TRANSIT OF MERCURY OF 2003 May 7

Location	Position Latitude	Position Longitude	Ingress Exterior Contact UT	Ingress Exterior Contact *P*	Ingress Interior Contact UT	Ingress Interior Contact *P*	Least Angular Distance UT	Least Angular Distance Separation	Egress Interior Contact UT	Egress Interior Contact *P*	Egress Exterior Contact UT	Egress Exterior Contact *P*
	° ′	° ′	h m s	°	h m s	°	h m s	′ ″	h m s	°	h m s	°
United States												
Boston	+42 20.0	− 71 05.0	. .. .. .	.. .	. .. .. .	.. .	. .. .. .	.. .. .	10 29 40.5	291.0	10 34 05.3	290.3
Fairbanks	+64 50.0	−147 50.0	5 10 21.2	15.7	5 14 46.8	14.9	. .. .. .	.. .. .	.. ..	... .	.. ..	... .
New York	+40 44.0	− 74 00.0	. .. .. .	.. .	. .. .. .	.. .	. .. .. .	.. .. .	10 29 42.3	291.0	10 34 07.3	290.3
USNO (Washington DC)	+38 55.3	− 77 04.0	. .. .. .	.. .	. .. .. .	.. .	. .. .. .	.. .. .	10 29 43.9	291.0	10 34 09.0	290.3
Arecibo Obs., **Puerto Rico**	+18 20.6	− 66 45.2	. .. .. .	.. .	. .. .. .	.. .	. .. .. .	.. .. .	10 29 50.8	291.2	10 34 16.2	290.4
Canada												
Algonquin Radio Obs.	+45 57.3	− 78 04.4	. .. .. .	.. .	. .. .. .	.. .	. .. .. .	.. .. .	10 29 36.6	291.0	10 34 01.5	290.2
Montreal	+45 38.0	− 73 33.0	. .. .. .	.. .	. .. .. .	.. .	. .. .. .	.. .. .	10 29 37.1	291.0	10 34 01.9	290.2
Sao Paulo, **Brazil**	−23 33.0	− 46 39.0	. .. .. .	.. .	. .. .. .	.. .	. .. .. .	.. .. .	10 28 52.8	291.7	10 33 19.6	290.8
Caracas,**Venezuela**	+10 35.0	− 66 56.0	. .. .. .	.. .	. .. .. .	.. .	. .. .. .	.. .. .	10 29 48.7	291.2	10 34 14.4	290.5
New Zealand												
Auckland	−36 55.0	+174 47.0	5 13 56.8	14.7	5 18 27.0	13.9	. .. .. .	.. .. .	.. ..	... .	.. ..	... .
Christchurch	−43 33.0	+172 40.0	5 14 13.0	14.7	5 18 43.3	13.9	. .. .. .	.. .. .	.. ..	... .	.. ..	... .
Mt. John Univ. Obs.	−43 59.2	+170 27.9	5 14 15.4	14.7	5 18 45.8	13.9	. .. .. .	.. .. .	.. ..	... .	.. ..	... .
Australia												
Anglo−Aust. Obs.	−31 16.4	+149 03.7	5 14 05.7	14.7	5 18 35.5	13.9	. .. .. .	.. .. .	.. ..	... .	.. ..	... .
Darwin	−12 23.0	+130 44.0	5 13 40.2	14.9	5 18 09.1	14.1	7 51 16.5	11 53.1	.. ..	... .	.. ..	... .
Mt. Stromlo Obs.	−35 19.2	+149 00.5	5 14 14.2	14.7	5 18 44.2	13.9	. .. .. .	.. .. .	.. ..	... .	.. ..	... .
Perth	−31 58.0	+115 49.0	5 14 34.8	14.8	5 19 04.5	14.0	7 51 43.2	11 54.6	.. ..	... .	.. ..	... .
Sydney	−33 55.0	+151 10.0	5 14 09.4	14.7	5 18 39.4	13.9	. .. .. .	.. .. .	.. ..	... .	.. ..	... .
Japan												
Nat. Ast. Obs.	+35 40.3	+139 32.5	5 11 36.7	15.4	5 16 03.4	14.5	7 50 53.2	11 47.7	.. ..	... .	.. ..	... .
Nobeyama Solar Radio Obs.	+35 56.3	+138 28.8	5 11 37.0	15.4	5 16 03.7	14.5	7 50 53.1	11 47.7	.. ..	... .	.. ..	... .
