8.80	8.24	
Kitakani, Naoki (JPN) (1998)	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				8.58	8.90	8.49	8.10	8.74	8.29	
Someya, Sho (JPN) (1997)	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				8.37	8.90	8.64	7.75	8.63	8.17	

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

Mashiko, Yuta (JPN) (1998) 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				
Suzaki, Mitsuhiro (JPN) (1998) 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				

Division 2 FINAL date 26-May-17(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
Sato, Fuga (JPN) (1996) 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				
Wakabayashi, Kota (JPN) (1998) 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				
Nakagawa, Shigeki (JPN) (1998) 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				
Yamazaki, Hiroki (JPN) (1998) 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				
Kudo, Taisei (JPN) (1996) 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				
Tomioka, Yuya (JPN) (1998) 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				
Suzuki, Yumeto (JPN) (1998) 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				
Hoshino, Sota (JPN) (1998) 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			
0.167 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				

Division 1 Semi-I date 26-May-17(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
Kitagawa, Takamasa (JPN) (1998) 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				
Obuchi, Mizuki (JPN) (1997) 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				
Mashiko, Yuta (JPN) (1998) 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				
Suzaki, Mitsuhiro (JPN) (1998) 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				
Kitakani, Naoki (JPN) (1998) 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				
Ito, Rikiya (JPN) (1998) 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				
Matyama, Haruki (JPN) (1998) 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				
Iwaki, Takuma (JPN) (1996) 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				

Division 1 Semi-I date 26-May-17(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
Yamaki, Kakeru (JPN) (1998) 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				

Kishimoto, Kodai (JPN) (1997)	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			
Uike, Yuji (JPN) (1998)	time	11.65	22.66	34.66	47.65	47.65	4 / 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		
		ATHLETISSIMA ME	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)	time	11.98	23.07	34.79	47.65	47.65	5 / 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			
Sugue, Kohei (JPN) (1997)	time	12.08	23.48	35.24	48.03	48.03	3 / 4										
	reaction time		interval	11.76	12.79	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			
Sakurai, Naoya (JPN) (1996)	time	11.70	22.81	34.93	48.30	48.30	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			
Shirahata, Daiki (JPN) (1998)	time	11.78	23.07	35.17	48.68	48.68	2 / 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			
Muraki, Daiki (JPN) (1996)	time	11.83	23.14	35.49	48.71	48.71	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			

Division 2 Semi-I date 26-May-17

(2017) - tfddata-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
Nakagawa, Shigeki (JPN) (1997)	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				
Wakabayashi, Kota (JPN) (1997)	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				
Yamazaki, Hiroki (JPN) (1998)	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				
Suzuki, Yumeto (JPN) (1998)	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				
Kitamura, Shuya (JPN) (1997)	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				
Yamane, Kota (JPN) (1998)	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				
Nishida, Takumitsu (JPN) (1998)	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				
Yamade, Masaki (JPN) (1998)	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				

Division 2 Semi-I date 26-May-17

(2017) - tfddata-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
Sato, Fuga (JPN) (1996)	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				
Kudo, Taisei (JPN) (1996)	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				
Tomioka, Yuya (JPN) (1998)	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				
Hoshino, Sota (JPN) (1998)	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				
Makabe, Shohei (JPN) (1997)	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				

Yoshida, Yuto (JPN) (1998)	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			
Arai, Yusuke (JPN)	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			
Sakai, Yu (JPN)	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			

2017 Kansai Regional University Championships (Osaka, JPN)**FINAL**

date 11-May-17

(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
Kawauchi, Mitsuki (JPN) (1991)	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				
Takahashi, Yumi (JPN) (1997)	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				
Sato, Hiroki (JPN) (1995)	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							
Yoshimura, Kento (JPN) (1993)	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							
Mukushita, Genya (JPN) (1993)	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					
Minami, Syono (JPN) (1993)	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					
Inoue, Kakeru (JPN) (1996)	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					
Kanamori, Reiya (JPN) (1991)	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					

2017 Shizuoka International Meeting (Fukuroi, JPN)**FINAL**

date 03-May-17

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
Kitagawa, Takamasa (JPN) (1990)	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	
Sato, Kentaro (JPN) (1994)	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	
Kanemaru, Yuzo (JPN) (1995)	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	
Kato, Nobuya (JPN) (1995)	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	
Fujiwara, Takeshi (JPN) (1991)	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	
Horii, Kosuke (JPN) (1994)	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	

2017 Izumo Athletics Games (Izumo, JPN) (300m)**FINAL**

date 23-Apr-17

(2017) - tfdata-store.com/2017/05/17/post-537/

		50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	0-200m	Differential
Fujimitsu, Kenji (JPN) (1998)	time		10.74	21.02	32.47			32.47	4 / 1					
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)	time	10.84		21.24	32.86			32.86	6 / 2					

reaction time	interval	10.40	11.62	PB	# of strides	10.84	10.40	11.62	21.24	22.02	
velocity	velocity	9.23	9.62	8.61	9.13	140.5	9.23	9.62	8.61	9.42	9.08
Kimura, Kazushi (JPN) (1995)	time	11.11	21.54	33.04	33.04	3 / 3					
reaction time	interval	10.43	11.50	PB	# of strides	11.11	10.43	11.50	21.54	21.93	
velocity	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)	time	11.02	21.50	33.05	33.05	5 / 4					
reaction time	interval	10.48	11.55	PB	# of strides	11.02	10.48	11.55	21.50	22.03	
velocity	velocity	9.07	9.54	8.66	9.08	134.5	9.07	9.54	8.66	9.30	9.08
Takahashi, Yumi (JPN) (1995)	time	11.23	22.00	33.85	33.85	7 / 5					
reaction time	interval	10.77	11.85	PB	# of strides	11.23	10.77	11.85	22.00	22.62	
velocity	velocity	8.90	9.29	8.44	8.86	137.2	8.90	9.29	8.44	9.09	8.84
Hata, Keiichiro (JPN) (1995)	time	11.14	21.91	33.92	33.92	2 / 6					
reaction time	interval	10.77	12.01	PB	# of strides	11.14	10.77	12.01	21.91	22.78	
velocity	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)	time	11.64	22.52	33.95	33.95	9 / 7					
reaction time	interval	10.88	11.43	PB	# of strides	11.64	10.88	11.43	22.52	22.31	
velocity	velocity	8.59	9.19	8.75	8.84	131.0	8.59	9.19	8.75	8.88	8.96
Kirihara, Yuuto (JPN)	time	11.83	22.81	34.44	34.44	1 / 8					
reaction time	interval	10.98	11.63		# of strides	11.83	10.98	11.63	22.81	22.61	
velocity	velocity	8.45	9.11	8.60	8.71	147.7	8.45	9.11	8.60	8.77	8.85

2017 Osaka University Athletics Championships (Osaka, JPN)

FINAL

date 06-Apr-17

(2017) - tdata-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
Ryota, Seto (JPN) (1996)	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	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					
Kawauchi, Mitsuki (JPN) (1995)	time	11.68	22.36	34.35	47.56	47.56	8 / 2											
reaction time	interval	10.68	11.99	13.21	8.41	# of strides	11.68	10.68	11.99	13.21	22.36	25.20	2.84					
velocity	velocity	8.56	9.36	8.34	7.57	188.0	8.56	9.36	8.34	7.57	8.94	7.94						
Sato, Hiroki (JPN) (1995)	time	11.71	22.67	34.55	47.82	47.82	7 / 3											
reaction time	interval	10.96	11.88	13.27	8.36	# of strides	11.71	10.96	11.88	13.27	22.67	25.15	2.48					
velocity	velocity	8.54	9.12	8.42	7.54	188.2	8.54	9.12	8.42	7.54	8.82	7.95						
Takahashi, Yumitsu (JPN)	time	11.80	22.79	34.92	48.41	48.41	6 / 4											
reaction time	interval	10.99	12.13	13.49	8.26	# of strides	11.80	10.99	12.13	13.49	22.79	25.62	2.83					
velocity	velocity	8.47	9.10	8.24	7.41	184.5	8.47	9.10	8.24	7.41	8.78	7.81						
Ikeda, Shoki (JPN) (1996)	time	11.90	23.27	35.50	48.52	48.52	5 / 5											
reaction time	interval	11.37	12.23	13.02	8.24	# of strides	11.90	11.37	12.23	13.02	23.27	25.25	1.98					
velocity	velocity	8.40	8.80	8.18	7.68	184.5	8.40	8.80	8.18	7.68	8.59	7.92						
Fujita, Shinya (JPN) (1993)	time	11.81	23.18	35.00	48.57	48.57	3 / 6											
reaction time	interval	11.37	11.82	13.57	8.24	# of strides	11.81	11.37	11.82	13.57	23.18	25.39	2.21					
velocity	velocity	8.47	8.80	8.46	7.37	193.0	8.47	8.80	8.46	7.37	8.63	7.88						
Sasaki, Hayata (JPN)	time	11.93	22.92	35.22	48.79	48.79	9 / 7											
reaction time	interval	10.99	12.30	13.57	8.20	# of strides	11.93	10.99	12.30	13.57	22.92	25.87	2.95					
velocity	velocity	8.38	9.10	8.13	7.37	184.5	8.38	9.10	8.13	7.37	8.73	7.73						
Yu, Satomi (JPN)	time	23.02	35.47	49.30	49.30	2 / 8												
reaction time	interval	12.45	13.83	8.11	# of strides	12.45	13.83	23.02	26.28	3.26								
velocity	velocity	8.69	8.03	7.23	8.11	8.03	7.23	8.69	7.61									

2016 Japanese National Junior Championships (Mizuho, JPN)

FINAL

date 21-Oct-16

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
Uike, Yuji (JPN) (1998)	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	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		
Matsubara, Shuichiro (JPN)	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	8.44	# of strides	12.12	11.02	11.63	12.64	23.14	24.27	1.13	
velocity	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		
Ito, Rikiya (JPN) (1998)	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	8.42	# of strides	11.92	11.04	11.85	12.70	22.96	24.55	1.59	
velocity	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		
Naoe, Kohei (JPN) (1997)	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	8.40	# of strides	11.89	11.23	11.67	12.84	23.12	24.51	1.39	
velocity	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		
Kokubo, Tomohiro (JPN)	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	8.11	# 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
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Wakabayashi, Kota (JPN)	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	
Sofue, Takumi (JPN) (1998)	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	
Yoshitsu, Takao (JPN)	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	

2016 Japanese National Youth Championships (Mizuho, JPN)

FINAL

date 21-Oct-16

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
Inoue, Daichi (JPN) (1999)	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	
Yukihiro, Koki (JPN)	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	
Hanada, Shion (JPN) (1999)	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)	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	
Sawada, Natsuki (JPN) (2000)	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	
Sakaguchi, Amagi (JPN) (1998)	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	
Nozaki, Tsuyoshi (JPN)	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)	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	

2016 National Sports Festival (Kitakami, JPN)

U19 FINAL

date 10-Oct-16

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
Inoue, Daichi (JPN) (1999)	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	
Kitakami, Naoki (JPN) (1998)	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	
Uike, Yuji (JPN) (1998)	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	
Kokubo, Tomohiro (JPN) (1998)	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	
Ito, Rikiya (JPN) (1998)	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	
Ibuka, Aisei (JPN) (1998)	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	
Nakatsukue, Haruhiko (JPN) (1998)	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	
Matsuo, Ruhei (JPN) (1998)	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	

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	
Merritt, LaShawn (USA) (19)	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	

Heat 7

date 12-Aug-16 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
Kanemaru, Yuzo (JPN) (19)	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		8.82	9.19	7.99	7.33	9.00	7.65	

Heat 4

date 12-Aug-16 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
Walsh, Julian Jrummi (JPN)	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		8.98	9.42	8.65	7.66	9.19	8.13	

Heat 3

date 12-Aug-16 (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
van Niekerk, Wayde (RSA)	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		9.06	9.11	9.07	8.18	9.08	8.61	

2016 Japanese National High School Championships (Okayama, JPN)

FINAL

date 29-Jul-16 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		
Kokubo, Tomohiro (JPN)	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	
Inoue, Daichi (JPN) (1999)	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	
Uike, Yuji (JPN) (1998)	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	
Kitakani, Naoki (JPN) (1998)	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	
Nakatsukue, Haruhiko (JPN)	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	
Ito, Rikiya (JPN) (1998)	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	
Ibuka, Aisei (JPN) (1998)	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	
Yukihiro, Koki (JPN)	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	

2016 IAAF World Junior Championships (Bydgoszcz, POL)

FINAL

date 22-Jul-16 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		
Haroun, Abdalelah (QAT)	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	
London, Wil (USA) (1997)	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	
Sibanda, Karabo (BOT) (19)	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	
Kiprotich, Geoffrey (KEN)	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	
Montgomery, Kahmari (US)	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	

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

Zambrano, Anthony (COL)	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		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		8.83	9.03	8.59	8.03	8.92	8.30		
Matsukiyo, Kazuki (JPN) (1	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		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		8.53	9.14	8.70	7.98	8.83	8.32		
Kitakani, Naoki (JPN) (1998	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		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		8.72	9.23	8.39	7.74	8.96	8.05		
Semi-Final 2	date	21-Jul-16	Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016																
Matsukiyo, Kazuki (JPN) (1	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		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		8.65	9.07	8.71	7.92	8.86	8.30		
Semi-Final 1	date	21-Jul-16	Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016																
Kitakani, Naoki (JPN) (1998	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		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		8.78	9.46	8.58	7.82	9.11	8.18		
Heat 3	date	20-Jul-16	Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016																
Kitakani, Naoki (JPN) (1998	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		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		8.56	9.23	8.44	7.72	8.88	8.06		
Heat 2	date	20-Jul-16	Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016																
Matsukiyo, Kazuki (JPN) (1	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		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		8.53	9.01	8.54	8.16	8.76	8.35		
2016 USA Olympic Trials (Eugene, OR)			Hymans (2020) - history of the US olympic trials - track and field																
FINAL	date	03-Jul-16	Hymans (2020) - history of the US olympic trials - track and field																
Merritt, LaShawn (USA) (19	time				21.2		32.1		43.97	43.97	5 / 1								
	reaction time	0.210						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			
Roberts, Gil (USA) (1989)	time				21.0		32.1		44.73	44.73	6 / 2								
	reaction time	0.171						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			
Verburg, David (USA) (199	time				21.6		32.6		44.82	44.82	4 / 3								
	reaction time	0.203						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			
Hall, Arman (USA) (1994)	time				22.0		33.0		45.09	45.09	3 / 4								
	reaction time	0.174						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			
McQuay, Tony (USA) (1990)	time				21.6		32.6		45.30	45.30	7 / 5								
	reaction time	0.203						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			
Clemons, Kyle (USA) (1990)	time				21.9		33.0		45.39	45.39	2 / 6								
	reaction time	0.206						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			
Glass, Najee (USA) (1994)	time				21.9		32.8		45.48	45.48	8 / 7								
	reaction time	0.190						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			
Berry, Mike (USA) (1991)	time				22.1		33.4		45.90	45.90	1 / 8								
	reaction time	0.249						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			
2016 Japanese National Championships (Nagoya, JPN)			Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016																
FINAL	date	25-Jul-16	Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016																
Walsh, Julian Jrummi (JPN)	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		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		9.12	9.55	8.77	7.99	9.33	8.36		
Kato, Nobuya (JPN) (1995)	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		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		8.74	9.40	8.75	8.20	9.06	8.46		

Kitagawa, Takamasa (JPN)	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									# 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		
Tamura, Tomoya (JPN) (19)	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									# 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		
Sato, Kentaro (JPN) (1994)	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									# of strides	11.27	10.52	11.61	12.90	21.79	24.51	2.72	
	velocity	8.01	9.94	9.71	9.31	8.80	8.43	8.01	7.51	8.64		8.87	9.51	8.61	7.75	9.18	8.16		
Fujiwara, Takeshi (JPN) (19)	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									# 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		
Horii, Kosuke (JPN) (1994)	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									# 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		
Hirose, Hideyuki (JPN) (198)	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									# 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		

Heat 2

date 24-Jun-16

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	
Watanabe, Kazuya (JPN) (1)	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									# 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		
Aikeyo, Shotaro (JPN) (1994)	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									# 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		

Heat 1

date 24-Jun-16

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	
Kobayashi, Naoki (JPN) (19)	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									# 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		
Yui, Kaisei (JPN) (1996)	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									# 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		

2016 China Perfecture High School Championships (Okayama, JPN)

FINAL

date 17-Jun-16

(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	
Fujimoto, Masaru (JPN)	time		12.16		23.20		34.95		48.04	48.04	9 / 1								
	reaction time				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		
Amano, Iori (JPN) (2000)	time		11.90		22.65		34.75		48.14	48.14	7 / 2								
	reaction time				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		
Sanada, Tadahi (JPN)	time		12.27		23.24		35.04		48.25	48.25	4 / 3								
	reaction time				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		
Horinouchi, Yorito (JPN)	time		12.23		23.37		35.19		48.52	48.52	5 / 4								
	reaction time				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		
Sumitani, Toshiaki (JPN)	time		11.74		22.85		34.93		48.54	48.54	8 / 5								
	reaction time				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		
Miki, Kondo (JPN)	time		12.35		23.60		35.51		48.64	48.64	6 / 6								
	reaction time				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		

2016 NCAA Championships (Eugene, OR)

FINAL

date 10-Jun-16

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	
Hall, Arman (USA) (1994)	time				21.8		32.8		44.8	44.82	5 / 1								
	reaction time						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		
Dunkley, Fitzroy (JAM) (19)	time				21.7		32.9		45.1	45.06	2 / 2								
	reaction time						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		
Cherry, Michael (USA) (199)	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	

2016 Seiko Golden Grand Prix (Kawaskai, JPN)**FINAL**

date 08-May-16

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	
Walsh, Julian Jrummi (JPN) 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	8.76	172.5	9.03	9.51	8.83	7.82	9.27	8.30	
Solomon, Jarrin (TTO) (198) 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	8.74	181.2	8.82	9.46	8.85	7.96	9.13	8.38	
Wariner, Jeremy (USA) (19) 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	8.69	175.0	8.92	9.45	8.86	7.72	9.18	8.25	
Quow, Rennie (TTO) (1987) 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	8.56	189.7	8.88	9.51	8.80	7.36	9.18	8.02	
Sato, Kentaro (JPN) (1994) 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	8.56	184	8.81	9.46	8.64	7.54	9.12	8.05	
Williams, Conrad (GBR) (1) 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	8.55	172.2	8.76	9.44	8.77	7.47	9.09	8.07	
Kitagawa, Takamasa (JPN) 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	8.54	176.2	8.68	9.25	8.61	7.77	8.96	8.17	
Kimura, Kazushi (JPN) (19) 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	8.44	187.5	8.70	9.12	8.52	7.59	8.90	8.03	

2016 Shizuoka International Meeting (Fukuroi, JPN)**FINAL**

date 03-May-16

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
Walsh, Julian Jrummi (JPN) time	6.16	11.18	16.32	21.62	27.27	33.24	39.44	46.06	46.06	1 / 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	8.68	8.94	9.58	8.61	7.80	9.25	8.18	
Sato, Kentaro (JPN) (1994) time	6.25	11.34	16.68	22.20	27.89	33.85	40.12	46.77	46.77	1 / 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	8.55	8.82	9.21	8.58	7.74	9.01	8.14	
Yui, Kaisei (JPN) (1996) time	6.35	11.54	17.00	22.57	28.27	34.16	40.41	47.07	47.07	1 / 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	8.50	8.67	9.07	8.63	7.75	8.86	8.16	
Park Bong-Ko (KOR) (1991) time	6.23	11.50	16.98	22.53	28.22	34.07	40.26	47.07	47.07	1 / 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	8.50	8.70	9.07	8.67	7.69	8.88	8.15	
Kimura, Kazushi (JPN) (19) time	6.28	11.62	17.13	22.74	28.43	34.31	40.44	47.07	47.07	1 / 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	8.50	8.61	8.99	8.64	7.84	8.80	8.22	
Watanabe, Kazuya (JPN) (1) time	6.24	11.45	16.72	22.18	27.87	33.91	40.33	47.08	47.08	1 / 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	8.50	8.73	9.32	8.53	7.59	9.02	8.03	
Ishitsuka, Yusuke (JPN) (19) time	6.17	11.40	16.77	22.32	28.05	34.08	40.45	47.30	47.30	1 / 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	8.46	8.77	9.16	8.50	7.56	8.96	8.01	
Hirose, Hideyuki (JPN) (198) time	6.31	11.55	16.87	22.44	28.25	34.29	40.62	47.43	47.43	1 / 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	8.43	8.66	9.18	8.44	7.61	8.91	8.00	

Race B

date 03-May-16

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	
Uozato, Yusuke (JPN) (199) time	6.23	11.40	16.68	22.12	27.82	33.79	40.01	46.65	46.65	1 / 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	8.57	8.77	9.33	8.57	7.78	9.04	8.15		
Obuchi, Mizuki (JPN) (1997) time	6.42	11.68	17.03	22.37	28.03	34.13	40.31	47.00	47.00	1 / 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	8.51	8.56	9.35	8.50	7.77	8.94	8.12		

Race C

date 03-May-16

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
Azuma, Kaiki (JPN) (1993) 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	
Aikyo, Shota (JPN) (1994) 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	

2015 Japanese National Junior Championships (Nagoya, JPN)**FINAL**

date 16-Oct-15

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
Walsh, Julian Jrummi (JPN) 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	
Matsubara, Shuichiro (JPN) 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	
Obuchi, Mizuki (JPN) (1997) 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	
Yamamoto, Yoshihiro (JPN) 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	
Ota, Kazuki (JPN) (1996) 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	
Katayama, Yuto (JPN) (1997) 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	
Miura, Ayuma (JPN) (1997) 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	
Yoshioka, Fumiya (JPN) (1997) time	6.49	11.78	17.32	23.09	28.99	35.19	41.66	48.93	48.93	/ 8							
reaction time interval		5.29	5.54	5.77	5.90	6.20	6.47	7.27		# of strides	11.78	11.31	12.10	13.74	23.09	25.84	2.75
velocity	7.70	9.45	9.03	8.67	8.47	8.06	7.73	6.88	8.17		8.49	8.84	8.26	7.28	8.66	7.74	

2015 Japanese National Youth Championships (Nagoya, JPN)**FINAL**

date 16-Oct-15

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
Ito, Akio (JPN) 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	
Natcatsukue, Haruhiko (JPN) 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	
Ito, Rikiya (JPN) (1998) 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	
Nomura, Yuki (JPN) (1998) 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	
Kitahara, Ryota (JPN) (1998) 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	
Kitakani, Naoki (JPN) (1998) 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	
Furuta, Shinya (JPN) (1998) 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	
Takao, Yoshitsu (JPN) 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	

2015 National Sports Festival (Wakayama, JPN)**U19 FINAL**

date 05-Oct-15

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
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Someya, Sho (JPN) (1997)	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	
Ibuka, Aisei (JPN) (1998)	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	
Matsukiyo, Kazuki (JPN) (1997)	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	
Nakatsukue, Haruhiko (JPN) (1997)	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	
Eto, Takuto (JPN) (1997)	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	
Higuchi, Kazuma (JPN) (1997)	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	
Kawauchi, Mitsuki (JPN) (1997)	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	

FINAL

date 04-Oct-15

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	
Kobayashi, Naoki (JPN) (1997)	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	
Tamura, Tomoya (JPN) (1997)	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	
Kimura, Kenta (JPN) (1993)	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	
Watanabe, Kazuya (JPN) (1997)	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	
Kato, Nobuya (JPN) (1995)	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	
Yano, Takuto (JPN) (1994)	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	
Horii, Kosuke (JPN) (1994)	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	
Ishitsuka, Yusuke (JPN) (1997)	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	

2015 IAAF World Championships (Beijing, CHN)

FINAL

date 26-Aug-15

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		
van Niekerk, Wayde (RSA) (2015)	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	
Merritt, LaShawn (USA) (1997)	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	
James, Kirani (GRN) (1992)	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	
Santos, Luguelin (DOM) (1997)	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	
Makwala, Isaac (BOT) (1986)	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																		

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
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Yousif, Rabah (GBR) (1986) 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	

Cedenio, Machel (TTO) (19) 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	

Al-Masrahi, Yousef Ahmed 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	

Semi-Final 3

date 24-Aug-15

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
van Niekerk, Wayde (RSA) (1) 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

Merritt, LaShawn (USA) (1) 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

Cedenio, Machel (TTO) (19) 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

Francis, Javon (JAM) (1994) 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

Borlée, Jonathan (BEL) (19) 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

Rooney, Martyn (GBR) (19) 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

Mathieu, Michael (BAH) (1) 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

Bonevacija, Liemarvin (NED) 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

Semi-Final 2

date 24-Aug-15

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
Makwala, Isaac (BOT) (1986) 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

Al-Masrahi, Yousef Ahmed 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

Yousif, Rabah (GBR) (1986) 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

Gordon, Lalonde (TTO) (19) 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

Nellum, Bryshon (USA) (19) 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

McDonald, Rusheen (JAM) 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

Gardiner, Steven (BAH) (19) 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

Brenes, Nery (CRC) (1985) 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	

Semi-Final 1

date 24-Aug-15

Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims

Sato, Kentaro (JPN) (1994)	time	6.35	11.50	16.59	21.78	27.18	32.89	39.01	45.58	45.58	4 / 3								
reaction time	interval	0.174	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		
Horii, Kosuke (JPN) (1994)	time	6.29	11.48	16.75	22.29	28.11	33.81	39.67	45.85	45.85	7 / 4								
reaction time	interval	0.172	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		

2015 NCAA Championships (Eugene, OR)

FINAL

date 12-Jun-15

USTFCCA (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
Norwood, Vernon (USA) (1987)	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		

2014 Asian Games (Incheon, KOR)

Decathlon - Heat

date 30-Sep-14

Takeo (2014) - decathletes sprint ability and the relationship of the 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
Nakamura, Akihiko (JPN) (1988)	time	6.33	11.62	17.22	23.02	29.04	35.19	41.47	48.19	48.19	1 / 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	
Ushiro, Keisuke (JPN) (1989)	time	6.52	11.88	17.63	23.82	30.12	36.58	43.23	50.25	50.25	1 / 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	

FINAL

date 28-Sep-14

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
Al-Masrahi, Youssef (KSA) (1988)	time	6.15	11.01	16.08	21.22	26.64	32.37	38.16	44.46	44.46	1 / 1							
reaction time	interval	0.166	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	
Kanemaru, Yuzo (JPN) (1986)	time	6.19	11.35	16.52	21.92	27.58	33.57	39.60	46.04	46.04	1 / 4							
reaction time	interval	0.167	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	
Kato, Nobuya (JPN) (1995)	time	6.46	11.75	17.10	22.65	28.37	34.31	40.13	46.13	46.13	1 / 5							
reaction time	interval	0.231	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	

2014 Japanese National High School Championships (Kofu, JPN)

FINAL

date 30-Jul-14

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
Kitagawa, Takamasa (JPN) (1989)	time	6.50	11.79	17.05	22.42	27.91	33.79	40.08	46.57	46.57	1 / 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	
Yamamoto, Satoshi (JPN) (1992)	time	6.48	11.55	16.65	21.94	27.38	33.34	39.83	46.61	46.61	1 / 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	
Sasaki, Manato (JPN) (1998)	time	6.30	11.59	16.88	22.35	27.99	34.10	40.54	47.37	47.37	1 / 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	
Ota, Kazuki (JPN) (1996)	time	6.25	11.43	16.75	22.21	27.98	34.22	40.83	47.71	47.71	1 / 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	
Iwamoto, Takeshi (JPN) (1987)	time	6.59	11.83	17.18	22.73	28.56	34.68	41.24	47.79	47.79	1 / 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	
Terai, Shota (JPN) (1997)	time	6.68	12.14	17.58	23.23	29.11	35.21	41.31	47.93	47.93	1 / 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	
Asakawa, Yuto (JPN) (1996)	time	6.61	11.96	17.28	22.82	28.64	34.88	41.49	48.28	48.28	1 / 7							
reaction time	interval		5.11	5.23	5.41	5.69	5.80	5.75	6.03	NJR / PB	# 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	
Nomura, Kazuki (JPN) (1999)	time	6.64	11.92	17.18	22.67	28.29	34.54	41.29	48.44	48.44	1 / 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	

2014 IAAF World Junior Championships (Eugene, OR)

FINAL

date 24-Jul-14

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
Cedenio, Machel (TTO) (1989)	time	6.11	11.22	16.45	21.86	27.55	33.35	39.10	45.13	45.13	4 / 1							
reaction time	interval	0.204	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	

Kato, Nobuya (JPN) (1995)	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		
Yui, Kasei (JPN) (1996)	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		

Semi-Final 2

date 23-Jul-14

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
Kato, Nobuya (JPN) (1995)	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	

Semi-Final 1

date 23-Jul-14

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	
Yui, Kasei (JPN) (1996)	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		

2014 adidas (New York, NY)**FINAL**

date 14-Jun-14

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
van Niekerk, Wayde (RSA)	time	10.8	20.7	31.4	43.5	44.38	1 / 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				

2014 NCAA Championships (Eugene, OR)**FINAL**

date 13-Jun-14

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
Lendore, Deon (TTO) (1992)	time			21.6	32.7	45.0	45.02	4 / 1										
	reaction time			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		
Berry, Mike (USA) (1991)	time			21.9	32.9	45.1	45.07	6 / 2										
	reaction time			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) (1991)	time			21.8	33.1	45.5	45.45	3 / 3										
	reaction time			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		

2014 Japanese National Championships (Fukushima, JPN)**FINAL**

date 08-Jun-14

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
Kanemaru, Yuzo (JPN) (1991)	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	
Watanabe, Kazuya (JPN) (1991)	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	
Kobayashi, Naoki (JPN) (1991)	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	
Kato Nobuya (JPN) (1995)	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	
Ishitsuka, Yusuke (JPN) (1991)	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	

2014 Japanese National Multi-Event Championships (Nagano, JPN)**Decathlon - Heat**

date 31-May-14

Takeo (2014) - decathletes sprint ability and the relationship of the 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
Ushiro, Keisuke (JPN) (1981)	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	

Decathlon - Heat

date 31-May-14

Takeo (2014) - decathletes sprint ability and the relationship of the 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
Nakamura, Akihiko (JPN) (1981)	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	

2014 Shizuoka International Athletics Meeting (Fukuroi, JPN)**FINAL**

date 03-May-14

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
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Kanemaru, Yuzo (JPN) (19)	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	
Ishitsuka, Yusuke (JPN) (19)	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	
Kobayashi, Naoki (JPN) (19)	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	
Kato Nobuya (JPN) (1995)	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	
Kimura, Kazushi (JPN) (19)	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	
Watanabe, Kazuya (JPN) (1)	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	
Yui, Kaisei (JPN) (1996)	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	
Kimura, Jun (JPN) (1991)	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	
Hirose, Hideyuki (JPN) (198)	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	

2014 Nittai University Distance Meeting (Wakayama, JPN)**Decathlon - Heat**

date 26-Apr-14

Matsuo (2014) - research on athlete performance and technique- 2014 data book

Takeo (2014) - decathletes sprint ability and the relationship of the 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
Nakamura, Akihiko (JPN) (1)	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	
Otobe, Takumi (JPN) (1989)	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	

Matsuo (2014)

Decathlon - Heat

date 26-Apr-14

Takeo (2014) - decathletes sprint ability and the relationship of the 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
Ushiro, Keisuke (JPN) (198)	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	

2013 IAAF World Championships (Moscow, RUS)**FINAL**

date 13-Aug-13

(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
Merritt, LaShawn (USA) (1)	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	
McQuay, Tony (USA) (1990)	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	
Santos, Luguelín (DOM) (1)	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	
Borlée, Jonathan (BEL) (19)	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	
Maslák, Pavel (CZE) (1991)	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	
Al-Masrahi, Youssef (KSA)	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	
James, Kirani (GRN) (1992)	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	

Henriques, Anderson (BRA)	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					

2013 Japanese National High School Championships (Oita, JPN)

Yanagiya (2014) - research on athlete performance and technique- 2014 data book

FINAL

date 30-Jul-13

Matsuo (2013) - 66th 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
Kato, Nobuya (JPN) (1995)	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		
Yui, Kaisei (JPN) (1996)	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						
Nakagawa, Shigeki (JPN) (1996)	time	11.62	22.37	33.92	46.97	46.97	8 / 3											
	reaction time	interval	10.75	11.55	13.05	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						
Iwaki, Takuma (JPN) (1996)	time	11.67	22.67	34.43	47.04	47.04	5 / 4											
	reaction time	interval	11.00	11.76	12.61	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, Hidekazu (JPN) (1996)	time	11.70	22.83	34.60	47.51	47.51	3 / 5											
	reaction time	interval	11.13	11.77	12.91	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						
Matsuo, Yuki (JPN) (1995)	time	11.55	22.47	34.45	47.54	47.54	9 / 6											
	reaction time	interval	10.92	11.98	13.09	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						
Kitagawa, Takamasa (JPN) (1996)	time	11.75	23.00	35.12	47.89	47.89	2 / 7											
	reaction time	interval	11.25	12.12	12.77	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						
Honma, Daisuke (JPN) (1996)	time	12.02	23.37	35.45	48.79	48.79	6 / 8											
	reaction time	interval	11.35	12.08	13.34	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						

2013 Golden Spike (Ostrava, CZE)**FINAL**

date 27-Jun-13

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

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
van Niekerk, Wayde (RSA) (1991)	time	11.2	21.3	32.5	45.09	45.09	1 / 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						

2013 Japanese National Multi-Event Championship (Nagano, JPN)**Decathlon - Heat**

date 01-Jun-13

Takeo (2014) - decathletes sprint ability and the relationship of the 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
Nakamura, Akihiko (JPN) (1991)	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		

Decathlon - Heat

date 01-Jun-13

Takeo (2014) - decathletes sprint ability and the relationship of the 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
Ushiro, Keisuke (JPN) (1981)	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		

2013 Wakayama Athletics Meeting (Wakayama, JPN)**Decathlon - Heat**

date 27-Apr-13

Takeo (2014) - decathletes sprint ability and the relationship of the 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
Nakamura, Akihiko (JPN) (1991)	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		

Decathlon - Heat

date 27-Apr-13

Takeo (2014) - decathletes sprint ability and the relationship of the 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
Ushiro, Keisuke (JPN) (1981)	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		

2012 Kokutai National Sport Festival (Gifu, JPN)**FINAL**

date 08-Oct-12

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
Nakano, Hiroyuki (JPN) (1991)	time	6.31	11.42	16.72	22.15	27.64	33.29	39.30	45.82	45.82	1 / 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		
Sugimati, Mahau (JPN) (1991)	time	6.15	11.25	16.55	21.99	27.68	33.60	39.70	46.21	46.21	1 / 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		
Takase, Kei (JPN) (1988)	time	6.06	11.01	16.05	21.33	27.01	33.02	39.35	46.48	46.48	/ 3							
	reaction time		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	
Watanabe, Kazuya (JPN) (1992)	time	6.19	11.42	16.75	22.21	27.86	33.85	40.05	46.62	46.62	/ 4							
	reaction time		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	
Yagisawa, Junki (JPN) (1992)	time	6.33	11.61	16.92	22.39	28.14	34.11	40.32	46.89	46.89	/ 5							
	reaction time		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	
Momiki, Shogo (JPN) (1992)	time	6.12	11.28	16.55	22.04	27.81	33.81	40.09	47.02	47.02	/ 6							
	reaction time		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	
Urano, Akihiro (JPN) (1990)	time	6.35	11.48	16.85	22.33	27.98	33.94	40.23	47.20	47.20	/ 7							
	reaction time		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	
Kimura, Kazushi (JPN) (1992)	time	6.57	11.89	17.38	22.93	28.62	34.50	40.72	47.38	47.38	/ 8							
	reaction time		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	

2012 Olympic Games (London, GBR)

Decathlon - Heat

date 08-Aug-12

Takeo (2014) - decathletes sprint ability and the relationship of the 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
Ushiro, Keisuke (JPN) (1988)	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									# 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

FINAL

date 06-Aug-12

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
James, Kirani (GRN) (1992)	time				21.3		32.0		43.9	43.94	5 / 1							
	reaction time	0.163					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			4.69	9.35	8.40	9.39	8.85	
Santos, Luguelin (DOM) (1992)	time				21.4		32.2		44.5	44.46	7 / 2							
	reaction time	0.185					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			4.67	9.26	8.13	9.35	8.66	
Gordon, Lalonde (TTO) (1992)	time				21.6		32.5		44.5	44.52	4 / 3							
	reaction time	0.159					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			4.63	9.17	8.33	9.26	8.73	
Brown, Chris (BAH) (1978)	time				21.5		32.4		44.8	44.79	6 / 4							
	reaction time	0.166					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			4.65	9.17	8.06	9.30	8.58	
Borlée, Kevin (BEL) (1988)	time				21.9		32.8		44.8	44.81	9 / 5							
	reaction time	0.151					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			4.57	9.17	8.33	9.13	8.73	
Borlée, Jonathan (BEL) (1992)	time				21.6		32.6		44.8	44.83	2 / 6							
	reaction time	0.173					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			4.63	9.09	8.20	9.26	8.62	
Pinder, Demetrius (BAH) (1992)	time		10.9		21.4		32.3		45.0	44.98	8 / 7							
	reaction time	0.153					10.50		10.90		# 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		9.17	9.52	9.17	7.87	9.35	8.47	
Solomon, Steven (AUS) (1992)	time				21.9		32.9		45.1	45.14	3 / 8							
	reaction time	0.143					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			4.57	9.09	8.20	9.13	8.62	

Semi-Final 2

date 05-Aug-12

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
James, Kirani (GRN) (1992)	time				21.40		32.13		44.59	44.59	7 / 1							
	reaction time	0.170					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				9.32	8.03	9.35	8.62	

Heat 3

date 04-Aug-12

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
Borlée, Jonathan (BEL) (1992)	time				21.20				44.43	44.43	6 / 1							
	reaction time	0.179							23.23	NR	# of strides					21.20	23.23	2.03
	velocity				9.43				8.61	9.00						9.43	8.61	

Heat 2

date 04-Aug-12

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
James, Kirani (GRN) (1992)	time				21.96				45.23	45.23	6 / 1							
	reaction time	0.173							23.27		# of strides					21.96	23.27	1.31

velocity	9.11	8.59	8.84	158.7	9.11	8.59
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Heat 1

date 04-Aug-12

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
Santos, Luguelin (DOM) (1 time)				21.10				45.04	45.04	7 / 1							
reaction time	0.187							23.94		# of strides					21.10	23.94	2.84
velocity				9.48				8.35	8.88	188.7				9.48	8.35		

2012 Japanese National High School Championships (Niigata, JPN)**FINAL**

date 29-Jul-12

Yasunori (2012) - 65th 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
Itahana, Kohei (JPN) (1994) time	11.78			23.18	34.81	47.55	47.55	47.55	47.55	6 / 1							
reaction time				11.40	11.63	12.74				# of strides					21.10	23.94	2.84
velocity	8.49			8.77	8.60	7.85	8.41			188.7	8.49	8.77	8.60	7.85	8.63	8.21	
Aikeyo, Shotaro (JPN) (1994) time	11.86			23.19	34.95	47.84	47.84	47.84	47.84	8 / 2							
reaction time				11.33	11.76	12.89				# of strides					21.10	23.94	2.84
velocity	8.43			8.83	8.50	7.76	8.36			188.7	8.43	8.83	8.50	7.76	8.62	8.11	
Kato, Nobuya (JPN) (1995) time	12.88			24.11	35.76	48.27	48.27	48.27	48.27	3 / 3							
reaction time				11.23	11.65	12.51				# of strides					21.10	23.94	2.84
velocity	7.76			8.90	8.58	7.99	8.29			188.7	7.76	8.90	8.58	7.99	8.30	8.28	0.05
Kishida, Kentaro (JPN) (1994) time	11.96			23.58	35.60	48.40	48.40	48.40	48.40	5 / 4							
reaction time				11.62	12.02	12.80				# of strides					21.10	23.94	2.84
velocity	8.36			8.61	8.32	7.81	8.26			188.7	8.36	8.61	8.32	7.81	8.48	8.06	1.24
Sakurai, Takahiro (JPN) (1994) time	12.11			24.05	36.48	48.72	48.72	48.72	48.72	7 / 5							
reaction time				11.94	12.43	12.24				# of strides					21.10	23.94	2.84
velocity	8.26			8.38	8.05	8.17	8.21			188.7	8.26	8.38	8.05	8.17	8.32	8.11	0.62
Arai, Masanori (JPN) (1994) time	12.11			24.05	36.48	48.72	48.72	48.72	48.72	2 / 6							
reaction time				11.94	12.43	12.24				# of strides					21.10	23.94	2.84
velocity	8.26			8.38	8.05	8.17	8.21			188.7	8.26	8.38	8.05	8.17	8.32	8.11	0.62
Ogi, Moeto (JPN) (1994) time	12.33			24.02	35.86	49.03	49.03	49.03	49.03	4 / 7							
reaction time				11.69	11.84	13.17				# of strides					21.10	23.94	2.84
velocity	8.11			8.55	8.45	7.59	8.16			188.7	8.11	8.55	8.45	7.59	8.33	8.00	0.99
Maruike, Yuta (JPN) (1994) time	12.59			24.87	36.93	49.12	49.12	49.12	49.12	9 / 8							
reaction time				12.28	12.06	12.19				# of strides					21.10	23.94	2.84
velocity	7.94			8.14	8.29	8.20	8.14			188.7	7.94	8.14	8.29	8.20	8.04	8.25	-0.62