Norikura Solar Obs.	+36 06.8	+137 33.3	5 11 37.4	15.4	5 16 04.0	14.6	7 50 53.0	11 47.7	.. ..	... .	.. ..	... .
Osaka	+34 40.0	+135 30.0	5 11 42.2	15.3	5 16 08.9	14.5	7 50 52.8	11 47.9	.. ..	... .	.. ..	... .
Tokyo	+35 40.0	+139 45.0	5 11 36.6	15.4	5 16 03.2	14.5	7 50 53.2	11 47.7	.. ..	... .	.. ..	... .
Manila, **Philippines**	+14 37.0	+120 58.0	5 12 42.7	15.2	5 17 10.2	14.4	7 50 58.0	11 50.4	.. ..	... .	.. ..	... .
China, People's Republic of												
Purple Mountain Obs.	+32 04.0	+118 49.3	5 12 01.6	15.4	5 16 28.3	14.6	7 50 54.8	11 48.3	10 25 42.7	291.6	10 30 10.9	290.8
Yunnan Obs.	+25 01.5	+102 47.3	5 12 30.6	15.4	5 16 57.4	14.5	7 51 02.9	11 49.0	10 25 25.2	291.7	10 29 53.3	290.9
India												
Bombay	+18 56.0	+ 72 51.0	5 13 00.9	15.5	5 17 27.7	14.6	7 51 31.3	11 48.7	10 25 36.3	291.8	10 30 03.5	290.9
New Delhi	+28 37.0	+ 77 13.0	5 12 33.9	15.5	5 17 00.4	14.7	7 51 22.6	11 47.8	10 25 48.1	291.7	10 30 15.1	290.8
Riyadh, **Saudi Arabia**	+24 39.0	+ 46 46.0	5 12 46.7	15.6	5 17 13.1	14.8	7 51 58.2	11 46.8	10 26 29.3	291.6	10 30 55.1	290.8
S. African Ast. Obs., **South Africa**	−33 56.1	+ 18 28.7	. .. .. .	.. .	. .. .. .	.. .	7 53 11.7	11 51.0	10 26 38.2	292.1	10 31 06.0	291.2

Location	Position		Ingress Exterior Contact		Ingress Interior Contact		Least Angular Distance		Egress Interior Contact		Egress Exterior Contact	
	Latitude	Longitude	UT	*P*	UT	*P*	UT	Separation	UT	*P*	UT	*P*
	° ′	° ′	h m s	°	h m s	°	h m s	′ ″	h m s	°	h m s	°
Egypt												
Kottamia Obs.	+29 55.9	+ 31 49.5	5 12 28.6	15.7	5 16 54.6	14.9	7 52 11.6	11 45.4	10 27 07.1	291.5	10 31 32.3	290.7
Cairo	+30 03.0	+ 31 15.0	5 12 28.0	15.7	5 16 54.1	14.9	7 52 12.2	11 45.4	10 27 08.5	291.5	10 31 33.6	290.7
Alger Obs., **Algeria**	+36 48.1	+ 3 02.1	5 11 55.6	15.8	5 16 21.4	15.1	7 52 33.0	11 43.4	10 28 13.4	291.4	10 32 37.7	290.6
Khartoum, **Sudan**	+15 33.0	+ 32 32.0	5 13 06.7	15.6	5 17 33.3	14.8	7 52 22.5	11 46.8	10 26 48.9	291.7	10 31 14.6	290.9
Ankara, **Turkey**	+39 55.0	+ 32 50.0	5 12 03.4	15.8	5 16 29.1	15.0	7 52 02.7	11 44.6	10 27 17.0	291.4	10 31 42.0	290.6
Athens, **Greece**	+38 00.0	+ 23 44.0	5 12 04.6	15.8	5 16 30.3	15.0	7 52 13.2	11 44.3	10 27 32.5	291.4	10 31 57.3	290.6
Spain												
National Ast. Obs., Madrid	+40 24.6	− 3 41.1	5 11 42.8	15.9	5 16 08.4	15.1	7 52 33.7	11 42.9	10 28 27.4	291.3	10 32 51.6	290.5
Barcelona	+41 25.0	+ 2 10.0	5 11 44.5	15.9	5 16 10.1	15.1	7 52 28.3	11 43.1	10 28 16.8	291.3	10 32 41.1	290.5