2012 USA Olympic Trials (Eugene, OR)**FINAL**

date 24-Jun-12

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
Merritt, LaShawn (USA) (1994) time				21.8	32.4	44.12	44.12	44.12	44.12	6 / 1							
reaction time	0.264				10.60	11.72				# of strides					21.10	23.94	2.84
velocity				9.17	9.43	8.53	9.07			188.7					4.59	9.43	8.96
McQuay, Tony (USA) (1990) time				21.6	32.4	44.49	44.49	44.49	44.49	5 / 2							
reaction time	0.206				10.80	12.09				# of strides					21.10	23.94	2.84
velocity				9.26	9.26	8.27	8.99			188.7					4.63	9.26	8.74
Nellum, Bryshon (USA) (1994) time				21.9	32.9	44.80	44.80	44.80	44.80	7 / 3							
reaction time	0.225				11.00	11.90				# of strides					21.10	23.94	2.84
velocity				9.13	9.09	8.40	8.93			188.7					4.57	9.09	8.73
Mance, Josh (USA) (1992) time				21.7	32.6	44.88	44.88	44.88	44.88	4 / 4							
reaction time	0.190				10.90	12.28				# of strides					21.10	23.94	2.84
velocity				9.22	9.17	8.14	8.91			188.7					4.61	9.17	8.63
Mitchell, Manteo (USA) (1994) time				21.2	32.3	44.96	44.96	44.96	44.96	3 / 5							
reaction time	0.191				11.10	12.66				# of strides					21.10	23.94	2.84
velocity				9.43	9.01	7.90	8.90			188.7					4.72	9.01	8.42
Wariner, Jeremy (USA) (1994) time				21.8	33.2	45.24	45.24	45.24	45.24	2 / 6							
reaction time	0.231				11.40	12.04				# of strides					21.10	23.94	2.84
velocity				9.17	8.77	8.31	8.84			188.7					4.59	8.77	8.53
Verburg, David (USA) (1994) time				21.7	33.1	45.36	45.36	45.36	45.36	1 / 7							
reaction time	0.230				11.40	12.26				# of strides					21.10	23.94	2.84
velocity				9.22	8.77	8.16	8.82			188.7					4.61	8.77	8.45
Gehret, Brady (USA) (1992) time				21.3	32.4	45.48	45.48	45.48	45.48	8 / 8							
reaction time	0.219				11.10	13.08				# of strides					21.10	23.94	2.84
velocity				9.39	9.01	7.65	72.99			188.7					4.69	9.01	8.27

2012 Japanese National Championships (Osaka, JPN)**FINAL**

date 09-Jun-12

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
Kanemaru, Yuzo (JPN) (1994) time	6.04	10.98	16.05	21.57	27.35	33.36	39.58	46.18	46.18	7 / 1							
reaction time				4.94	5.07	5.52	5.78	6.01	6.22	6.60					10.98	10.59	3.04
interval										# of strides							

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	
Nakano, Hiroyuki (JPN) (19	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	
Azuma, Yoshihiro (JPN) (1	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	
Momiki, Shogo (JPN) (1992	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	
Motoshio, Ryo (JPN) (1990	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	
Watanabe, Kazuya (JPN) (1	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	
Yasui, Kazuki (JPN) (1990)	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	
Hirose, Hideyuki (JPN) (198	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	

2012 Japanese National Multi-Event Championships (Nagano, JPN)

Decathlon - Heat

date 02-Jun-12

Takeo (2014) - decathletes sprint ability and the relationship of the 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
Nakamura, Akihiko (JPN) (1	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	

Decathlon - Heat

date 02-Jun-12

Takeo (2014) - decathletes sprint ability and the relationship of the 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
Ushiro, Keisuke (JPN) (198	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	

2012 Tokyo Athletics Championships (Chofu, JPN)

Decathlon - Heat

date 21-Apr-12

Takeo (2014) - decathletes sprint ability and the relationship of the 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
Nakamura, Akihiko (JPN) (1	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	
Ushiro, Keisuke (JPN) (198	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.??	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	

2011 IAAF World Championships (Daegu, KOR)

FINAL

date 30-Aug-11

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
James, Kirani (GRN) (1992)				21.6		32.5		44.60	44.60	5 / 1							
reaction time	0.137					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	
Merritt, LaShawn (USA) (1				21.5		32.5		44.63	44.63	4 / 2							
reaction time	0.263					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	
Borlée, Kevin (BEL) (1988)				21.7		32.7		44.90	44.90	6 / 3							
reaction time	0.182					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	
Gonzales, Jermaine (JAM) (32.7		44.99	44.99	3 / 4							
reaction time	0.138					12.3		12.3		# of strides				12.29			
velocity						9.17		8.14	8.89	168.0				8.14			
Borlée, Jonathan (BEL) (19				21.7		32.9		45.07	45.07	8 / 5							
reaction time	0.160					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	
Bartholomew, Rondell (GR						32.7		45.45	45.45	2 / 6							
reaction time	0.314					12.8		12.8		# of strides				12.75			
velocity						9.17		7.84	8.80	170.2				7.84			
Henry, Tabarie (ISV) (1987)						33.1		45.55	45.55	7 / 7							
reaction time	0.167							12.5		# of strides				12.45			

velocity		9.06	8.03	8.78	166.7	8.03
Ogunode, Femi (QAT) (199 time		33.5	45.55	45.55	1 / 8	
reaction time	0.170 interval		12.1		# of strides	12.05
velocity		8.96	8.30	8.78	184.2	8.30

2011 Japanese National High School Championships (Kitakami, JPN)

FINAL

date 04-Aug-11

Abe (2011) - 64th 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
Yamamoto, Daisuke (JPN) (1996) time		11.68	22.85	34.45	47.48	47.48	47.48	47.48	47.48	5 / 1								
reaction time	interval		11.17	11.60	13.03	7.67	8.42			# of strides	11.68	11.17	11.60	13.03	22.85	24.63	1.78	
velocity		8.56	8.95	8.62	8.30	8.30	8.30	8.30	8.30		8.56	8.95	8.62	7.67	8.75	8.12		
Yamaki, Kakeru (JPN) (1996) time		11.77	23.07	34.99	47.79	47.79	47.79	47.79	47.79	4 / 2								
reaction time	interval		11.30	11.92	12.80	7.81	8.37			# of strides	11.77	11.30	11.92	12.80	23.07	24.72	1.65	
velocity		8.50	8.85	8.39	8.37	8.37	8.37	8.37	8.37		8.50	8.85	8.39	7.81	8.67	8.09		
Fukunaga, Takuya (JPN) (1993) time		11.64	22.68	34.80	47.80	47.80	47.80	47.80	47.80	7 / 3								
reaction time	interval		11.04	12.12	13.00	7.69	8.37			# 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	8.37	8.37	8.37		8.59	9.06	8.25	7.69	8.82	7.96		
Sato, Takuya (JPN) (1993) time		11.58	22.63	34.78	48.01	48.01	48.01	48.01	48.01	3 / 4								
reaction time	interval		11.05	12.15	13.23	7.56	8.33			# 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	8.33	8.33	8.33		8.64	9.05	8.23	7.56	8.84	7.88		
Inoguchi, Yuta (JPN) (1994) time		12.32	23.52	35.31	48.08	48.08	48.08	48.08	48.08	9 / 5								
reaction time	interval		11.20	11.79	12.77	7.83	8.32			# 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	8.32	8.32	8.32		8.12	8.93	8.48	7.83	8.50	8.14		
Minagi, Yuta (JPN) (1993) time		11.83	23.22	35.14	48.13	48.13	48.13	48.13	48.13	6 / 6								
reaction time	interval		11.39	11.92	12.99	7.70	8.31			# 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	8.31	8.31	8.31		8.45	8.78	8.39	7.70	8.61	8.03		
Kuroda, Takuya (JPN) time		11.78	22.82	35.10	48.26	48.26	48.26	48.26	48.26	2 / 7								
reaction time	interval		11.04	12.28	13.16	7.60	8.29			# 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	8.29	8.29	8.29		8.49	9.06	8.14	7.60	8.76	7.86		
Aikyo, Shotaro (JPN) (1994) time		11.78	23.03	34.95	48.59	48.59	48.59	48.59	48.59	8 / 8								
reaction time	interval		11.25	11.92	13.64	7.33	8.23			# 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	8.23	8.23	8.23		8.49	8.89	8.39	7.33	8.68	7.82		

2011 Japanese National Championships (Kumagaya, JPN)

FINAL

date 12-Jun-11

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
Kanemaru, Yuzo (JPN) (1996) time		6.07	11.01	16.02	21.33	26.98	32.91	39.10	45.68	45.68	1 / 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	
Hirose, Hideyuki (JPN) (1988) time		6.31	11.37	16.58	21.91	27.44	33.11	39.21	45.84	45.84	1 / 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	
Ishitsuka, Yusuke (JPN) (1990) time		6.10	11.06	16.28	21.75	27.46	33.29	39.46	46.20	46.20	1 / 3							
reaction time	interval		4.96	5.22	5.47	5.71	5.83	6.17	6.74		# 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	
Nakano, Hiroyuki (JPN) (1990) time		6.19	11.42	16.78	22.29	27.99	33.76	39.77	46.31	46.31	1 / 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	

2011 Japanese National Multi-Event Championships (Kawasaki, JPN)

Decathlon - Heat

date 04-Jun-11

Takeo (2014) - decathletes sprint ability and the relationship of the 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
Nakamura, Akihiko (JPN) (1988) 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	
Ushiro, Keisuke (JPN) (1988) 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	

2011 Wakayama Athletics Meeting (Wakayama, JPN)

Decathlon - Heat

date 23-Apr-11

Hisashi (2012) - performance 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
Ushiro, Keisuke (JPN) (1988) 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	

2010 Asian Games (Guangzhou, CHN)

Decathlon - Heat

date 24-Nov-10

Takeo (2014) - decathletes sprint ability and the relationship of the 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
Ushiro, Keisuke (JPN) (1988) time		6.80	12.54	18.50	24.70	31.04	37.49	44.12	51.14	51.14	1 / 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	

2010 Japanese National High School Championships (Okinawa, JPN)**FINAL**

date 29-Jul-10

Matsuo (2010) - 63rd 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
Yamazaki, Kengo (JPN) (1998) 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	
Kayata, Takashi (JPN) (1999) 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	
Furukawa, Ryo (JPN) (1992) 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	

2010 Japanese National Multi-Event Championships (Kawasaki, JPN)**Decathlon - Heat**

date 12-Jun-10

Hisashi (2012) - performance 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
Ushiro, Keisuke (JPN) (1988) 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	

2010 Jamaica Invitational (Kingston, JAM)**FINAL**

date 01-May-10

Vazel (2015) - Van Niekerk and Merritt were on for the record at 300m

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Gay, Tyson (USA) (1982) 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							

2010 Wakayama Athletics Meeting (Wakayama, JPN)**Decathlon - Heat**

date 24-Apr-10

Hisashi (2012) - performance 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
Ushiro, Keisuke (JPN) (1988) 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	

2009 Gunma Relays (Maebashi, JPN)**Decathlon - Heat**

date 10-Oct-09

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
Tanaka, Hiromasa (JPN) (1987) 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	

Decathlon - Heat

date 10-Oct-09

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
Ushiro, Keisuke (JPN) (1988) 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	

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

2009 IAAF World Championships (Berlin, GER)**FINAL**

date 21-Aug-09

Graubner (2011) - biomechanical analysis of the sprint and hurdle events at the 2009 IAAF world championships in athletics

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Merritt, LaShawn (USA) (1981) 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	
Wariner, Jeremy (USA) (1987) 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	
Quow, Rennie (TTO) (1987) 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	
Henry, Tabarie (ISV) (1987) time	11.18		21.83		33.17		45.42	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		
Brown, Chris (BAH) (1978) time	10.98		21.31		32.53		45.47	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		
Gillick, David (IRL) (1983) time	11.24		21.83		33.18		45.53	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		
Bingham, Michael (GBR) (1981) time	11.19		21.84		33.02		45.56	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
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Djhong, Leslie (FRA) (1981)	time	11.34	22.04	33.46	45.90	45.90	1 / 8										<i>Graubner (2009)</i>
	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				

Decathlon - Heat date 19-Aug-09*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
Karpov, Dmitriy (KAZ) (198	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				
Pogorelov, Aleksandr (RUS	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				

Decathlon - Heat date 19-Aug-09*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
Hardee, Trey (USA) (1984)	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				
García, Yordanis (CUB) (19	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				
Coertzen, Willem (RSA) (19	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				
Wiberg, Nicklas (SWE) (198	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				
Krauchanka, Andrei (BLR)	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				
Cleve, Moritz (GER) (1987)	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				

Decathlon - Heat date 19-Aug-09*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
Müller, Norman (GER) (198	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				
Behrenbruch, Pascal (GER)	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				
Raja, Andres (EST) (1982)	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				

Decathlon - Heat date 19-Aug-09*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
Díaz, Yúnior (CUB) (1987)	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				
Almgren, Daniel (SWE) (19	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				
Eaton, Ashton (USA) (1988)	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				
Kasyanov, Oleksiy (UKR) (1	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				
Suárez, Leonel (CUB) (1987	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				
Bouraada, Larbi (ALG) (198	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				

Decathlon - Heat date 19-Aug-09*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
Sysoyev, Alekey (RUS) (1986)	time 11.79	23.23	35.48	49.32	49.32	5 / 2											
reaction time 0.141		11.44	12.25	13.84	13.84	# of strides											2.86
interval			8.16	7.23	8.11												
velocity	8.48	8.74									8.48	8.74	8.16	7.23	8.61	7.67	
Vos, Ingmar (NED) (1986)	time 11.68	22.90	35.21	49.99	49.99	6 / 5											
reaction time 0.155		11.22	12.31	14.78	14.78	# of strides											4.19
interval			8.12	6.77	8.00												
velocity	8.56	8.91									8.56	8.91	8.12	6.77	8.73	7.38	
Newdick, Brent (NZL) (1986)	time 11.76	23.29	35.62	50.10	50.10	8 / 6											
reaction time 0.158		11.53	12.33	14.48	14.48	# of strides											3.52
interval			8.11	6.91	7.98												
velocity	8.50	8.67									8.50	8.67	8.11	6.91	8.59	7.46	
Šebrle, Roman (CZE) (1974)	time 11.99	23.55	36.11	50.42	50.42	2 / 7											
reaction time 0.164		11.56	12.56	14.31	14.31	# of strides											3.32
interval			7.96	6.99	7.93												
velocity	8.34	8.65									8.34	8.65	7.96	6.99	8.49	7.44	

Semi-Final 3

date 19-Aug-09

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
Brown, Chris (BAH) (1978)	time 11.08	21.72	32.84	44.95	44.95	3 / 1											
reaction time 0.129		10.64	11.12	12.11	12.11	# of strides											1.51
interval			8.99	8.26	8.90												
velocity	9.03	9.40									9.03	9.40	8.99	8.26	9.21	8.61	
Henry, Tabarie (ISV) (1987)	time 11.22	21.91	32.89	44.97	44.97	4 / 2											
reaction time 0.146		10.69	10.98	12.08	12.08	# of strides											1.15
interval			9.11	8.28	8.89												
velocity	8.91	9.35									8.91	9.35	9.11	8.28	9.13	8.67	
Chambers, Ricardo (JAM) (1986)	time 11.28	22.00	32.88	45.13	45.13	7 / 3											
reaction time 0.167		10.72	10.88	12.25	12.25	# of strides											1.13
interval			9.19	8.16	8.86												
velocity	8.87	9.33									8.87	9.33	9.19	8.16	9.09	8.65	
Borlée, Kevin (BEL) (1988)	time 11.40	22.28	33.34	45.28	45.28	8 / 4											
reaction time 0.143		10.88	11.06	11.94	11.94	# of strides											0.72
interval			9.04	8.38	8.83												
velocity	8.77	9.19									8.77	9.19	9.04	8.38	8.98	8.70	
Steffensen, John (AUS) (1986)	time 11.29	21.74	32.85	45.50	45.50	5 / 5											
reaction time 0.153		10.45	11.11	12.65	12.65	# of strides											2.02
interval			9.00	7.91	8.79												
velocity	8.86	9.57									8.86	9.57	9.00	7.91	9.20	8.42	

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

Semi-Final 2

date 19-Aug-09

Graubner (2011) - biomechanical analysis of the sprint and hurdle events at the 2009 IAAF world championships in athletics

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Merritt, LaShawn (USA) (1984)	time 10.94	21.51	32.50	44.37	44.37	3 / 1											
reaction time 0.163		10.57	10.99	11.87	11.87	# of strides											1.35
interval			9.10	8.42	9.02												
velocity	9.14	9.46									9.14	9.46	9.10	8.42	9.30	8.75	
Quow, Rennie (TTO) (1987)	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		5.20	5.27	5.28	5.48	5.40	5.62	5.94	5.94	# of strides							0.35
interval			9.47	9.12	9.26	8.90	8.42	8.98	8.98								
velocity	7.89	9.62	9.49	9.47	9.12	9.26	8.90	8.42	8.98								
Collazo, William (CUB) (1986)	time 10.97	21.56	32.67	44.93	44.93	5 / 3											
reaction time 0.147		10.59	11.11	12.26	12.26	# of strides											1.81
interval			9.00	8.16	8.90												
velocity	9.12	9.44									9.12	9.44	9.00	8.16	9.28	8.56	
Wroe, Sean (AUS) (1985)	time 11.03	21.52	32.81	45.32	45.32	6 / 4											
reaction time 0.160		10.49	11.29	12.51	12.51	# of strides											2.28
interval			8.86	7.99	8.83												
velocity	9.07	9.53									9.07	9.53	8.86	7.99	9.29	8.40	
Hurtault, Erison (DMA) (1986)	time		32.97	45.59	45.59	2 / 5											
reaction time 0.151			12.62	12.62	12.62	# of strides											0.72
interval			9.10	7.92	8.77												
velocity																	
Yousif, Rabah (SUD) (1986)	time 11.33	21.80	33.07	45.63	45.63	7 / 6											
reaction time 0.175		10.47	11.27	12.56	12.56	# of strides											2.03
interval			8.87	7.96	8.77												
velocity	8.83	9.55									8.83	9.55	8.87	7.96	9.17	8.39	

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

Semi-Final 1

date 19-Aug-09

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Wariner, Jeremy (USA) (1984)	time 11.11	21.63	32.48	44.69	44.69	4 / 1											
reaction time 0.189		10.52	10.85	12.21	12.21	# of strides											1.43
interval			9.22	8.19	8.95												
velocity	9.00	9.51									9.00	9.51	9.22	8.19	9.25	8.67	
Bingham, Michael (GBR) (1981)	time 11.15	21.84	32.76	44.74	44.74	8 / 2											
reaction time 0.173		10.69	10.92	11.98	11.98	# of strides											1.06
interval			9.16	8.35	8.94												
velocity	8.97	9.35									8.97	9.35	9.16	8.35	9.16	8.73	
Djhane, Leslie (FRA) (1981)	time 11.32	21.87	32.85	44.80	44.80	3 / 3											
reaction time 0.165		10.55	10.98	11.95	11.95	# of strides											1.06
interval			9.11	8.37	8.93												
velocity	8.83	9.48									8.83	9.48	9.11	8.37	9.14	8.72	
Gillick, David (IRL) (1983)	time 11.27	21.80	32.77	44.88	44.88	6 / 4											
reaction time 0.147		10.53	10.97	12.11	12.11	# of strides											1.28
interval			9.12	8.26	8.91												
velocity	8.87	9.50									8.87	9.50	9.12	8.26	9.17	8.67	

Miller, Ramon (BAH) (1987)	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			

Heat 7

date 18-Aug-09

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
Henry, Tabarie (ISV) (1987)	time	11.07	21.67	32.84	45.14	45.14	5 / 1											
	reaction time	0.137	interval	10.60	11.17	12.30	PB	# 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				
Wroe, Sean (AUS) (1985)	time	11.13	21.57	32.90	45.31	45.31	8 / 2											
	reaction time	0.166	interval	10.44	11.33	12.41	OR	# 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				
Rooney, Martyn (GBR) (19)	time	11.48	21.94	33.08	45.45	45.45	1 / 3											
	reaction time	0.189	interval	10.46	11.14	12.37	OR	# 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				
Hurtault, Erison (DMA) (19)	time	11.09	21.82	33.11	45.55	45.55	6 / 4											
	reaction time	0.148	interval	10.73	11.29	12.44	OR	# 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				
Khouaja, Mohamed Ashou	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				

Heat 6

date 18-Aug-09

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
Wariner, Jeremy (USA) (19)	time	11.04	21.30	32.81	45.54	45.54	4 / 1											
	reaction time	0.178	interval	10.26	11.51	12.73	OR	# 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				
Chambers, Ricardo (JAM)	time	11.22	21.62	32.91	45.57	45.57	5 / 3											
	reaction time	0.172	interval	10.40	11.29	12.66	OR	# 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				
Venel, Teddy (FRA) (1985)	time	11.16	21.64	33.03	46.16	46.16	2 / 3											
	reaction time	0.161	interval	10.48	11.39	13.13	OR	# 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				

Heat 5

date 18-Aug-09

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
Miller, Ramon (BAH) (1987)	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				
Djhane, Leslie (FRA) (1981)	time	11.42	21.86	32.94	45.20	45.20	7 / 2											
	reaction time	0.165	interval	10.44	11.08	12.26	OR	# 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				
Wissman, Johan (SWE) (19)	time	11.19	21.50	32.82	45.83	45.83	2 / 3											
	reaction time	0.176	interval	10.31	11.32	13.01	OR	# 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				
Dyldin, Maksim (RUS) (198)	time	11.75	22.33	33.42	45.91	45.91	6 / 4											
	reaction time	0.172	interval	10.58	11.09	12.49	OR	# 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				

Heat 4

date 18-Aug-09

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
Merritt, LaShawn (USA) (1)	time	11.03	21.66	32.71	45.23	45.23	4 / 1											
	reaction time	0.151	interval	10.63	11.05	12.52	OR	# 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				
Steffensen, John (AUS) (1)	time	11.18	21.51	32.78	45.37	45.37	3 / 2											
	reaction time	0.150	interval	10.33	11.27	12.59	OR	# 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				
Galvan, Matteo (ITA) (1988)	time	11.53	22.31	33.50	45.86	45.86	6 / 3											
	reaction time	0.150	interval	10.78	11.19	12.36	PB	# of strides	11.53	10.78	11.19	12.36	22.31	23.55	1.24			
	velocity	8.67	9.28	8.94	8.09	8.72			8.67	9.28	8.94	8.09	8.96	8.49				

Heat 3

date 18-Aug-09

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
Brown, Chris (BAH) (1978)	time	11.10	21.78	33.47	45.53	45.53	2 / 1											
	reaction time	0.158	interval	10.68	11.69	12.06	OR	# 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				
Bingham, Michael (GBR) (1)	time	11.11	21.90	33.34	45.54	45.54	5 / 2											
	reaction time	0.149	interval	10.79	11.44	12.20	OR	# 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				
Milburn, Joel (AUS) (1986)	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	

Heat 2

date 18-Aug-09

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
Quow, Rennie (TTO) (1987) 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	
Collazo, William (CUB) (1991) 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	
Borlée, Kevin (BEL) (1988) 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	
Marciniszyn, Marcin (POL) 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	

Heat 1

date 18-Aug-09

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
Tobin, Robert (GBR) (1983) 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	
Gillick, David (IRL) (1983) 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	
Yousif, Rabah (SUD) (1986) 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	
Larry, Lionel (USA) (1986) 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	
Nyongani, Young Talkmore 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	
van Branteghem, Cédric (B) 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	

2009 Japanese National High School Championships (Nara, JPN)**FINAL**

date 29-Jul-09

Matsuo (2009) - 62nd 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
Yamazaki, Kengo (JPN) (1991) 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	
Urano, Akihiro (JPN) (1990) 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	
Kobayashi, Masahito (JPN) 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	
Kayata, Takashi (JPN) (1992) 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	
Iwamoto, Taishi (JPN) (1991) 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	
Matsubara, Tetsuya (JPN) 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	
Yoshimura, Kengo (JPN) (1991) 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	
Kabea, Tomoyuki (JPN) (1991) 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	

2009 Japanese National Championships (Hiroshima, JPN)

Decathlon - Heat date 25-Jun-09

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
Ikeda, Daisuke (JPN) (1986) time	6.78	12.66	18.57	24.58	30.70	36.92	43.24	49.82	49.82	1 / 3							
reaction time	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	
Tanaka, Hiromasa (JPN) (1981) time	6.52	12.28	18.29	24.38	30.61	37.03	43.62	50.65	50.65	2 / 5							
reaction time	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	
Ushiro, Keisuke (JPN) (1981) time	6.93	12.85	18.82	24.85	31.07	37.35	43.83	50.77	50.77	4 / 6							
reaction time	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	

2009 ISTAF (Berlin, GER)

FINAL date 14-Jun-09

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
Brown, Chris (BAH) (1978) time	11.09		21.55		32.93		45.61		45.61	4 / 1							
reaction time	0.277		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		8.79		8.77		9.02	9.56	8.79	7.89	9.28	8.31	
Kikaya, Gary (COD) (1980) time	11.02		21.45		32.94		45.68		45.68	3 / 2							
reaction time	0.161		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	
Mathieu, Michael (BAH) (1981) time	11.06		21.72		33.05		45.92		45.92	7 / 3							
reaction time	0.316		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	
Wissman, Johan (SWE) (1981) time	11.35		21.74		33.09		45.97		45.97	5 / 4							
reaction time	0.273		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	
Alekseyev, Denis (RUS) (1981) time	11.52		21.98		33.51		46.33		46.33	1 / 5							
reaction time	0.282		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	
Gaba, Kamghe (GER) (1984) time	11.22		21.73		33.27		46.45		46.45	6 / 6							
reaction time	0.302		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	
Bain, Andretti (BAH) (1985) time	11.45		22.10		33.70		46.82		46.82	2 / 7							
reaction time	0.232		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	

B FINAL date 14-Jun-09

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
Grothkopp, Martin (GER) (1981) time	11.34		22.12		33.74		46.74		46.74	1 / 1							
reaction time	0.313		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	
Rigau, Miguel (GER) (1985) time	11.38		22.11		33.83		46.87		46.87	1 / 2							
reaction time	0.255		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	
Faller, Ruwen (GER) (1980) time	11.73		22.72		34.20		46.88		46.88	1 / 3							
reaction time	0.346		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	
Plass, Jonas (GER) (1986) time	11.63		22.74		34.66		47.36		47.36	1 / 4							
reaction time	0.210		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	
Ruch, Tilo (GER) (1983) time	11.40		22.43		34.21		47.43		47.43	1 / 5							
reaction time	0.297		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	
Meisolle, Alexander (GER) (1981) time	11.48		22.75		34.83		47.60		47.60	1 / 6							
reaction time	0.227		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	
Swillims, Bastian (GER) (1981) time	11.51		22.56		34.73		48.32		48.32	1 / 7							
reaction time	0.354		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	

2009 Shizuoka International Athletics Meeting (Fukuroi, JPN)

FINAL date 03-May-09

Matsuo (2010) - 63rd 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
Kanemaru, Yuzo (JPN) (1981) time	6.21	11.20	16.25	21.55	27.07	32.91	38.89	45.27	45.27	1 / 1							
reaction time		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	

B FINAL date 03-May-09

Matsuo (2010) - 63rd high school championships: JAF scientific committee - biomechanics data collection

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
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Bettors, LaJerald (USA) (1984)	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	
Smith, Miles (USA) (1984)	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	
Hurtault, Erison (USA) (1984)	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	
Hogans, Obra (USA) (1982)	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	

Semi-Final 1

date 30-Jun-08

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
Witherspoon, Reggie (USA)	time	11.16	16.35	21.61	27.16	32.95	38.77	44.99	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	
Williamson, Darold (USA)	time	11.27		21.95	27.32	33.13	38.95	45.16	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	
Smith, Calvin (USA) (1987)	time	11.44	16.62	22.08	27.56	33.40	39.22	45.43	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	
Larry, Lionel (USA) (1986)	time	11.04	16.25	21.82	27.31	33.23	39.09	45.55	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	
Torrance, Jamaal (USA) (1984)	time	11.21		21.87	27.41	33.13	39.25	45.76	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	
Iglehart-Summers, Quentin	time	11.27	16.62	21.36	27.72	33.60	39.50	45.84	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	
Boase, Jordan (USA) (1985)	time	11.42		22.12	27.66	33.72	39.82	46.60	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	
Blakely, Fernanda (USA) (1984)	time	11.29		22.00	27.64	33.63	39.88	46.72	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	

2007 IAAF World Athletic Final (Stuttgart, GER)

FINAL

date 22-Sep-07

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
Merritt, LaShawn (USA) (1984)	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	
Christopher, Tyler (CAN) (1984)	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	
Taylor, Angelo (USA) (1978)	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	
Kikaya, Gary (COD) (1980)	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	
Steffensen, John (AUS) (1984)	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	
Rooney, Martyn (GBR) (1984)	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	
Francique, Alleyne (GRN) (1984)	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	

Ayre, Sanjay (JAM) (1980)	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			

2007 ISTAF (Berlin, GER) (TV Analysis)**FINAL**

date 16-Sep-07

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
Wariner, Jeremy (USA) (1991)	time	11.18	21.54	32.38	44.05	44.05	4 / 1											
	reaction time	0.283	interval	10.36	11.67	6.21	# 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				

2007 IAAF World Championships (Osaka, JPN)**FINAL**

date 31-Aug-07

Mochida (2008) - biomechanical analysis of the 400m final race at the 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	
Wariner, Jeremy (USA) (1991)	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	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		
Merritt, LaShawn (USA) (1987)	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		
Taylor, Angelo (USA) (1978)	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		
Brown, Chris (BAH) (1978)	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		
Djhona, Leslie (FRA) (1981)	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		
Christopher, Tyler (CAN) (1981)	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		
Wissman, Johan (SWE) (1979)	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		
Moncur, Avard (BAH) (1977)	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		

2007 Japanese National High School Championships (Saga, JPN)**FINAL**

date 02-Aug-07

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
Sato, Keitaro (JPN) (1991)	time	6.32	12.04	18.07	24.32	30.54	36.51	42.41	48.68	48.68	1 / 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	
Junya, Nagahisa (JPN)	time	6.60	12.29	18.25	24.28	30.37	36.41	42.63	49.29	49.29	1 / 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	
Hamano, Junpei (JPN) (1986)	time	6.25	11.77	17.78	24.08	30.28	36.34	42.64	49.76	49.76	1 / 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	

2007 European Cup (Munich, GER)**FINAL**

date 23-Jun-07

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
Djhona, Leslie (FRA) (1981)	time	11.70	22.13	33.27	45.54	45.54	1 / 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					
Benjamin, Tim (GBR) (1982)	time	11.62	22.42	33.63	45.87	45.87	1 / 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					
Swillims, Bastian (GER) (1980)	time	11.38	21.83	33.38	45.95	45.95	1 / 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					
Dyldin, Maksim (RUS) (1987)	time	11.52	22.04	33.42	46.04	46.04	1 / 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					
Dabrowski, Daniel (POL) (1981)	time	11.64	22.41	33.90	46.25	46.25	1 / 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
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Borlée, Kevin (BEL) (1988)	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				
Grávalos, Dimítrios (GRE)	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				
Rachkovsky, Oleksiy (UKR)	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				

2006 Seiko Super Grand Prix (Yokohama, JPN)**FINAL**

date 24-Sep-06

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
Horigome, Yoshihiro (JPN)	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	
Dabrowski, Daniel (POL) (1981)	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	
Kanemaru, Yuzo (JPN) (1981)	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	
Wieruszewski, Rafal (POL)	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	
Mukai, Yukihiro (JPN) (1981)	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	
Tamesue, Dai (JPN) (1978)	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	
Sasaki, Yudai (JPN) (1986)	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	
Batman, Daniel (AUS) (1981)	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	

2006 IAAF World Athletic Final (Stuttgart, GER) (TV Analysis)**FINAL**

date 09-Sep-06

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
Wariner, Jeremy (USA) (1981)	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	
Kikaya, Gary (COD) (1980)	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	
Merritt, LaShawn (USA) (1981)	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	
Rock, Andrew (USA) (1982)	0.191	no information available							44.69		3 / 4							
Blackwood, Michael (JAM)	0.181	no information available							45.09		8 / 5							
Francique, Alleyne (GRN) (1981)	0.291	no information available							45.28		2 / 6							
Raquil, Marc (FRA) (1977)	0.232	no information available							45.75		1 / 7							
Gaba, Kamghe (GER) (1984)	0.197	no information available							45.96		7 / 8							

2006 European Championships (Göteborg, SWE)**FINAL**

date 09-Aug-06

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
Raquil, Marc (FRA) (1977)	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	
Frolov, Vladislav (RUS) (1981)	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	
Djhane, Leslie (FRA) (1981)	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	
Dabrowski, Daniel (POL) (1982) 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	
Barberi, Andrea (ITA) (1979) 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	
Benjamin, Tim (GBR) (1982) 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	
Wieruszewski, Rafal (POL) 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	
Régas, Dimitrios (GRE) (19) 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	

2005 Seiko Super Grand Prix (Yokohama, JPN)

FINAL

date 19-Sep-05

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
Kanemaru, Yuzo (JPN) (1981) time	11.33	22.02	33.23	39.12	45.47	45.47	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				
Dabrowski, Daniel (POL) (1982) time	11.45	22.12	33.22	39.21	45.62	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				
Bryd, Leonard (USA) (1975) time	11.34	22.10	33.25	39.28	45.86	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				
Horigome, Yoshihiro (JPN) time	11.47	22.46	33.52	39.36	45.89	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				
Clarke, Davian (JAM) (1976) time	11.22	21.63	32.75	38.95	45.95	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				
Sato, Mitsuhiro (JPN) (1988) time	11.13	21.37	33.20	39.32	46.30	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				
Inoue, Yosuke (JPN) (1983) time	11.33	22.24	33.44	39.78	46.72	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				
Osakada, Jun (JPN) (1974) time	11.26	22.17	33.92	40.28	47.40	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				

2005 IAAF World Championships (Helsinki, FIN)

FINAL

date 12-Aug-05

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Wariner, Jeremy (USA) (1981) time	10.7	21.0	31.8	43.93	43.93	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				
Rock, Andrew (USA) (1982)	no information available		0.244			PB	44.35	7 / 2							# of strides	171.2	
Christoher, Tyler (CAN) (1983)	no information available		0.154			NR	44.44	4 / 3							# of strides	174.7	
Brown, Christopher (BAH) (1978)	no information available		0.259			NR	44.48	8 / 4							# of strides	184.2	
Benjamin, Timothy (GBR) (1982)	no information available		0.192				44.93	1 / 5							# of strides	172.5	
Simpson, Brandon (JAM) (1981)	no information available		0.147				45.01	6 / 6							# of strides	183.2	
Williamson, Darold (USA) (1983)	no information available		0.179				45.12	5 / 7							# of strides	168.2	
Steffensen, John (AUS) (1982)	no information available		0.151				45.46	2 / 8							# of strides	175.0	

2005 USATF National Championship (Carson, CA)

FINAL

date 25-Jun-05

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
Wariner, Jeremy (USA) (1981) 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			
Williamson, Darold (USA) (1983) 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			

Rock, Andrew (USA) (1982)	time	16.47	21.74	27.06	32.62	38.53	44.70	44.70	7 / 3								
	reaction time			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			
Merritt, LaShawn (USA) (1982)	time	11.34	16.30	21.47	26.86	32.48	38.33	44.73	6 / 4								
	reaction time		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		
Brew, Derrick (USA) (1977)	time	11.28	16.41	21.56	26.89	32.50	38.51	45.01	3 / 5								
	reaction time		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		
Smith, Miles (USA) (1984)	time	11.51	16.52	21.78	27.15	32.90	38.93	45.25	2 / 6								
	reaction time		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		
Washington, Tyree (USA) (1982)	time	11.40	16.65	22.11	27.58	33.29	39.34	45.61	1 / 7								
	reaction time		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		
Byrd, Leonard (USA) (1975)	time		21.72	27.25	33.03	39.27	45.67	45.67	8 / 8								
	reaction time			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			
Homewood, Dirk (USA) (1982)	time		22.12	27.57	33.31	39.66	46.15	46.15	9 / 9								
	reaction time			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			

2005 USATF National Junior Championship (Carson, CA)

FINAL

date 25-Jun-05

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
Oliver, Justin (USA) (1987)	time		17.05	22.77	28.33	33.87	39.88	46.26	46.26	46.26	7 / 1							
	reaction time			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		
Anderson, Nathaniel (USA) (1987)	time	11.53	16.96	22.56	28.22	33.77	39.89	46.47	46.47	46.47	5 / 2							
	reaction time		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	
Larry, Lionel (USA) (1986)	time	11.35	16.52	21.91	27.55	33.19	39.48	46.52	46.52	46.52	4 / 3							
	reaction time		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	
Reid, Terrence (USA) (1986)	time	11.83	17.32			34.55	40.63	47.00	47.00	47.00	1 / 4							
	reaction time		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			
Lowe, Sean (USA) (1986)	time	11.95	17.43	23.14	28.97	34.54	40.73	47.29	47.29	47.29	6 / 5							
	reaction time		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	
Latson, Kolee (USA) (1986)	time	11.71	17.02	22.51	28.30	34.14	40.41	47.48	47.48	47.48	2 / 6							
	reaction time		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	
Scheurman, Jacob (USA) (1986)	time		16.95	22.51	28.32	34.22	40.68	47.68	47.68	47.68	8 / 7							
	reaction time			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		
Johnston, Rashaud (USA) (1986)	time		17.28	22.76	28.65	34.39	40.73	47.88	47.88	47.88	9 / 8							
	reaction time			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		
McCaskill, William (USA) (1986)	time	11.82	17.08	22.58	28.43	34.34	40.81	48.14	48.14	48.14	3 / 9							
	reaction time		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	

2005 DKB-DLV (Ulm, GER)

FINAL

date 12-Jun-05

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
Benjamin, Tim (GBR) (1982)	time		11.29		21.70		32.88		45.17	45.17	1 / 1							
	reaction time	0.198			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	

2004 Olympic Games (Athens, GRE)

FINAL

date 23-Aug-04

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
Wariner, Jeremy (USA) (1982)	time				21.5		32.2		44.0	44.00	4 / 1							
	reaction time	0.268			10.7		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	
Harris, Otis (USA) (1982)	time			21.4		32.1		44.2	44.16	44.16	5 / 2							
	reaction time	0.259			10.7		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			
Brew, Derrick (USA) (1977) 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			
Francique, Alleyne (GRN) (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			
Simpson, Brandon (JAM) (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			
Clarke, Davian (JAM) (1976) time	21.7	32.7	44.8	44.83	7 / 6										
reaction time	0.263	interval	11.0	12.1	# 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			
Djhane, Leslie (FRA) (1981) 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			
Blackwood, Michael (JAM) (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			

2004 Leichtathletik Team Challenge (Munich, GER)

FINAL

date 08-Aug-04

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
Wariner, Jeremy (USA) (1977) time	11.05	21.64	32.76	44.91	44.91	1 / 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				

2004 USA Olympic Trials (Sacramento, CA)

FINAL

date 15-Jul-04

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
Wariner, Jeremy (USA) (1977) 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			
Harris, Otis (USA) (1982) 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			
Brew, Derrick (USA) (1977) 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			
Williamson, Darold (USA) (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			
Harrison, Calvin (USA) (1977) 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			
Rock, Andrew (USA) (1982) time	11.38	21.74	27.14	32.73	38.59	44.95	44.95	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			
Willie, Kelly (USA) (1982) time	10.89	21.62	27.01	32.48	38.32	44.97	44.97	4 / 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			
Harris, Jerry (USA) (1981) time	11.36	21.87	27.40	33.10	38.82	45.06	45.06	1 / 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			

2004 DLV-Gala (Erfurt, GER)

FINAL

date 13-Jun-04

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
Canal, David (ESP) (1978) time	11.03	21.25	32.55	45.06	45.06	1 / 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				

2003 IAAF World Championships (Paris, FRA)

FINAL

date 26-Aug-03

Bonvin (2003) - Compte-rendu 400m et relais 4x 400m

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Young, Jerome (USA) (1971) time	21.4	32.3	44.50	44.50	6 / 4												
reaction time	0.160	interval	10.9	12.2	DV	# of strides						10.90	12.20	21.40	23.10	1.70	
velocity	9.35	9.17	8.20	8.99								9.17	8.20	9.35	8.66		

Washington, Tyree (USA) (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								
Raquil, Marc (FRA) (1977) (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								
Blackwood, Michael (JAM) (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								
Djhane, Leslie (FRA) (1981) (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								
Harrison, Calvin (USA) (1991) (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								
Milazar, Eric (MRI) (1975) (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								
Francique, Alleyne (GRN) (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								