Roque de los Muchachos Obs.	+28 45.6	− 17 52.9	. .. .. .	.. .	. .. .. .	.. .	7 52 57.0	11 43.0	10 28 52.3	291.3	10 33 16.6	290.5
Lisbon Ast. Obs., **Portugal**	+38 42.7	− 9 11.2	. .. .. .	.. .	. .. .. .	.. .	7 52 39.4	11 42.8	10 28 37.2	291.3	10 33 01.4	290.5
United Kingdom												
Univ. of London Obs.	+51 36.8	− 0 14.4	5 11 21.5	15.9	5 15 46.8	15.1	7 52 17.9	11 42.5	10 28 22.7	291.2	10 32 47.0	290.4
Univ. of Glasgow Obs.	+55 54.1	− 4 18.3	5 11 11.2	15.9	5 15 36.5	15.1	7 52 14.8	11 42.2	10 28 28.3	291.2	10 32 52.5	290.4
France												
Paris Obs.	+48 50.2	+ 2 20.2	5 11 28.5	15.9	5 15 53.9	15.1	7 52 19.6	11 42.7	10 28 18.3	291.3	10 32 42.6	290.5
Pic du Midi Obs.	+42 56.2	+ 0 08.7	5 11 39.8	15.9	5 16 05.3	15.1	7 52 28.0	11 42.9	10 28 20.9	291.3	10 32 45.2	290.5
Strasbourg Obs.	+48 35.0	+ 7 46.2	5 11 32.0	15.9	5 15 57.4	15.1	7 52 16.2	11 42.9	10 28 09.3	291.3	10 32 33.6	290.5
Germany												
Archenhold Obs., Berlin	+52 29.2	+ 13 28.7	5 11 26.5	15.9	5 15 51.8	15.1	7 52 08.1	11 42.9	10 28 01.8	291.3	10 32 26.2	290.5
Hamburg Obs.	+53 28.9	+ 10 14.5	5 11 23.0	15.9	5 15 48.3	15.1	7 52 09.2	11 42.8	10 28 07.2	291.3	10 32 31.5	290.5
Italy												
Bologna Univ. Obs.	+44 15.5	+ 11 20.2	5 11 43.5	15.9	5 16 09.0	15.1	7 52 18.2	11 43.3	10 28 01.1	291.3	10 32 25.5	290.5
Rome	+41 53.0	+ 12 30.0	5 11 49.6	15.8	5 16 15.2	15.1	7 52 19.7	11 43.5	10 27 57.5	291.3	10 32 22.0	290.6
Warsaw Univ. Ast. Obs., **Poland**	+52 05.4	+ 21 25.2	5 11 30.6	15.9	5 15 56.0	15.1	7 52 02.7	11 43.3	10 27 49.1	291.3	10 32 13.7	290.5
Skitbotn Ast. Obs., **Norway**	+69 20.9	+ 20 21.9	5 10 56.9	15.9	5 15 22.0	15.1	7 51 49.0	11 42.5	10 28 01.9	291.2	10 32 26.6	290.4
Univ. of Helsinki Obs., **Finland**	+60 09.7	+ 24 57.3	5 11 14.8	15.9	5 15 40.1	15.1	7 51 53.7	11 43.0	10 27 50.7	291.2	10 32 15.3	290.4
Russia												
Irkutsk Ast. Obs.	+52 16.7	+104 20.7	5 11 25.5	15.6	5 15 51.2	14.8	7 51 04.7	11 45.8	10 26 28.5	291.4	10 30 55.2	290.6
Pulkovo Obs.	+59 46.4	+ 30 19.6	5 11 17.0	15.9	5 15 42.3	15.1	7 51 50.6	11 43.2	10 27 43.6	291.3	10 32 08.3	290.5
Moscow	+55 45.0	+ 37 42.0	5 11 27.2	15.8	5 15 52.5	15.0	7 51 47.9	11 43.6	10 27 29.3	291.3	10 31 54.2	290.5
Tashkent Obs., **Uzbekistan**	+41 19.5	+ 69 17.6	5 12 02.9	15.6	5 16 28.8	14.8	7 51 26.5	11 46.1	10 26 22.6	291.5	10 30 48.7	290.7
Reykjavik, **Iceland**	+64 09.0	− 21 58.0	5 10 49.9	15.9	5 15 15.0	15.1	7 52 10.0	11 41.7	10 28 43.2	291.1	10 33 07.5	290.3

Dot leaders indicate the phenomenon occurs below the horizon. Blanks indicate the phenomenon does not occur for the location.