2003 USATF National Junior Championship (Palo Alto, CA)

FINAL

date 22-Jun-03

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	
Collins, Ashton (USA) (1981) (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									
velocity				8.94	8.80	8.77	8.04	8.76					11.36	11.92	22.36	23.28	0.92	
													8.80	8.39	8.94	8.59		
Wariner, Jeremy (USA) (1991) (time)				22.06	33.80	39.74	46.41	46.41	5 / 2									
reaction time				interval	11.74	5.94	6.67		# of strides									
velocity				9.07	8.52	8.42	7.50	8.62					11.74	12.61	22.06	24.35	2.29	
													8.52	7.93	9.07	8.21		
Coleman, Elzie (USA) (1985) (time)				22.79	34.58	40.47	47.06	47.06	7 / 3									
reaction time				interval	11.79	5.89	6.59		# of strides									
velocity				8.78	8.48	8.49	7.59	8.50					11.79	12.48	22.79	24.27	1.48	
													8.48	8.01	8.78	8.24		
Westman, Ryan (USA) (1981) (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									
velocity				8.71	8.39	8.36	7.75	8.45					11.92	12.43	22.97	24.35	1.38	
													8.39	8.05	8.71	8.21		
Cunningham, Desean (USA) (1981) (time)				22.99	34.90	40.98	47.34	47.34	2 / 5									
reaction time				interval	11.91	6.08	6.36		# of strides									
velocity				8.70	8.40	8.22	7.86	8.45					11.91	12.44	22.99	24.35	1.36	
													8.40	8.04	8.70	8.21		
Caesar, Lester (USA) (1981) (time)				22.67	34.72	47.39	47.39	47.39	9 / 6									
reaction time				interval	12.05	12.67			# of strides									
velocity				8.82	8.30	7.89	8.44						12.05	12.67	22.67	24.72	2.05	
													8.30	7.89	8.82	8.09		
Sanderson, Adian (USA) (1981) (time)				22.57	34.48	40.66	47.47	47.47	6 / 7									
reaction time				interval	11.91	6.18	6.81		# of strides									
velocity				8.86	8.40	8.09	7.34	8.43					11.91	12.99	22.57	24.90	2.33	
													8.40	7.70	8.86	8.03		
Anderson, Travis (USA) (1981) (time)				22.49	34.62	47.48	47.48	47.48	8 / 8									
reaction time				interval	12.13	12.86			# of strides									
velocity				8.89	8.24	7.78	8.42						12.13	12.86	22.49	24.99	2.50	
													8.24	7.78	8.89	8.00		
Pitre, Marcus (USA) (1984) (time)				23.66	35.37	41.51	48.19	48.19	1 / 9									
reaction time				interval	11.71	6.14	6.68		# of strides									
velocity				8.45	8.54	8.14	7.49	8.30					11.71	12.82	23.66	24.53	0.87	
													8.54	7.80	8.45	8.15		

2003 USATF National Championship (Palo Alto, CA)

FINAL

date 21-Jun-03

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	
Washington, Tyree (USA) (time)				21.66	32.63	38.27	44.33	44.33	5 / 1									
reaction time				interval	10.97	5.64	6.06		# of strides									
velocity				9.23	9.12	8.87	8.25	9.02					10.97	11.70	21.66	22.67	1.01	
													9.12	8.55	9.23	8.82		
Harrison, Calvin (USA) (1991) (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									
velocity				9.24	9.17	8.61	7.99	8.96					10.90	12.07	21.65	22.97	1.32	
													9.17	8.29	9.24	8.71		
Young, Jerome (USA) (1971) (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									
velocity				9.23	9.16	8.58	7.85	8.93					10.92	12.20	21.67	23.12	1.45	
													9.16	8.20	9.23	8.65		
Brew, Derrick (USA) (1977) (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	
Potter, Mitchell (USA) (1981)	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	
Steele, Adam (USA) (1980)	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	
Maybank, Anthuan (USA) (1981)	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	
Williamson, Darold (USA) (1981)	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	

Semi-Final 2

date 20-Jun-03

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
Brew, Derrick (USA) (1977)	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			
Williamson, Darold (USA) (1981)	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			
Steele, Adam (USA) (1980)	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			
Maybank, Anthuan (USA) (1981)	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			
Hooker, Ja'Warren (USA) (1981)	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			
Rock, Andrew (USA) (1982)	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			
Ammons, Andre (USA) (1981)	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			
Campbell, Milton (USA) (1981)	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			

Semi-Final 1

date 20-Jun-03

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
Washington, Tyree (USA) (1981)	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			
Young, Jerome (USA) (1971)	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			
Harrison, Calvin (USA) (1971)	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			
Potter, Mitchell (USA) (1981)	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			
Harris, Jerry (USA) (1981)	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			
Byrd, Leonard (USA) (1975)	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			
Harrison, Alvin (USA) (1971)	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			

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	

2002 German National Championships (Bochum, GER)**FINAL**

date 06-Jul-02

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
Schultz, Ingo (GER) (1975)	time		11.29		21.38		32.47		44.97	44.97	/ 1							
	reaction time	0.179			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	

2001 IAAF World Championships (Edmonton, CAN)**FINAL**

date 06-Aug-01

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Moncur, Avarad (BAH) (1971)	time	0.164	no information available							44.64	4 / 1								
Schultz, Ingo (GER) (1975)	time	0.162	no information available							44.87	6 / 2								
Haughton, Gregory (JAM)	time	0.158	no information available							44.98	5 / 3								
Pettigrew, Antonio (USA) (1975)	time	0.193	no information available							44.99	7 / 4								
Milazar, Éric (MRI) (1975)	time	0.147	no information available							45.13	1 / 5	4							
Al-Bishi, Hamdan (KSA) (1975)	time	0.168	no information available							45.23	2 / 6	5							
Francique, Alleyene (GRN)	time	0.298	no information available							46.23	8 / 7	6							
Mackowiak, Robert (POL) (1975)	time	0.000	no information available							dnf	3 / --								

2001 European Cup (Bremen, GER)**FINAL**

date 23-Jun-01

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
Raquil, Marc (FRA) (1977)	time		11.39		22.00		33.31		44.95	44.95	/ 1							
	reaction time				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	
Mackowiak, Robert (POL) (1975)	time		11.29		21.94		33.18		45.48	45.48	/ 2							
	reaction time				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	
Canal, David (ESP) (1978)	time		11.50		21.78		32.93		45.52	45.52	/ 3							
	reaction time				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	
Schultz, Ingo (GER) (1975)	time		11.08		21.41		32.93		45.53	45.53	/ 4							
	reaction time				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	
Attene, Alessandro (ITA) (1975)	time		11.47		22.11		33.59		45.92	45.92	/ 5							
	reaction time				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	
Golovastov, Dmitriy (RUS)	time		11.34		21.90		33.29		46.11	46.11	/ 6							
	reaction time				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	
Thomas, Iwan (GBR) (1974)	time		11.18		21.71		33.17		46.14	46.14	/ 7							
	reaction time				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	
Goúsis, Anastásios (GRE) (1975)	time		11.50		22.18		33.88		47.05	47.05	/ 8							
	reaction time				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	

2000 Olympic Games (Sydney, AUS)**FINAL**

date 25-Sep-00

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
Johnson, Michael (USA) (1975)	time		11.4		21.6		32.1		43.8	43.84	6 / 1							
	reaction time				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	
Harrison, Alvin (USA) (1975)	time		11.5		21.8		32.6		44.4	44.40	4 / 2							
	reaction time				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	
Haughton, Gregory (JAM)	time		10.9		21.2		32.1		44.7	44.70	8 / 3							
	reaction time				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	
Parrela, Sanderlei (BRA) (1975)	time		11.5		21.6		32.7		45.0	45.01	2 / 4							
	reaction time				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	
Mackowiak, Robert (POL) (1975)	time		11.7		22.0		33.2		45.1	45.14	1 / 5							
	reaction time				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	
Mokganyetsi, Hendrick (RSA)	time		11.8		22.3		33.1		45.3	45.26	7 / 6							
	reaction time				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
Pettigrew, Antonio (USA) (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		
McFarlane, Danny (JAM) (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		

2000 ISTAF (Berlin, GER)**FINAL**

date 01-Sep-00

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
Johnson, Michael (USA) (1 time	11.42	22.22	33.20	45.00	45.00	1 / 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					
Richardson, Mark (GBR) (1 time	11.24	22.06	33.28	45.46	45.46	1 / 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					
Pettigrew, Antonio (USA) (time	11.96	22.99	33.82	45.61	45.61	1 / 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					
Young, Jerome (USA) (1971 time	11.36	22.04	33.06	45.69	45.69	1 / 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					

2000 USA Olympic Trials (Sacramento, CA)**FINAL**

date 19-Jul-00

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
Johnson, Michael (USA) (1 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					
Harrison, Alvin (USA) (1974 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					
Pettigrew, Antonio (USA) (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					
Young, Jerome (USA) (1971 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					
Harrison, Calvin (USA) (1974)								44.90		8 / 5 3							
McCray, Danny (USA) (1974)								45.00		5 / 6 4							
Hooker, Ja'Warren (USA) (1978)								45.05		3 / 7 5							
Byrd, Leonard (USA) (1975)								45.32		6 / 8 6							

1999 IAAF World Championships (Sevilla, ESP)**FINAL**

date 26-Aug-99

Ferro (2001) - biomechanical analysis of the 7th world championships, 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
Johnson, Michael (USA) (1 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	
Parrela, Sanderlei Claro (BF) 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	
Cárdenas, Alejandro (MEX) 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	
Young, Jerome (USA) (1971 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	
Pettigrew, Antonio (USA) (time	6.09	11.00	16.02	21.19	26.57	32.15	38.05	44.54	44.54	3 / 5							
reaction time 0.284 interval		4.91	5.02	5.17	5.38	5.58	5.90	6.49	DV	# of strides	11.00	10.19	10.96	12.39	21.19	23.35	2.16
velocity	8.21	10.18	9.96	9.67	9.29	8.96	8.47	7.70	8.98		9.09	9.81	9.12	8.07	9.44	8.57	
Richardson, Mark (GBR) (1 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	
Haughton, Gregory (JAM) 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	

Baulch, Jamie (GBR) (1973) time	6.14	11.06	16.04	21.29	26.76	32.45	38.53	45.18	45.18	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	

1997 IAAF World Championships (Athens, GRE)

FINAL

date 05-Aug-97

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	
Johnson, Michael (USA) (1961) 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	5.40	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		
Kamoga, Davis (UGA) (1961) 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		
Washington, Tyree (USA) (1961) 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	5.80	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	8.74	8.20	7.52	9.01		9.03	9.62	9.21	8.40	9.32	8.79		
Richardson, Mark (GBR) (1961) 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		# 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		
Young, Jerome (USA) (1971) 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	5.86	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		
Thomas, Iwan (GBR) (1974) 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		
Pettigrew, Antonio (USA) (1961) 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		# 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		
Baulch, Jamie (GBR) (1973) time	6.08	10.96	15.96	21.16	26.62	32.46	38.46	45.06	45.22	1 / 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		

Semi-Final 2

date 04-Aug-97

Bondarchuk (2007) - transfer of training in sports

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Johnson, Michael (USA) (1961) time	11.09		21.75		32.50		44.37		44.37	2 / 1							
reaction time	0.160	interval	10.66		10.75		11.87		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	

1997 European Cup (Munich, GER)

FINAL

date 21-Jun-97

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
Black, Roger (GBR) (1966) time	11.61		22.41		33.56		45.65		45.63	1 / 1							
reaction time		interval	10.80		11.15		12.09		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	
Canal, David (ESP) (1978) time	11.57		22.33		33.79		46.28		46.28	1 / 2							
reaction time		interval	10.76		11.46		12.49		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	
Vaccari, Marco (ITA) (1966) time	11.79		22.61		34.09		46.40		46.40	1 / 3							
reaction time		interval	10.82		11.48		12.31		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	
Zharov, Innokentiy (RUS) (1961) time	11.51		22.34		34.07		46.42		46.42	1 / 4							
reaction time		interval	10.83		11.73		12.35		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	
Rapnouil, Jean-Louis (FRA) (1961) time	11.70		22.67		34.14		46.46		46.54	1 / 5							
reaction time		interval	10.97		11.47		12.32		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	
Douglas, Quincy (NOR) (1961) time	11.83		22.97		34.33		46.67		46.67	1 / 6							
reaction time		interval	11.14		11.36		12.34		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	
Dautzenberg, Jens (GER) (1961) time	11.72		23.01		34.48		46.79		46.79	1 / 7							
reaction time		interval	11.29		11.47		12.31		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	
Iakovákis, Periklís (GRE) (1961) time	11.65		22.70		34.27		47.39		47.39	1 / 8							
reaction time		interval	11.05		11.57		13.12		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	

1996 Olympic Games (Atlanta, GA)

FINAL

date 29-Jul-96

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

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
Johnson, Michael (USA) (1996) 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	
Black, Roger (GBR) (1966) 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	
Kamoga, Davis (UGA) (196) 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	
Harrison, Alvin (USA) (197) 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	
Thomas, Iwan (GBR) (1974) 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	
Martin, Roxbert (JAM) (196) 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	
Clarke, Davian (JAM) (1976) 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	
Ismail, Ibrahim (QAT) (1972) time				21.65					dnf	7 / --							
reaction time	0.365	interval								# of strides		21.65			21.65		
velocity				9.24								9.24			9.24		

1996 Athletissima (Laussane, SUI)**FINAL**

date 03-Jul-96

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

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Johnson, Michael (USA) (1996) time				21.9				43.66	43.66	1 / 1							
reaction time								21.76		# of strides					21.90	21.76	-0.14
velocity				9.13				9.19	9.16						9.13	9.19	

1996 USA Olympic Trials (Atlanta, GA)**FINAL**

date 19-Jun-96

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
Johnson, Michael (USA) (1996) time		11.02		21.27		31.64	37.34	43.44	43.44	5 / 1							
reaction time				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	
Reynolds, Harry (Butch) (U) time		11.12		21.36		32.12	37.79	43.91	43.91	4 / 2							
reaction time				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	
Harrison, Alvin (USA) (197) time		11.44		21.77		32.24	37.80	44.09	44.09	6 / 3							
reaction time				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	
Smith, LaMont (USA) (197) time		11.08		21.38		32.18	37.92	44.30	44.30	3 / 4							
reaction time				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	
Maybank, Anthuan (USA) (197) time		11.02		21.27		32.22	38.10	44.39	44.39	8 / 5							
reaction time				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	
Mills, Derek (USA) (1972) time		11.12		21.32		32.16	38.12	44.67	44.67	7 / 5							
reaction time				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	
Rouser, Jason (USA) (1970) time		10.98		21.40		32.59	38.39	44.77	44.77	1 / 6							
reaction time				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	
Watts, Quincy (USA) (1970) time		10.92		21.16		32.52	38.68	45.64	45.64	2 / 7							
reaction time				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	

Semi-Final 2

date 17-Jun-96

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
Smith, LaMont (USA) (197) time		11.42		21.48		33.00	38.54	44.51	44.51	5 / 1							
reaction time				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	
Reynolds, Harry (Butch) (U) time		11.12		21.84		32.96	38.65	44.58	44.58	3 / 2							
reaction time				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		
Mills, Derek (USA) (1972)	time	10.92	21.66	32.58	38.36	44.65	44.65	1 / 3								
	reaction time		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		
Rouser, Jason (USA) (1970)	time	11.04	21.76	32.80	38.50	44.77	44.77	2 / 4								
	reaction time		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		
Harrison, Calvin (USA) (1971)	time	11.50	21.38	33.08	38.62	44.78	44.78	6 / 5								
	reaction time		9.88	11.70	5.54	6.16	PB	# 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		
Minor, Deon (USA) (1973)	time	11.11	21.99	33.10	38.68	45.32	45.32	4 / 6								
	reaction time		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		
Young, Jerome (USA) (1971)	time	11.60	21.66	33.46	39.29	45.57	45.57	8 / 7								
	reaction time		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		
Miller, Tony (USA) (1971)	time	11.72	22.29	34.01	40.04	46.84	46.84	7 / 8								
	reaction time		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		

Semi-Final 1

date 17-Jun-96

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	
Harrison, Alvin (USA) (1974)	time	11.39	21.82	32.74	38.34	44.43	44.43				3 / 1								
	reaction time		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			9.00		8.78	9.59	9.16	8.55	9.17	8.85		
Johnson, Michael (USA) (1971)	time	11.52	21.85	32.70	38.40	44.81	44.81				6 / 2								
	reaction time		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			8.93		8.68	9.68	9.22	8.26	9.15	8.71		
Watts, Quincy (USA) (1970)	time	11.48	21.67	32.88	38.92	45.10	45.10				5 / 3								
	reaction time		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			8.87		8.71	9.81	8.92	8.18	9.23	8.54		
Maybank, Anthuan (USA) (1971)	time	11.28	21.72	33.13	39.05	45.18	45.18				1 / 4								
	reaction time		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			8.85		8.87	9.58	8.76	8.30	9.21	8.53		
Pettigrew, Antonio (USA) (1971)	time	11.72	22.12	33.30	39.04	45.19	45.19				4 / 5								
	reaction time		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			8.85		8.53	9.62	8.94	8.41	9.04	8.67		
Valmon, Andrew (USA) (1971)	time	11.63	22.11	33.34	39.90	45.84	45.84				8 / 6								
	reaction time		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			8.73		8.60	9.54	8.90	8.00	9.05	8.43		
Moore, Obea (USA) (1979)	time	11.59	21.99	33.26	39.44	46.01	46.01				7 / 7								
	reaction time		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			8.69		8.63	9.62	8.87	7.84	9.10	8.33		
Byrd, Leonard (USA) (1975)	time	11.53	22.11	33.44	39.48	46.15	46.15				2 / 8								
	reaction time		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		8.67	9.45	8.83	7.87	9.05	8.32		

1995 IAAF World Championships (Göteborg, SWE)

FINAL

date 09-Aug-95

Pariante (2003) - 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	
Johnson, Michael (USA) (1971)	time	11.13	21.26	31.55	43.39	43.39					5 / 1								
	reaction time		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				9.22		8.98	9.87	9.72	8.45	9.41	9.04		
Reynolds, Harry (Butch) (USA) (1964)	no information available									44.22	6 / 2			# of strides	164.7				
Haughton, Gregory (JAM) (1973)	no information available									44.56	3 / 3								
Kitur, Samsun (KEN) (1966)	no information available									44.71	7 / 4								
Richardson, Mark (GBR) (1972)	no information available									44.81	8 / 5								
Hall, Darrell (USA) (1971)	no information available									44.83	1 / 6								
Black, Roger (GBR) (1966)	no information available									45.28	2 / 7								
Bada, Sunday (NGR) (1969)	no information available									45.50	4 / 8								

1995 USATF National Championships (Sacramento, CA)

FINAL

date 16-Jun-95

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

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Johnson, Michael (USA) (1971)	time		21.46						43.66	43.66	/ 1								
	reaction time								22.20		# of strides					21.46	22.20	0.74	
	velocity		9.32						9.01	9.16						9.32	9.01		
Reynolds, Harry (Butch) (USA) (1964)	no information available								44.42		/ 2								

Hall, Darrell (USA) (1971)	no information available	44.56	/ 3
Mills, Derek (USA) (1972)	no information available	44.58	/ 4
Ramsey, Marlon (USA) (1974)	no information available	45.03	/ 5
Lyles, Kevin (USA) (1973)	no information available	45.03	/ 6
Pettigrew, Antonio (USA) (1967)	no information available	45.74	/ 7
Byrd, Leonard (USA) (1975)	no information available	46.12	/ 8

Smith (1994) - 400m pace control

1993 IAAF World Championships (Stuttgart, GER)

Butler (2013) - IAAF world championships statistics handbook- moscow 2013

FINAL

date 17-Aug-93

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
Johnson, Michael (USA) (1	11.28	21.65	32.12	43.65	43.65	43.65	43.65	43.65	43.65	3 / 1							
reaction time		10.37	10.47	11.53	CR PB	# of strides	11.28	10.37	10.47	11.53	21.65	22.00	0.35				
interval		8.87	9.64	9.55	8.67	9.24	9.09										
velocity																	
Reynolds, Harry (Butch) (U	11.18	21.39	32.22	44.13	44.13	44.13	44.13	44.13	44.13	7 / 2							
reaction time		10.21	10.83	11.91	# of strides	11.18	10.21	10.83	11.91	21.39	22.74	1.35					
interval		8.94	9.79	9.23	8.40	9.06	164.0	8.94	9.79	9.23	8.40	9.35	8.80				
velocity																	
Kitur, Samson (KEN) (1966			21.83	32.69	44.54	44.54	44.54	44.54	44.54	4 / 3							
reaction time			10.86	11.85	# of strides	10.86	11.85	21.83	22.71	0.88							
interval			9.16	9.21	8.44	8.98	167.0	9.16	8.81								
velocity																	
Watts, Quincy (USA) (1970)			21.85	45.05	45.05	45.05	45.05	45.05	45.05	5 / 4							
reaction time			9.15	8.62	8.88	175.2		21.85	23.20	1.35							
interval								9.15	8.62								
velocity																	
Bada, Sunday (NGR) (1969)		10.98	21.02	32.26	45.11	45.11	45.11	45.11	45.11	6 / 5							
reaction time			10.04	11.24	12.85	# of strides	10.98	10.04	11.24	12.85	21.02	24.09	3.07				
interval			9.11	9.96	8.90	7.78	8.87	177.0	9.11	9.96	8.90	7.78	9.51	8.30			
velocity																	
Haughton, Gregory (JAM)			21.88	45.63	45.63	45.63	45.63	45.63	45.63	2 / 6							
reaction time			23.75	23.75	# of strides	21.88	23.75	1.87									
interval			9.14	8.42	8.77	167.0		9.14	8.42								
velocity																	
Kemboi, Simon (KEN) (196			22.42	45.65	45.65	45.65	45.65	45.65	45.65	1 / 7							
reaction time			23.23	8.61	8.76	# of strides	22.42	23.23	0.81								
interval			8.92				8.92	8.61									
velocity																	
Ochieng, Kennedy (KEN) (22.30	45.68	45.68	45.68	45.68	45.68	45.68	8 / 8							
reaction time			23.38	8.55	8.76	# of strides	22.30	23.38	1.08								
interval			8.97				8.97	8.55									
velocity																	

1992 Olympic Games (Barcelona, ESP)**FINAL**

date 05-Aug-92

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
Watts, Quincy (USA) (1970)			20.8	31.4	43.50	43.50	43.50	43.50	43.50	4 / 1							
reaction time				10.60	12.1	OR	# of strides	20.80	10.60	12.10	20.80	22.70	1.90				
interval			9.62	9.43	8.26	9.20	170.2	9.62	9.43	8.26	9.62	8.81					
velocity																	
Lewis, Steve (USA) (1969)			21.1	31.8	44.3	44.21	44.21	44.21	44.21	7 / 2							
reaction time			10.70	12.50	# of strides	21.10	10.70	12.50	21.10	23.20	2.10						
interval			9.48	9.35	8.00	9.05		9.48	9.35	8.00	9.48	8.62					
velocity																	
Kitur, Samson (KEN) (1966			21.5	32.3	44.3	44.24	44.24	44.24	44.24	5 / 3							
reaction time			10.80	12.00	9.04	# of strides	21.50	10.80	12.00	21.50	22.80	1.30					
interval			9.30	9.26	8.33	9.04		9.30	9.26	8.33	9.30	8.77					
velocity																	
Morris, Ian (TTO) (1961)			21.7	32.5	44.3	44.25	44.25	44.25	44.25	6 / 4							
reaction time			10.80	11.80	# of strides	21.70	10.80	11.80	21.70	22.60	0.90						
interval			9.22	9.26	8.47	9.04		9.22	9.26	8.47	9.22	8.85					
velocity																	
Hernández, Roberto (CUB)			21.2	32	44.6	44.52	44.52	44.52	44.52	2 / 5							
reaction time			10.80	12.60	# of strides	21.20	10.80	12.60	21.20	23.40	2.20						
interval			9.43	9.26	7.94	8.98		9.43	9.26	7.94	9.43	8.55					
velocity																	
Grindley, David (GBR) (197			21.3	32.2	44.8	44.75	44.75	44.75	44.75	3 / 6							
reaction time			10.90	12.60	# of strides	21.30	10.90	12.60	21.30	23.50	2.20						
interval			9.39	9.17	7.94	8.94		9.39	9.17	7.94	9.39	8.51					
velocity																	
Ismail, Ibrahim (QAT) (1972			21.4	32.5	45.1	45.10	45.10	45.10	45.10	1 / 7							
reaction time			11.10	12.60	# of strides	21.40	11.10	12.60	21.40	23.70	2.30						
interval			9.35	9.01	7.94	8.87		9.35	9.01	7.94	9.35	8.44					
velocity																	
Takano, Susumu (JPN) (19			21.9	32.9	45.2	45.18	45.18	45.18	45.18	8 / 8							
reaction time			11.00	12.30	# of strides	21.90	11.00	12.30	21.90	23.30	1.40						
interval			9.13	8.13	8.85		9.13	8.13	8.85								
velocity																	

1992 French National Championships (Narbonne, FRA)**FINAL**

date 28-Jun-92

Belloc (1992) - Diagona: 45.18 / 48.13 : 3" d'ecart; incompressibles?

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Diagona, Stéphane (FRA) (11.40	21.68	32.84	45.18	45.18	45.18	45.18	45.18	45.18	1 / 1							
reaction time		10.28	11.16	12.34	CR PB	# of strides	11.40	10.28	11.16	12.34	21.68	23.50	1.82				
interval		8.77	9.73	8.96	8.10	8.85		8.77	9.73	8.96	8.10	9.23	8.51				
velocity																	

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

date 29-Aug-91

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
Pettigrew, Antonio (USA) (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					
Black, Roger (GBR) (1966) (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					
Everett, Danny (USA) (1966) (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					
Hernández, Roberto, (CUB) (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					
Valmon, Andrew (USA) (19) (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					
Morris, Ian (TTO) (1961) (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					
Takano, Susumu (JPN) (19) (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					
Garner, Mark (AUS) (1969) (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					

1991 KVP-Galan (Malmo, SWE)**FINAL**

date 05-Aug-91

Behm (1995) - colloque 400m haies

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Black, Roger (GBR) (1966) (time)	11.23	21.53	32.63	44.71	44.71	1 / 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	169.7	8.90	9.71	9.01	8.28	9.29	8.63					

1991 European Cup (Frankfurt, GER)**FINAL**

date 29-Jun-91

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
Black, Roger (GBR) (1966) (time)	11.53	21.91	32.90	44.91	44.91	1 / 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	169.7	8.67	9.63	9.10	8.33	9.13	8.70					
Noirot, Oliver (FRA) (1969) (time)	11.20	21.55	32.87	45.18	45.18	1 / 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	169.7	8.93	9.66	8.83	8.12	9.28	8.46					
Molnár, Tamás (HUN) (1966) (time)	11.48	21.97	33.25	45.78	45.78	1 / 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	169.7	8.71	9.53	8.87	7.98	9.10	8.40					
Kocheryagin, Vyacheslav (U) (time)	11.59	22.39	33.59	45.88	45.88	1 / 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	169.7	8.63	9.26	8.93	8.14	8.93	8.51					
Nuti, Andrea (ITA) (1967) (time)	11.59	21.99	33.23	46.04	46.04	1 / 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	169.7	8.63	9.62	8.90	7.81	9.10	8.32					
Roun, Jindrich (TCH) (1966) (time)	11.56	22.01	33.24	46.17	46.17	1 / 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	169.7	8.65	9.57	8.90	7.73	9.09	8.28					
Karsten, Kai (GER) (1968) (time)	11.30	21.85	33.53	46.40	46.40	1 / 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	169.7	8.85	9.48	8.56	7.77	9.15	8.15					
Stankulov, Tsvetoslav (BUL) (time)	11.49	22.90	33.56	46.61	46.61	1 / 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	169.7	8.70	8.76	9.38	7.66	8.73	8.44					

1988 Olympic Games (Seoul, KOR)**FINAL**

date 28-Sep-88

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
Lewis, Steve (USA) (1969) (time)	11.26	21.41	32.13	43.87	43.87	6 / 1											

reaction time	0.181	interval		10.15	10.72	11.74	WJR	# of strides	11.26	10.15	10.72	11.74	21.41	22.46	1.05
velocity			8.88	9.85	9.33	8.52	9.12		8.88	9.85	9.33	8.52	9.34	8.90	
Reynolds, Harry (Butch) (U)	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	
Everett, Danny (USA) (1966)	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	
Clark, Darren (AUS) (1965)	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	
Egbunike, Innocent (NGR)	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	
Cameron, Bert (JAM) (1959)	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	
Morris, Ian (TTO) (1961)	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	
Al-Malky, Mohamed (OMA)	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	

Semi-Final 2

date 26-Sep-88

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
Reynolds, Harry (Butch) (U)	time	11.39	21.80	32.78	44.33	44.33		6 / 1									
reaction time	0.175		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			
Morris, Ian (TTO) (1961)	time	11.31	21.83	32.69	44.60	44.60		3 / 2									
reaction time	0.211		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			
Al-Malky, Mohamed (OMA)	time	11.35	21.78	32.75	44.69	44.69		5 / 3									
reaction time	0.207		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			
Egbunike, Innocent (NGR)	time	11.11	21.44	32.79	44.74	44.74		4 / 4									
reaction time	0.253		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			
Schönlebe, Thomas (GDR)	time	11.51	22.18	33.23	44.90	44.90		2 / 5									
reaction time	0.207		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			
Davis, Howard (JAM) (1967)	time	11.34	22.00	33.28	45.48	45.48		1 / 6									
reaction time	0.177		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			
Morris, Devon (JAM) (1961)	time	11.51	22.04	33.27	45.68	45.68		8 / 7									
reaction time	0.239		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			
Whittle, Brian (GBR) (1964)	time	11.34	21.88	33.42	46.07	46.07		7 / 8									
reaction time	0.176		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			

Semi-Final 1

date 26-Sep-88

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
Lewis, Steve (USA) (1969)	time	11.16	21.54	32.53	44.35	44.35		3 / 1									
reaction time	0.199		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			
Everett, Danny (USA) (1966)	time	11.43	22.03	32.87	44.36	44.36		5 / 2									
reaction time			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			
Clark, Darren (AUS) (1965)	time	11.15	21.58	32.55	44.38	44.38		6 / 3									
reaction time			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			
Cameron, Bert (JAM) (1959)	time	11.20	21.58	32.52	44.50	44.50		8 / 4									
reaction time			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			

Takano, Susumu (JPN) (19) 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				
Carlowitz, Jens (GDR) (196) 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				
de Souza, Gerson (BRA) (1) 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				
Jedrusik, Tomasz (POL) (1) 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				

1988 Weltklasse (Zurich, SUI)**FINAL**

date 17-Aug-88

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
Reynolds, Harry (Butch) (U) 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	
Egbunike, Innocent (NGR) time			20.9		32.3		44.97	44.97		/ 6							
reaction time	0.255	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		

1988 USA Olympic Trials (Indianapolis, IN)**FINAL**

date 20-Jul-88

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
Reynolds, Harry (Butch) (U) 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	
Everett, Danny (USA) (1966) 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	
Lewis, Steve (USA) (1969) 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	
Robinzine, Kevin (USA) (1966)	no information available								44.61	5 / 4							
McKay, Antonio (USA) (1964)	no information available								44.79	9 / 5							
Valmon, Andrew (USA) (1965)	no information available								44.91	2 / 6							
Daniel, Clarence (USA) (1961)	no information available								45.37	8 / 7							
Haley, Roddie (USA) (1965)	no information available								45.85	3 / 8							

Semi-Final 2

date 18-Jul-88

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
Lewis, Steve (USA) (1969) 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
velocity			9.62					8.58	9.07			4.81		2.27	9.62	8.58	

1987 IAAF World Championships (Rome, ITA)**FINAL**

date 03-Sep-87

Moravec (1990) - time analysis 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
Schönlebe, Thomas (GDR) time		11.11		21.40		32.44		44.33	44.33	3 / 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	
Egbunike, Innocent (NGR) time		10.91		21.14		32.32		44.56	44.56	5 / 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	
Reynolds, Harry (Butch) (U) 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	
Hernández, Roberto (CUB) time		11.07		21.48		32.66		44.99	44.99	2 / 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	
Redmond, Derek (GBR) (1) 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	
Kitur, David (KEN) (1962) time		11.41		21.73		32.76		45.34	45.34	8 / 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	
Tiacoh, Gabriel (CIV) (1963) time		11.56		22.17		33.56		46.27	46.27	4 / 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
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Haley, Roddie (USA) (1965) time	10.88	21.30	32.79	46.77	46.77	1 / 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					

Semi-Final 2

date 01-Sep-87

Moravec (1990) - time analysis 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
Reynolds, Harry (Butch) (U) 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					

Semi-Final 1

date 01-Sep-87

Moravec (1990) - time analysis 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
Egbunike, Innocent (NGR) 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					
Schönlebe, Thomas (GDR) 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					

Quarter-Final 3

date 31-Aug-87

Moravec (1990) - time analysis 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
Egbunike, Innocent (NGR) time	11.09	21.23	32.57	45.46	45.46	1 / 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					
Reynolds, Harry (Butch) (U) time	11.58	22.05	33.46	45.49	45.49	3 / 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					

Quarter-Final 2

date 31-Aug-87

Moravec (1990) - time analysis 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
Schönlebe, Thomas (GDR) time	11.52	21.79	32.76	44.81	44.81	1 / 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					

Heat 4

date 30-Aug-87

Moravec (1990) - time analysis 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
Schönlebe, Thomas (GDR) 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					

Heat 2

date 30-Aug-87

Moravec (1990) - time analysis 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
Egbunike, Innocent (NGR) 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					

Heat 1

date 30-Aug-87

Moravec (1990) - time analysis 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
Reynolds, Harry (Butch) (U) 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					

1986 IAAF World Junior Championships (Athens, GRE)**FINAL**

date 18-Jul-86

Moravec (1986) - IAAF biomechanical research - Athens 1986 - sprints

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Murphy, Miles (AUS) (1967) time	11.15	21.46	32.74	45.64	45.64	1 / 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) time	11.23	21.36	32.59	45.64	45.64	2 / 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					
Itt, Edgar (FRG) (1967) time	11.34	21.85	33.08	45.72	45.72	3 / 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					
Mordoche, Eulogio (CUB) (1967)	no information available								46.52	4							
Campbell, Clifton (USA) (1967)	no information available								46.52	5							
Falaye, Joseph (NGR) (1968)	no information available								46.81	6							
Crampton, Peter (GBR) (1969)	no information available								47.26	7							
Rish, Chip (USA) (1967)	no information available								47.50	8							

1985 IAAF World Cup (Canberra, AUS)**FINAL**

date 05-Oct-85

Butler (2010) - 1st/IAAF VTB bank continental cup, IAAF statistics handbook - split 2010

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Franks, Mike (USA) (1963)	no information available								44.47	1							
Schönlebe, Thomas (GDR) (1965)	no information available								44.72	2							

Egbunike, Innocent (NGR) (1961)	no information available								44.99	/ 3							
Clark, Darren (AUS) (1965)	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			
Krylov, Vladimir (URS) (1964)	no information available								45.73	/ 5							
Daley, Héctor (PAN) (1961)	no information available								46.04	/ 6							
Canti, Aldo (FRA) (1961)	no information available								46.21	/ 7							
Al-Malky, Mohammed (OMA) (1962)	no information available								47.18	/ 8							

1984 Olympic Games (Los Angeles, CA)**FINAL**

date 08-Aug-84

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

Adams (1984) - 1984 olympic games - 200m & 400m

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Babers, Alonzo (USA) (196)	time			21.7		32.5		44.3	44.27	4 / 1							
	reaction time	0.175				10.80		11.80	PB	# of strides		21.70	10.80	11.80	21.70	22.60	0.90
		interval															
		velocity	9.22			9.26		8.47	9.04			9.22	9.26	8.47	9.22	8.85	
Tiacoh, Gabriel (CIV) (1963)	time			21.6		32.4		44.6	44.54	7 / 2							
	reaction time	0.191				10.80		12.20	PB	# of strides		21.60	10.80	12.20	21.60	23.00	1.40
		interval															
		velocity	9.26			9.26		8.20	8.98			9.26	9.26	8.20	9.26	8.70	
McKay, Antonio (USA) (19)	time			21.8		32.7		44.8	44.71	1 / 3							
	reaction time	0.281				10.90		12.10	PB	# of strides		21.80	10.90	12.10	21.80	23.00	1.20
		interval															
		velocity	9.17			9.17		8.26	8.95			9.17	9.17	8.26	9.17	8.70	
Clark, Darren (AUS) (1965)	time			21.2		32.3		44.8	44.75	5 / 4							
	reaction time	0.269				11.10		12.50	AJR	# of strides		21.20	11.10	12.50	21.20	23.60	2.40
		interval															
		velocity	9.43			9.01		8.00	8.94			9.43	9.01	8.00	9.43	8.47	
Nix, Sunder (USA) (1961)	time			21.6		32.5		44.8	44.75	6 / 5							
	reaction time	0.243				10.90		12.30		# of strides		21.60	10.90	12.30	21.60	23.20	1.60
		interval															
		velocity	9.26			9.17		8.13	8.94			9.26	9.17	8.13	9.26	8.62	
Uti, Sunday (NGR) (1962)	time			21.8				44.93	44.93	2 / 6							
	reaction time	0.186						23.13		# of strides		21.80			21.80	23.13	1.33
		interval															
		velocity	9.17					8.65	8.90			9.17			9.17	8.65	
Egbunike, Innocent (NGR)	time			21.7				45.35	45.35	3 / 7							
	reaction time	0.192						23.65		# of strides		21.70			21.70	23.65	1.95
		interval															
		velocity	9.22					8.46	8.82			9.22			9.22	8.46	

Semi-Final 2

date 07-Aug-84

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
Cameron, Bert (JAM) (1959)	time			22.6		34.3		45.1	45.10	2 / 4							
	reaction time					11.7		10.8		# of strides		22.60	11.70	10.80	22.60	22.50	-0.10
		interval															
		velocity	8.85			8.55		9.26	8.87			4.42	8.55	9.26	8.85	8.89	

Heat 10 (TV Anal)

date 05-Aug-84

Adams (1984) - 1984 olympic games - 200m & 400m

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Akabusi, Kriss (GBR) (1958)	time			21.95				45.43	45.43	3 / 3							
	reaction time							23.48		# of strides					21.95	23.48	1.53
		interval															
		velocity	9.11					8.52	8.80						9.11	8.52	

Heat 3 (TV Analys)

date 05-Aug-84

Adams (1984) - 1984 olympic games - 200m & 400m

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Bennett, Todd (GBR) (196)	time			21.70				45.51	45.51	6 / 5							
	reaction time							23.81	PB	# of strides					21.70	23.81	2.11
		interval															
		velocity	9.22					8.40	8.79						9.22	8.40	

Heat 2 (TV Analys)

date 05-Aug-84

Adams (1984) - 1984 olympic games - 200m & 400m

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Brown, Phil (GBR) (1962)	time			22.27				46.63	46.63	8 / 7							
	reaction time							24.36		# of strides					22.27	24.36	2.09
		interval															
		velocity	8.98					8.21	8.58						8.98	8.21	

1984 Olympischen Tag (Potsdam, GDR)**FINAL**

date 21-Jul-84

Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazklus 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
Schersing, Mathias (GDR)	time	11.37		21.83		32.80		44.86	44.86	/ 1							
	reaction time			10.46		10.97		12.06	NR	# of strides	11.37	10.46	10.97	12.06	21.83	23.03	1.20
		interval															
		velocity	8.80			9.12		8.29	8.92		8.80	9.56	9.12	8.29	9.16	8.68	
Carlowitz, Jens (GDR) (196)	time	11.23		21.51		32.60		44.95	44.95	/ 2							
	reaction time			10.28		11.09		12.35		# of strides	11.23	10.28	11.09	12.35	21.51	23.44	1.93
		interval															
		velocity	8.90			9.23		8.10	8.90		8.90	9.73	9.02	8.10	9.30	8.53	

1984 East German Athletics Sportfest (East Berlin, GDR)**FINAL**

date 15-Jul-84

Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazklus 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
Schönebe, Thomas (GDR)	time	11.40		21.70		32.82		45.01	45.01	/ 1							
	reaction time			10.30		11.12		12.19	AJR / PB	# of strides	11.40	10.30	11.12	12.19	21.70	23.31	1.61
		interval															

velocity 8.77 9.71 8.99 8.20 8.89 8.77 9.71 8.99 8.20 9.22 8.58

1983 IAAF World Championships (Helsinki, FIN)**FINAL**

date 10-Aug-83

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
Cameron, Bert (JAM) (1959)	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		
Franks, Michael (USA) (196)	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		
Nix, Sunder (USA) (1961)	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		
Skamrahl, Erwin (FRG) (19)	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		
Weber, Hartmut (FRG) (19)	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		
Schönlebe, Thomas (GDR)	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		
Paul, Michael (TTO) (1957)	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		
de Souza, Gerson (BRA) (1)	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		

1982 European Championships (Athina, GRE)**FINAL**

date 09-Sep-82

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
Weber, Hartmut (FRG) (19)	time	11.30		21.74		32.86		44.72	44.72	1 / 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	
Knebel, Andreas (GDR) (1960)	no information available								45.29	2 / 2							
Markin, Viktor (URS) (1957)	time	11.58		22.16		33.20		45.30	45.30	3 / 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	
Brown, Phillip (GBR) (1962)	no information available								45.45	4 / 4							
Troschilo, Alexandr (URS) (1960)	no information available								45.67	5 / 5							
Kononov, Pavel (URS) (1960)	no information available								45.84	6 / 6							
Knapić, Zeljko (YUG) (1957)	no information available								46.20	7 / 7							
Giessing, Thomas (FRG) (1961)	no information available								48.70	8 / 8							

1981 IAAF World Cup (Rome, ITA)**FINAL**

date 05-Sep-81

Butler (2010) - 1st/IAAF VTB bank continental cup, IAAF statistics handbook - split 2010

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Wiley, Cliff (USA) (1955)	time					31.9		44.88	44.88	1 / 1							
reaction time	interval							12.98		# of strides				12.98			
velocity						9.40		7.70	8.91					7.70			
Zuliani, Mauro (ITA) (1959)	no information available							NR	45.26	2 / 2							
Cameron, Bert (JAM) (1959)	no information available								45.27	3 / 3							
Weber, Hartmut (FRG) (1960)	no information available								45.52	4 / 4							
Markin, Viktor (URS) (1957)	no information available								45.78	5 / 5							
Knebel, Andreas (GDR) (1960)	no information available								45.86	6 / 6							
El Kasheef, Hassan (SUD)	no information available								45.96	7 / 7							
Minihan, Gary (AUS) (1962)	no information available								46.85	8 / 8							
Isobe, Takeyuki (JPN)	no information available								47.71	9 / 9							

1980 Olympic Games (Moscow, URS)**FINAL**

date 30-Jul-80

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
Markin, Viktor (URS) (1957)	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	23.40	2.20
velocity				9.43		8.77		8.33	8.97	175.0				9.43	8.77	8.33	9.43
Mitchell, Richard (AUS) (19)	time			21.8		33.0		44.9	44.84	4 / 2							
reaction time	0.152 interval					11.2		11.90		# of strides					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

Schaffer, Frank (GDR) (195	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						
Juantorena, Alberto (CUB) 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						
Brijdenbach, Alfons (BEL) 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						
Solomon, Michael (TRI) (19	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						
Jenkins, David (GBR) (1982	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						
Coombs, Joseph (TRI) (19	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								

1980 USA Olympic Trials (Eugene, OR)**FINAL**

date 27-Jun-80

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
Green, Bill (USA) (1961)	time								45.85		/ 1							
Smith, Willie (USA) (1956)	time								45.97		/ 2							
McCoy, Walter (USA) (1958)	time								46.06		/ 3							
Frazier, Herm (USA) (1954)	time								46.16		/ 4							
Darden, Tony (USA) (1957)	time								46.41		/ 5							
Blair, Anthony (USA) (1957)	time								46.57		/ 6							
Oliver, Charles (USA) (1954)	time								46.64		/ 7							
Shorts, Albert (USA) (1953)	time		22.4						46.78	46.78	/ 8							
reaction time									24.4		# of strides					22.40	24.38	1.98
interval																8.93	8.20	
velocity			8.93						8.20	8.55								

1978 European Championships (Prague, TCH)**FINAL**

date 01-Sep-78

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
Hofmeister, Franz-Peter (F)	time	11.10			21.58	32.78			45.73	45.73	/ 1							
reaction time					10.48	11.20			12.95		# of strides	11.10	10.48	11.20	12.95	21.58	24.15	2.57
interval						8.93			7.72	8.75		9.01	9.54	8.93	7.72	9.27	8.28	
velocity			9.01		9.54													
Kolár, Karel (TCH) (1955)	time								45.77		/ 2							
Demarthon, Francois (FRA) (1950)	time								45.97		/ 3							
Krieg, Lothar (FRG) (1955)	time								46.22		/ 4							
Whitehead, Terry (GBR) (1957)	time								46.23		/ 5							
Ashton, Richard (GBR) (1955)	time								46.34		/ 6							
Herrmann, Bernd (FRG) (1951)	time								46.69		/ 7							

Semi-Final 2

date 31-Aug-78

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
Demarthon, Francois (FRA) time		11.90			23.02	34.04			46.26	46.26	/ 3							
reaction time					11.12	11.02			12.22		# of strides	11.90	11.12	11.02	12.22	23.02	23.24	0.22
interval						9.07			8.18	8.65		8.40	8.99	9.07	8.18	8.69	8.61	
velocity			8.40		8.99													

Semi-Final 1

date 31-Aug-78

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
Volmar, Maurice (FRA) (19	time				23.10	34.74			47.50	47.50	/ 8							
reaction time						11.64			12.76		# of strides			11.64	12.76	23.10	24.40	1.30
interval						8.59			7.84	8.42				8.59	7.84	8.66	8.20	
velocity					8.66													

Heat 3

date 30-Aug-78

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
Demarthon, Francois (FRA) time					22.50				46.73	46.73	/ 2							
reaction time									24.23		# of strides					22.50	24.23	1.73
interval									8.25	8.56						8.89	8.25	
velocity					8.89													

Heat 2

date 30-Aug-78

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
Volmar, Maurice (FRA) (19	time				22.55				46.94	46.94	/ 4							
reaction time									24.39		# of strides					22.55	24.39	1.84
interval									8.20	8.52						8.87	8.20	
velocity					8.87													

Heat 1

date 30-Aug-78

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
Gombault, Cornélien (FRA) time					23.14				47.91	47.91	/ 5							
reaction time									24.77		# of strides					23.14	24.77	1.63
interval																		

velocity 8.64 8.07 8.35 8.64 8.07

1977 IAAF World Cup (Düsseldorf, FRG)**FINAL (re-run)**

date 04-Sep-77

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Juantorena, Alberto (CUB) (1950)	no information available								45.36	/ 1								
Beck, Volker (GDR) (1956)	no information available								45.50	/ 2								
Taylor, Robert (USA) (1953)	no information available								45.57	/ 3								
Podlas, Ryszard (POL) (1953)	no information available								45.60	/ 4								
Hofmeister, Franz-Peter (FRG) (1951)	no information available								45.78	/ 5								
Pradhu, Uday Khrishna (IND)	no information available								47.75	/ 6								
Imadiyi, Felix (NGR) (1958)	no information available								dns									
Mitchell, Rick (AUS) (1955)	no information available								dns									

FINAL (original)

date 03-Sep-77

Butler (2010) - 1st/IAAF VTB bank continental cup, IAAF statistics handbook - split 2010

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Beck, Volker (GDR) (1956)	no information available								45.79	/ 1								
Podlas, Ryszard (POL) (1953)	no information available								45.80	/ 2								
Juantorena, Alberto (CUB) 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							
Taylor, Robert (USA) (1953)	no information available								46.24	/ 4								
Hofmeister, Franz-Peter (FRG) (1951)	no information available								46.48	/ 5								
Imadiyi, Felix (NGR) (1958)	no information available								46.54	/ 6								
Mitchell, Rick (AUS) (1955)	no information available								46.71	/ 7								
Pradhu, Uday Khrishna (IND)	no information available								48.29	/ 8								

The day after his epic 800m win, Juantorena was at the centre of controversy when, shockingly, he was beaten into third place in the one-lap event. Drawn in lane 8, he protested that he had not heard the starting gun because of the noise of an aeroplane and cameras. He did not begin to run until his opponents were into their stride. The Cuban clocked only 12.8 for the first 100m then ran the last 300m in 33.1, just failing to catch Beck and Podlas. Juantorena's protest was upheld, and it was decided to re-run the race on the following morning. The Cuban started slowly but moved in front in the home-straight to win by half a metre from Beck. The East German, who said the decision to re-run the race was "a scandal", broke the GDR record and was closing on Juantorena at the finish. - Butler (2010)

1976 Olympic Games (Montreal, CAN)**FINAL**

date 29-Jul-76

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

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	
Juantorena, Alberto (CUB) 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	
Newhouse, Fred (USA) (19) time				21.4				32.4	44.4	44.40	4 / 2							
reaction time	interval		9.35					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		
Frazier, Herman (USA) (195) time				21.6				32.8	45.0	44.95	3 / 3							
reaction time	interval		9.26					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		
Brijdenbach, Alfons (BEL) time				21.8				32.6	45.1	45.04	8 / 4							
reaction time	interval		9.17					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		
Parks, Maxie (USA) (1951) time				21.8				32.7	45.3	45.24	7 / 5							
reaction time	interval		9.17					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		
Mitchell, Richard (AUS) (19) time				22.2				33.6	45.4	45.40	6 / 6							
reaction time	interval		9.01					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		
Jenkins, David (GBR) (1952) time				21.9				32.9	45.6	45.57	5 / 7							
reaction time	interval		9.13					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		
Werner, Jan (POL) (1946) time				22.1				33.1	45.7	45.63	1 / 8							
reaction time	interval		9.05					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		

Semi-Final 2

date 28-Jul-76

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	
Newhouse, Fred (USA) (19) 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	

Semi-Final 1

date 28-Jul-76

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	
Juantorena, Alberto (CUB) 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	

Quarter-Final 4

date 26-Jul-76

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
Newhouse, Fred (USA) (19) time				21.8				33.0	45.97	45.97	1 / 1						
reaction time				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	

Quarter-Final 3		date	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
Parks, Maxie (USA) (1951)	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	

Quarter-Final 2		date	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
Juantorena, Alberto (CUB)	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	

Quarter-Final 1		date	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
Brijdenbach, Alfons (BEL)	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	

1976 USA Olympic Trials (Eugene, OR)

FINAL		date	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
Parks, Maxie (USA) (1951)	time					21.6				45.58	45.58	1 / 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	
Newhouse, Fred (USA) (1948)											45.76	1 / 2							
Frazier, Herman (USA) (1954)											45.84	1 / 3							
Brown, Benny (USA) (1953)											45.91	1 / 4							
Peoples, Maurice (USA) (1950)											45.92	1 / 5							
Taylor, Robert (USA)											46.03	1 / 6							
Jennings, Elvis (USA) (1955)											46.15	1 / 7							
Collins, Mark (USA) (1956)											47.33	1 / 8							

1972 Olympic Games (Munich, FRG)

FINAL		date	Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016 Sultanov (1982) - probleme der vorbereitung für den 400m-lauf																
			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Matthews, Vince (USA) (19)	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	
Collett, Wayne (USA) (1949)	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			9.35	9.01	8.13	9.35	8.55		
Sang, Julius (KEN) (1948)	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			9.26	9.01	8.13	9.26	8.55		
Asati, Charles (KEN) (1946)	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		
Schloske, Horst-Rudiger (F)	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		
Kukkoaho, Markku (FIN) (1)	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			9.17	8.93	8.00	9.17	8.44		
Honz, Karl (FRG) (1951)	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			9.17	8.77	8.00	9.17	8.37		
Smith, John (USA) (1950)											dnf	6 / --							

Quarter-Final 1		date	Vazel (2011) - speed reserve 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
Juantorena, Alberto (CUB)	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	

1972 West German National Championships (Munich, FRG)

FINAL		date	Vazel (2015) - Van Niekerk and Merritt were on for the record at 300m																
			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Honz, Karl (FRG) (1951)	time					20.70				44.70	44.70	1 / 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	

1972 USA Olympic Trials (Eugene, OR)

FINAL		date	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

Collett, Wayne (USA) (1949)	time	21.2	44.1	44.1	8 / 1													
	reaction time		22.9		# of strides					21.20	22.90	1.70						
	interval		8.73	9.07						9.43	8.73							
	velocity	9.43																
Smith, John (USA) (1950)	time	21.2	44.3	44.3	3 / 2													
	reaction time		23.1		# of strides					21.20	23.10	1.90						
	interval		8.66	9.03						9.43	8.66							
	velocity	9.43																
Matthews, Vince (USA) (1919)	time	21.4	44.9	44.9	5 / 3													
	reaction time		23.5		# of strides					21.40	23.50	2.10						
	interval		8.51	8.91						9.35	8.51							
	velocity	9.35																
Evans, Lee (USA) (1947)	time	21.6	45.1	45.1	6 / 4													
	reaction time		23.5		# of strides					21.60	23.50	1.90						
	interval		8.51	8.87						9.26	8.51							
	velocity	9.26																
Peoples, Maurice (USA) (1950)	no information available			45.3	1 / 5													
Turner, Tommie (USA) (1947)	no information available			45.4	4 / 6													
Newhouse, Fred (USA) (1919)	time	20.6	45.4	45.4	7 / 7													
	reaction time		24.8		# of strides					20.60	24.80	4.20						
	interval		8.06	8.81						9.71	8.06							
	velocity	9.71																
Mills, Curtis (USA) (1948)	no information available			45.4	2 / 8													

1972 NCAA Championships (Eugene, OR)**FINAL**

date 03-Jun-72

Robinson (1974) - modern techniques of track and field

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Smith, John (USA) (1950)	time				22.1				44.5	44.5	5 / 1							
	reaction time								22.4		# of strides					22.10	22.40	0.30
	interval								8.93	8.99						9.05	8.93	
	velocity				9.05													

1972 UCLA Meet of Champions (Westwood, CA) (yards)**FINAL**

date 15-Apr-72

Robinson (1974) - modern techniques of track and field

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Collett, Wayne (USA) (1949)	time				21.3				44.7	44.4	1 / 2							
	reaction time								23.4	(44.7/440y)	# of strides					21.30	23.40	2.10
	interval								8.55	9.01						9.39	8.55	
	velocity				9.39													

1971 European Championships (Helsinki, FIN)**FINAL**

date 13-Aug-71

Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)

(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
Jenkins, David (GBR) (1952)	time				21.3	32.4			45.45	45.45	1 / 1							
	reaction time					11.1			13.1	CR NR PB	# of strides		21.30	11.10	13.05	21.30	24.15	2.85
	interval					9.01			7.66	8.80			4.69	9.01	7.66	9.39	8.28	
	velocity				9.39													
Fiasconaro, Marcello (ITA)	time				22.0				45.5	45.59	1 / 2							
	reaction time								23.5	NR / PB	# of strides					22.00	23.50	1.50
	interval								8.51	8.77						9.09	8.51	
	velocity				9.09													
Werner, Jan (POL) (1946)	no information available								PB	45.57	1 / 3							
Kukkoaho, Markku (FIN) (1946)	no information available								NR / PB	45.74	1 / 4							
Jordan, Thomas (FRG) (1949)	no information available									46.01	1 / 5							
Köhler, Hermann (FRG) (1950)	no information available									46.07	1 / 6							
Bratchikov, Aleksandr (URS) (1947)	no information available									46.40	1 / 7							
Hauke, Klaus (GDR) (1946)	no information available									46.88	1 / 8							

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

date 26-Jun-71

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
Smith, John (USA) (1950)	time				22.0				44.2	44.2	2 / 1	(44.5/440y)						
	reaction time								22.2	WR yards	# of strides					22.00	22.20	0.20
	interval								9.01	9.05						9.09	9.01	
	velocity				9.09													
Collett, Wayne (USA) (1949)	time				21.2				44.4	44.4	7 / 2	(44.7/440y)						
	reaction time								23.2		# of strides					21.20	23.20	2.00
	interval								8.62	9.01						9.43	8.62	
	velocity				9.43													
Newhouse, Fred (USA) (1919)	time				22.0				45.4	45.4	1 / 3	(45.7/440y)						
	reaction time								23.4		# of strides					22.00	23.40	1.40
	interval								8.55	8.81						9.09	8.55	
	velocity				9.09													
Bond, Darwin (USA) (1951)	no information available									45.6	1 / 4	(45.9/440y)						
Garrison, Edesel (USA) (1919)	time				22.2				45.6	45.6	1 / 5							
	reaction time								23.4		# of strides	(45.9/440y)				22.20	23.40	1.20
	interval								8.55	8.77						9.01	8.55	
	velocity				9.01													
Turner, Tommie (USA) (1947)	time				22.0				45.6	45.6	1 / 6							
	reaction time								23.6		# of strides	(45.9/440y)				22.00	23.60	1.60
	interval								8.47	8.77						9.09	8.47	
	velocity				9.09													

Alexander, Dale (USA) (1949)	no information available	45.6	/ 7	(45.9/440y)
van Hofwegen, Len (USA) (1947)	no information available	45.9	/ 8	(46.2/440y)

1970 French National Championships (Colombes, FRA)

FINAL date 19-Jul-70 *Robinson (1974) - modern techniques of track and field*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Nallet, Jean-Claude (FRA) (time)				21.9				45.1	45.1	/ 1							
reaction time								23.2	NR	# of strides					21.90	23.20	1.30
velocity				9.13				8.62	8.87					9.13	8.62		

1969 NCAA Championships (Knoxville, TN) (yards)

FINAL date 21-Jun-69 *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
Mills, Curtis (USA) (1947) (time)				21.6				44.4	44.4	/ 1							
reaction time								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		
Evans, Lee (USA) (1947) (time)				21.4				44.8	44.8	/ 2							
reaction time								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		
James, Larry (USA) (1947) (time)				20.9				45.5	45.5	/ 5							
reaction time								24.6		# of strides					20.90	24.60	3.70
velocity				9.57				8.13	8.79	(45.8/440y)				9.57	8.13		

1968 Olympic Games (Mexico City, MEX) (Altitude)

FINAL date 18-Oct-68 *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

Track & Field News (1979) - olympic track & field: complete 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
Evans, Lee (USA) (1947) (time)	10.7			21.1		32.2		43.8	43.86	6 / 1							
reaction time						11.1		11.6	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	
James, Larry (USA) (1947) (time)				21.5		32.6		43.9	43.97	2 / 2							<i>Butler (2016)</i>
reaction time						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		
Freeman, Ron (USA) (1947) (time)				21.6		33.0		44.4	44.41	1 / 3							<i>Butler (2016)</i>
reaction time						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		
Gakou, Amadou (SEN) (1947) (time)				21.7		32.9		45.0	45.01	5 / 4							<i>Butler (2016)</i>
reaction time						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		
Jellinghaus, Martin (FRG) (time)				22.0		33.2		45.3	45.33	3 / 5							<i>Butler (2016)</i>
reaction time						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		
Bezabeh, Tegegne (ETH) (time)				21.9		33.1		45.4	45.42	4 / 6							<i>Butler (2016)</i>
reaction time						11.20		12.30	NR	# 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) (time)				21.7		33.2		45.4	45.42	7 / 7							<i>Butler (2016)</i>
reaction time						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		
Omolo, Amos (UGA) (1937) (time)				21.5		33.3		47.6	47.61	8 / 8							<i>Butler (2016)</i>
reaction time						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		

1968 USA Olympic Trials (Echo Summit, CA) (Altitude)

FINAL date 14-Sep-68 *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	
Evans, Lee (USA) (1947) (time)				21.2				44.0	44.0	6 / 1								
reaction time								22.8	WR	# of strides					21.20	22.80	1.60	
velocity				9.43				8.77	9.09	(44.06)					9.43	8.77		
James, Larry (USA) (1947) (time)				21.2				44.1	44.1	3 / 2								
reaction time								22.9	WR	# of strides					21.20	22.90	1.70	
velocity				9.43				8.73	9.07	(44.19)				9.43	8.73			
Freeman, Ron (USA) (1947)				no information available					44.6		2 / 3	(44.62)						
Matthews, Vince (USA) (1947) (time)				20.7				44.8	44.8	5 / 4								
reaction time								24.1	(44.86)	# of strides					20.70	24.10	3.40	
velocity				9.66				8.30	8.93					9.66	8.30			
Kemp, Jim (USA) (1944)				no information available					45.2		1 / 5							
Francis, Hal (USA) (1945)				no information available					45.2		4 / 6							

1968 Pre-Olympic Test (Echo Summit, CA) (Altitude)

FINAL date 31-Aug-68 *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
Matthews, Vince (USA) (19)	time			21.3				44.4	44.4	/ 1							
reaction time	interval							23.1	WR	# of strides	<i>illegal "brush" spikes</i>				21.30	23.10	1.80
velocity			9.39					8.66	9.01						9.39	8.66	

1967 San Jose State Invitational (San Jose, CA) (yards)**FINAL**

date 20-May-67

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
Smith, Tommie (USA) (194)	time	11.0		21.6		33.3		44.5	44.5	/ 1							
reaction time	interval			10.6		11.7		11.2	WR yards	# of strides	11.00	10.60	11.70	11.20	21.60	22.90	1.30
velocity		9.09		9.43		8.55		8.93	8.99	(44.8/440y)	9.09	9.43	8.55	8.93	9.26	8.73	
Evans, Lee (USA) (1947)	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	

1964 Olympic Games (Tokyo, JPN)**FINAL**

date 19-Sep-64

*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016**Sultanov (1982) - probleme der vorbereitung für den 400m-lauf**Sultanov (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
Larrabee, Mike (USA) (1933)	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	
Mottley, Wendell (TTO) (19)	time			21.6		33.2		45.2	45.2	7 / 2							<i>Butler (2016)</i>
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	
Badenski, Andrzej (POL) (1)	time			21.7		33.8		45.6	45.6	2 / 3							<i>Butler (2016)</i>
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	
Brightwell, Robbie (GBR) (1)	time			21.8		34.1		45.7	45.7	6 / 4							<i>Butler (2016)</i>
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	
Williams, Ullis (USA) (1941)	time			21.7		34.1		46.0	46.0	8 / 5							<i>Butler (2016)</i>
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)	time			22.0		34.2		46.0	46.0	1 / 6							<i>Butler (2016)</i>
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	
Vassella, Peter (AUS) (1941)	time			22.0		34.1		46.3	46.3	3 / 7							<i>Butler (2016)</i>
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	
Skinner, Edwin (TTO) (1940)	time			22.2		34.1		46.8	46.8	4 / 8							<i>Butler (2016)</i>
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	

1964 USA Olympic Trials (Los Angeles, CA)**FINAL**

date 12-Sep-64

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Larrabee, Mike (USA) (1933)	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	
Williams, Ullis (USA) (1941)	no information available							45.0		/ 2							
Cassell, Ollan (USA) (1936)	no information available							45.6		/ 3							
Lewis, Theron (USA) (1944)	no information available							46.3		/ 4							
Archibald, Dave (USA) (1943)	no information available							46.3		/ 5							
Tobler, Bob (USA) (1942)	no information available							46.5		/ 6							
Boyle, Bill (USA) (1942)	no information available							46.6		/ 7							

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

date 25-May-63

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
Plummer, Adolph (USA) (1)	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	

1960 Olympic Games (Rome, ITA)**FINAL**

date 06-Sep-60

*Martini (2010) - Ricordi romani (1) - analisi dell distribuzione dello sforzo di Otis Davis**Khomenkov (1982) - a textbook for a track and field coach*

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Davis, Otis (USA) (1932)	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 (EUA/FRG)	time			21.5		32.7		44.9	44.9	1 / 2							<i>Khomenkov (1982)</i>
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	
Spence, Malcolm (RSA) (19)	time	11.1	21.4	32.7	45.5	45.5	4 / 3						<i>Khomenkov (1982)</i>	
	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	
Singh, Milkha (IND) (1935)	time	11.2	21.6	32.8	44.9	45.6	5 / 4						<i>Khomenkov (1982)</i>	
	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	
Kinder, Manfred (EUA/FRC)	time		22.1	33.5	45.9	45.9	6 / 5						<i>Martini (2010)</i>	
	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)	time		22.0	33.1	45.9	45.9	2 / 6						<i>Martini (2010)</i>	
	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		

Semi-Final 1

date 06-Sep-60

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
Davis, Otis (USA) (1932)	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	

1960 ???? (Berlin, FRG)

FINAL

date 24-Jul-60

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
Kaufmann, Carl (FRG) (193)	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		

1959 ???? (Köln, FRG) (500m track)

FINAL

date 19-Sep-59

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
Kaufmann, Carl (FRG) (193)	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		

1958 European Championships (Stockholm, SWE)

FINAL

date 21-Aug-58

(1959) - der 400-m-hürdenlauf in stockholm

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Wrighton, John (GBR) (19)	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		
Salisbury, John (GBR) (1934)	no information available							46.5		/ 2							
Haas, Karl-Friedrich (FRG)	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		
Kaufmann, Carl (FRG) (1936)	no information available							47.0		/ 4							
Petersson, Alf (SWE) (1933)	no information available							47.5		/ 5							
Swatowski, Stanislaw (POL)	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		

1958 NCAA Championships (Berkeley, CA) (yards)

FINAL

date 14-Jun-58

Track & Field News (1963)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Davis, Glenn (USA) (1934)	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		

1958 Big 10 Championships (Lafayette, IN) (yards)

FINAL

date 24-May-58

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
Davis, Glenn (USA) (1934)	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		

1956 Olympic Games (Melbourne, AUS)

FINAL

date 29-Nov-56

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXII 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
Jenkins, Charlie (USA) (193)	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	
Haas, Karl-Friedrich (EUA/f)	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	
Hellstén, Voitto (FIN) (1932)	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) (1912)	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	
Jones, Louis (USA) (1932)	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	
Spence, Malcolm (RSA) (1912)	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	

1956 USA Olympic Trials (Los Angeles, CA)**FINAL**

date 30-Jun-56

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
Jones, Louis (USA) (1932)	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		
Lea, Jim (USA) (1932)	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		
Jenkin, Charlie (USA) (1934)									46.1	3 / 3							
Mashburn, Jessie (USA) (1934)									46.4	5 / 4							
Ellis, Russ (USA) (1935)									47.2	6 / 5							
White, Jerry (USA)									47.4	2 / 6							
Pearman, Reggie (USA) (1924)									47.9	1 / 7							
Larrabee, Mike (USA) (1933)									48.4	4 / 8							

1956 California Relays (Modesto, CA) (yards)**FINAL**

date 26-May-56

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
Lea, Jim (USA) (1932)	time			22.7				45.5	45.5	1 / 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		

1955 Znamenskiy Memorial (Moscow, URS)**FINAL**

date 25-Jun-55

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	
Ignatyev, Ardalion (URS) (1912)	time			21.5				46.0	46.0	1 / 1								
reaction time	interval							24.5	AR	# of strides					21.50	46.00	24.50	3.00
	velocity			9.30				8.16	8.70					4.65	2.17	9.30	8.16	

1955 Pan American Games (Mexico City, MEX) (Altitude)**FINAL**

date 18-Mar-55

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
Jones, Louis (USA) (1932)	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	(45.68)				9.48	8.23		
Lea, Jim (USA) (1932)								(45.78)	45.6	7 / 2							
Mashburn, Jesse (USA) (1933)								(46.44)	46.2	3 / 3							

1952 Olympic Games (Helsinki, FIN)**FINAL**

date 25-Jul-52

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	
Rhoden, George (JAM) (1912)	time			22.2				45.9	45.9	6 / 1								
reaction time	interval							23.7	OR	# of strides					22.20	45.90	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)	time			22.7				45.9	45.9	4 / 2								
reaction time	interval							23.2	=OR	# of strides					22.70	45.90	23.20	0.50
	velocity			8.81				8.62	8.71	(46.20)			4.41	2.18	8.81	8.62		
Matson, Ollie (USA) (1930)									46.8	5 / 3	(46.94)							
Hass, Karl-Friedrich (FRG) (1931)									47.0	3 / 4	(47.22)							
Wint, Arthur (JAM) (1920)	time			21.7				47.0	47.0	2 / 5								
reaction time	interval							25.3		# of strides					21.70	47.00	25.30	3.60
	velocity			9.22				7.91	8.51	(47.24)			4.61	2.13	9.22	7.91		
Whitfield, Mal (USA) (1924)									47.1	1 / 6	(47.30)							

1950 International Athletics Meeting (Eskilstuna, SWE) (427m track)

FINAL		date 22-Aug-50		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
Rhoden, George (JAM) (19	time				20.9				45.8	45.8	/ 1							
	reaction time								24.9	WR	# of strides					20.90	24.90	4.00
	velocity				9.57				8.03	8.73						9.57	8.03	

1948 Olympic Games (London, GBR)

FINAL		date 05-Aug-48		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
Wint, Arthur (JAM) (1920)	time				22.2				46.2	46.2	3 / 1							
	reaction time								24.0	=OR	# of strides					22.20	24.00	1.80
	velocity				9.01				8.33	8.66	(46.30)					9.01	8.33	
McKenley, Herb (JAM) (192	time				21.4				46.4	46.4	2 / 2							
	reaction time								25.0		# of strides					21.40	25.00	3.60
	velocity				9.35				8.00	8.62	(46.53)					9.35	8.00	
Whitfield, Mal (USA) (1924)	no information available								46.9		4 / 3							
Bolen, Dave (USA) (1923)	no information available								47.2		1 / 4							
Curotta, Morris (AUS) (1929)	no information available								47.9		5 / 5							
Guida, George (USA) (1924)	no information available								50.2		6 / 6							

1948 AAU Championships (Milwaukee, WI)

Heat 1		date 02-Jul-48		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
McKenley, Herb (JAM) (192	time				20.9				45.9	45.9	/ 1							
	reaction time								25.0	WR	# of strides					20.90	25.00	4.10
	velocity				9.57				8.00	8.71	(46.00)					9.57	8.00	

1948 Pacific Association Championships (Berkeley, CA) (yards)

FINAL		date 06-Jun-48		Track & Field News (1963)														
		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
McKenley, Herb (JAM) (192	time				21.4				45.7	45.7	/ 1							
	reaction time								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	

1947 (Long Branch, NJ) (440y straightaway)

FINAL		date 23-Aug-47		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
McKenley, Herb (JAM) (192	time				22.7				45.0	44.7	/ 1							
	reaction time								22.3		# of strides					22.70	22.30	-0.40
	velocity				8.81				8.97	8.95	(45.0/440y)					8.81	8.97	

1947 PCC vs Big 10 (Berkeley, CA) (yards)

FINAL		date 28-Jun-47		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
McKenley, Herb (JAM) (192	time				20.9				46.0	46.0	/ 1							
	reaction time								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	

1947 NCAA Championships (Salt Lake City, UT) (Altitude)

FINAL		date 21-Jun-47		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
McKenley, Herb (JAM) (192	time				20.7				45.9	45.9	/ 1							
	reaction time								25.2		# of strides					20.70	25.20	4.50
	velocity				9.66				7.94	8.71	(46.2/440y)					9.66	7.94	

1946 Big 10 Championships (Champaign, IL)

FINAL		date 01-Jun-46		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
McKenley, Herb (JAM) (192	time				20.8				45.9	45.9	/ 1							
	reaction time								25.1		# of strides					20.80	25.10	4.30
	velocity				9.62				7.97	8.71	(46.2/440y)					9.62	7.97	

1941 AAU Championship (Philadelphia, PA)

FINAL		date 29-Jun-41		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
Klemmer, Grover (USA) (19	time		10.8		21.8		33.4		46.0	46.0	/ 1							
	reaction time				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	

1941 Pacific Coast Conference Championship (Berkeley, CA)

FINAL		date 31-May-41		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
Klemmer, Grover (USA) (19	time				22.6				46.1	46.1	/ 1							
	reaction time								23.5	=WR yards	# of strides					22.60	23.50	0.90
	velocity				8.85				8.51	8.68	(46.4/440y)					8.85	8.51	

1939 Internationale Leichtathletik Wettkampf (Frankfurt-am-Main, GER) (500m track)

FINAL		date 12-Aug-39		Queretani (2005) - a world history of the one-lap race: 1850-2004												
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	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Harbig, Rudolf (GER) (1911)	time	11.3		22.0		33.6		46.0	46.0	3 / 1							
reaction time	interval			10.7		11.6		12.4	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	
Lanzi, Mario (ITA) (1914)	time	11.2		21.7		33.5		47.2	47.2	6 / 2							
reaction time	interval			10.5		11.8		13.7		# 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	

1939 Italy vs. Germany (Milan, ITA) (500m track)**FINAL**

date 16-Jul-39

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
Harbig, Rudolf (GER) (1911)	time			22.8				46.7	46.7	1 / 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)	time			22.2				46.7	46.7	1 / 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	

1936 Olympic Games (Berlin, GER)**FINAL**

date 07-Aug-36

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
Williams, Archie (USA) (1911)	time			22.0				46.50	46.5	5 / 1							
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	
Brown, Godfrey (GBR) (1915)	no information available								46.7	6 / 2	(46.68)					# of strides	189.0
LuValle, James (USA) (1912)	time			22.1				46.80	46.8	2 / 3							
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	
Roberts, Bill (GBR) (1912)	no information available								46.8	3 / 4	(46.87)						
Fritz, William (CAN) (1914)	no information available								47.8	1 / 5							
Loaring, John (CAN) (1915)	no information available								48.2	4 / 6							

1936 NCAA Championships (Chicago, IL)**Heat 2**

date 19-Jun-36

Quercentani (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
Williams, Archie (USA) (1911)	time			21.6				46.1	46.1	1 / 1							
reaction time	interval							24.5	WR	# of strides					21.60	24.50	2.90
velocity				9.26				8.16	8.68					9.26	8.16		

1932 Olympic Games (Los Angeles, CA)**FINAL**

date 05-Aug-32

Quercentani (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
Carr, William (USA) (1909)	time	10.9		22.1		33.8		46.2	46.2	4 / 1							
reaction time	interval			11.2		11.7		12.4	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	(46.28)	9.17	8.93	8.55	8.06	9.05	8.30	
Eastman, Benjamin (USA) (1907)	time	10.8		21.9		33.7		46.4	46.4	2 / 2							
reaction time	interval			11.1		11.8		12.7	(46.50)	# of strides	10.80	11.10	11.80	12.70	21.90	24.50	2.60
velocity		9.26		9.01		8.47		7.87	8.62		9.26	9.01	8.47	7.87	9.13	8.16	
Wilson, Alex (CAN) (1907)	no information available								47.4	3 / 3							
Walters, Willie (RSA) (1907)	no information available								48.2	1 / 4							
Gordon, James (USA) (1908)	no information available								48.2	5 / 5							
Golding, George (AUS) (1906)	no information available								48.8	6 / 6							

1932 USA Olympic Trials (Palo Alto, CA)**FINAL**

date 16-Jul-32

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
Carr, William (USA) (1909)	no information available								46.9	1 / 1							
Eastman, Benjamin (USA) (1907)	time			22.2				47.1	47.1	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		
Gordon, James (USA) (1908)	no information available								47.4	1 / 3							
Ablowick, Ed (USA)	no information available								47.5	1 / 4							
Fuqua, Ivan (USA)	no information available								47.6	1 / 5							
Adams, Arnold (USA)	no information available								47.6	1 / 6							
Warner, Karl (USA)	no information available								47.7	1 / 7							

1932 Los Angeles AC vs. Stanford University (Stanford, CA) (yards)**FINAL**

date 26-Mar-32

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
Eastman, Benjamin (USA) (1907)	time			21.2				46.1	46.1	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		

1928 Olympic Games (Amsterdam, NED)**FINAL**

date 03-Aug-28

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Barbuti, Ray (USA) (1905)	no information available								47.8	1 / 1								
Ball, James (CAN) (1903)	no information available								48.2/47.9e	5 / 2								
Büchner, Joachim (GER) (1905)	no information available								48.4/48.1e	3 / 3								
Rinkel, John (GBR) (1905)	no information available								48.4e	2 / 4								
Storz, Harry (GER) (1904)	no information available								48.8e	4 / 5								
Phillips, Hermon (USA) (1903)	no information available								49.0e	6 / 6								

1928 Pacific AAU Championships (Palo Alto, CA)**FINAL**

date 12-May-28

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
Spencer, Emerson (USA) (1 time)				21.8				47.0	47.0	1 / 1							
reaction time								25.2	WR	# of strides					21.80	25.20	3.40
interval																	
velocity				9.17				7.94	8.51						9.17	7.94	

1924 Olympic Games (Paris, FRA) (500m Track)**FINAL**

date 11-Jul-24

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	
Liddell, Eric (GBR) (1902)				22.2				47.6	47.6	6 / 1								
reaction time								25.4	WR	# of strides					22.20	25.40	3.20	
interval																		
velocity				9.01				7.87	8.40						9.01	7.87		
Fitch, Horatio (USA) (1900)	no information available								48.4	5 / 2								
Butler, Guy (GBR) (1899)	no information available								48.6	2 / 3								
Johnson, Don (CAN) (1902)	no information available								48.8	1 / 4								
Taylor, John C. (USA) (1901)	no information available								67.0	4 / 5								
Imbach, Josef (SUI) (1894)	no information available									3 / dnf								

1920 Olympic Games (Antwerp, BEL)**FINAL**

date 20-Aug-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	
Rudd, Bevil (RSA) (1895)	no information available								49.6	1 / 1								
Butler, Guy (GBR) (1899)	no information available								49.9e	5 / 2								
Engdahl, Nils (SWE) (1898)	no information available								50.0e	6 / 3								
Shea, Frank (USA) (1894)	no information available								50.2e	3 / 4								
Ainsworth-Davis, John (GBR) (1895)	no information available								50.4e	4 / 5								
Dafel, Harry (RSA) (1889)	no information available								50.4e	2 / 6								

1912 Olympic Games (Stockholm, SWE)**FINAL**

date 13-Jul-12

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Reidpath, Charles (USA) (1889)	no information available								OR	48.2	3 / 1							
Braun, Hanns (GER) (1886)	no information available								48.3	2 / 2								
Lindberg, Edward (USA) (1886)	no information available								48.3	5 / 3								
Meredith, Ted (USA) (1891)	no information available								49.2e	1 / 4								
Haff, Carroll (USA) (1892)	no information available								49.5e	4 / 5								

1908 Olympic Games (London, GBR) (587yd Track)**FINAL**

date 25-Jul-08

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Halswelle, Wyndham (GBR) (1882)	no information available								50.0	1 / 1								

1906 Intercalated Games (Athens, GRE) (Run in Clockwise Direction)**FINAL**

date 29-Apr-06

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Pilgrim, Paul (USA) (1883)	no information available								53.2	1 / 1								
Halswelle, Wyndham (GBR) (1882)	no information available								53.8e	1 / 2								
Barker, Nigel (AUS) (1883)	no information available								54.1e	1 / 3								
Hillman, Harry (USA) (1881)	no information available									1 / 4								
Bacon, Charles (USA) (1885)	no information available									1 / 5								
Moulton, Fay (USA) (1876)	no information available									1 / 6								
Anderson, William (GBR)	no information available									1 / 7								
Bellin du Coteau, Marc (FRA) (1883)	no information available									1 / 8								

1904 Olympic Games (St. Louis, MO)**FINAL**

date 29-Aug-04

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Hillman, Harry (USA) (1881)	no information available								OR	49.2	1 / 1							
Waller, Frank (USA) (1884)	no information available								49.9e	1 / 2								
Groman, Herman (USA) (1882)	no information available								50.0e	1 / 3								
Fleming, Joseph (USA) (1883)	no information available								50.5e	1 / 4								
Prinstein, Myer (USA) (1878)	no information available								50.6e	1 / 5								
Poage, George (USA) (1880)	no information available								51.0e	1 / 6								

1900 Olympic Games (Paris, FRA) (500m Grass Track)**FINAL**

date 15-Jul-00

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential	
Long, Maxwell (USA) (1878)	no information available								OR	49.2	1 / 1							
Holland, William (USA) (1874)	no information available								49.9e	1 / 2								

Schultz, Ernst (DEN) (1879) no information available 50.0e / 3

1900 Exhibition Handicap (Guttenberg, NY) (440y Straightaway)

FINAL

date 10-Apr-00

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
Long, Maxwell (USA) (1878)				22.4				46.7	46.7	/ 1							
reaction time								24.3		# of strides					22.40	24.30	1.90
interval																	
velocity				8.93				8.23	8.57	(47.0/440y)					8.93	8.23	

1896 Olympic Games (Athens, GRE) (333.33m Track)

FINAL

date 06-Apr-96

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Burke, Thomas (USA) (1875)								OR	54.2	/ 1							
Jamison, Herbert (USA) (1875)									56.1e	/ 2							
Gmelin, Charles (GBR) (1872)									58.0e	/ 3							
Hofmann, Fritz (FER) (1871)										/ 4							

1890 ??? Beacon Park (Boston, MA) (440y Straightaway)

FINAL

date 09-Jul-90

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
Downs, William (USA) ???				23.1				47.1	47.1	/ 1							
reaction time								24.0		# of strides					23.10	24.00	
interval																	
velocity				8.66				8.33	8.49	(47 2/5/440y)					8.66	8.33	

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

FINAL

date 01-Jul-86

New York Times - July 2, 1886, Page 1

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
Baker, Wendell (USA) ???				23.2				47.5	47.5	/ 1							
reaction time								24.3		# of strides					23.20	24.30	
interval																	
velocity				8.62				8.23	8.42	(47 3/4/440y)					8.62	8.23	

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

FINAL

date 22-Oct-81

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
Myers, Lon (USA) (1858)						34.8		48.5	48.5	/ 1							
reaction time								13.7		# of strides						13.70	
interval																	
velocity						8.62		7.30	8.25	(48 4/5/440y)						7.30	