

Planetary occultations for the stars up to the magnitudes 3.5 since 1400 January 01 to 2500 December 31

Mercury

Conditions of minimum geocentric angular distance (within 0.050°)																	
#1	#2	Date	TDT	Dm (°)	Dl	Err	RA (°)	Dec	r1	p (°)	e	m1	m*	tm(s)	tw(h)		
-1	564091	1410/11/18	08:09:47	0.00168	0.00240	0.00008	251.509	-24.203	1.40	350	9	-0.7	3.4	52.8	0.8	Mercury	42 Theta OPH
-1	593326	1412/10/22	08:25:16	0.00165	0.00259	0.00008	231.499	-20.783	1.30	162	17	-0.4	2.4	65.3	0.8	Mercury	7 Delta SCO Dschubba
-1	1137916	1512/05/29	21:38:57	0.00140	0.00283	0.00004	93.473	25.473	1.19	359	16	-0.7	3.2	62.6	0.6	Mercury	27 Epsilon GEM Mabsuta
-1	1137916	1637/06/09	08:56:51	0.00173	0.00285	0.00004	95.405	25.419	1.18	178	16	-0.7	3.2	58.6	0.6	Mercury	27 Epsilon GEM Mabsuta
-1	1093912	1725/06/05	16:11:19	0.00371	0.00605	0.00008	80.313	20.940	0.56	213	7	3.2	3.0	405.0	2.1	Mercury	123 Zeta TAU Alheka
-1	627995	1802/12/09	07:37:08	0.00181	0.00267	0.00008	238.501	-19.255	1.26	343	16	-0.6	2.7	63.6	0.8	Mercury	8 Beta1 SCO Graffias
-1	558878	1850/12/16	11:28:39	0.00019	0.00247	0.00003	274.689	-25.497	1.37	181	10	-0.8	2.9	74.4	0.8	Mercury	22 Lambda SGR Kaus Boreal.
-1	558878	1865/12/05	14:21:03	0.00170	0.00334	0.00003	274.926	-25.488	1.01	7	21	-0.3	2.9	133.5	1.2	Mercury	22 Lambda SGR Kaus Boreal.
-1	1137916	1881/06/07	20:54:29	0.00005	0.00322	0.00004	99.164	25.246	1.05	175	21	-0.1	3.2	98.0	0.8	Mercury	27 Epsilon GEM Mabsuta
-1	1137916	1940/06/10	02:25:36	0.00275	0.00311	0.00004	100.069	25.192	1.08	355	20	-0.2	3.2	42.1	0.7	Mercury	27 Epsilon GEM Mabsuta
-1	1137916	1953/06/11	10:52:39	0.00098	0.00303	0.00004	100.272	25.179	1.11	175	19	-0.4	3.2	79.9	0.7	Mercury	27 Epsilon GEM Mabsuta
-1	675517	2052/11/10	07:19:57	0.00351	0.00496	0.00002	223.453	-16.259	0.68	148	-3	3.8	2.8	126.1	0.9	Mercury	9 Alpha2 LIB ZubeneIgenub
-1	564091	2232/12/07	02:46:08	0.00139	0.00242	0.00008	264.094	-25.175	1.39	355	10	-0.7	3.4	61.1	0.8	Mercury	42 Theta OPH
-1	991069	2253/08/01	15:46:37	0.00206	0.00309	0.00008	155.455	10.699	1.09	153	23	0.1	1.3	75.2	0.8	Mercury	32 Alpha LEO Regulus
-1	627995	2282/12/15	04:37:22	0.00051	0.00266	0.00008	245.499	-20.512	1.27	166	-16	-0.6	2.7	84.5	0.8	Mercury	8 Beta1 SCO Graffias
-1	558878	2404/12/13	02:34:18	0.00018	0.00318	0.00003	283.230	-25.045	1.06	189	21	-0.3	2.9	130.3	1.0	Mercury	22 Lambda SGR Kaus Boreal.
-1	675517	2482/11/15	23:10:37	0.00187	0.00236	0.00002	229.491	-17.908	1.43	341	-2	-1.0	2.8	42.2	0.7	Mercury	9 Alpha2 LIB ZubeneIgenub

Venus

Conditions of minimum geocentric angular distance (within 0.0500)

#1	#2	Date	TDT	Dm (°)	Dl	Err	RA (°)	Dec	r1	p (°)	e	m1	m*	tm(s)	tw(h)			
-2	675517	1469/10/08	12:57:17	0.00209	0.00288	0.00002	215.460	-13.743	1.65	159	14	-3.9	2.8	133.7	1.0	Venus	9 Alpha2	LIB Zubenelgenub
-2	1103327	1472/07/21	01:33:05	0.00180	0.00321	0.00008	102.129	22.798	1.49	357	-26	-3.8	3.5	184.3	1.0	Venus	55 Delta	GEM Wasat
-2	558878	1490/11/04	05:21:07	0.00329	0.00408	0.00003	269.142	-25.543	1.17	358	38	-3.9	2.9	169.3	1.0	Venus	22 Lambda	SGR Kaus Boreal.
-2	539351	1575/11/05	22:26:28	0.00288	0.01109	0.00002	274.776	-27.322	0.43	7	41	-4.7	3.1	1540	2.0	Venus	27 Phi	SGR
-2	1126736	1598/05/08	15:10:03	0.01456	0.01637	0.00008	50.955	22.782	0.29	212	8	-1.7	3.0	1016	1.9	Venus	25 Eta	TAU Alcyone
-2	627995	1606/12/09	10:04:06	0.00032	0.00303	0.00008	235.677	-18.658	1.57	165	-20	-3.9	2.7	202.4	1.0	Venus	8 Beta1	SCO Graffias
-2	548118	1730/11/14	02:24:27	0.00718	0.00735	0.00003	279.643	-26.590	0.65	4	47	-4.4	2.1	135.2	1.2	Venus	34 Sigma	SGR Nunki
-2	564091	1765/11/02	11:35:56	0.00203	0.00402	0.00008	256.915	-24.743	1.18	353	38	-3.9	3.4	242.6	1.0	Venus	42 Theta	OPH
-2	732889	1783/11/10	08:10:45	0.00909	0.01500	0.00008	198.449	-10.028	0.32	84	-27	-4.3	1.1	4043	4.7	Venus	67 Alpha	VIR Spica
-2	627995	1906/12/09	17:45:51	0.00490	0.01715	0.00008	239.999	-19.553	0.28	140	-15	-3.3	2.7	2800	2.4	Venus	8 Beta1	SCO Graffias
-2	675517	1947/10/25	01:47:11	0.00140	0.00288	0.00002	221.992	-15.827	1.65	161	14	-3.9	2.8	169.7	1.0	Venus	9 Alpha2	LIB Zubenelgenub
-2	991069	1959/07/07	14:28:32	0.00110	0.00807	0.00008	151.554	12.163	0.59	152	44	-4.4	1.3	811.2	1.4	Venus	32 Alpha	LEO Regulus
-2	548118	1981/11/17	15:33:48	0.00124	0.00771	0.00003	283.530	-26.318	0.62	6	47	-4.5	2.1	669.9	1.3	Venus	34 Sigma	SGR Nunki
-2	558878	1984/11/19	01:35:05	0.00392	0.00418	0.00003	276.755	-25.429	1.14	2	39	-3.9	2.9	101.6	1.0	Venus	22 Lambda	SGR Kaus Boreal.
-2	612934	2035/02/17	15:21:08	0.00433	0.00465	0.00008	287.961	-20.967	1.02	184	-42	-4.0	3.0	121.5	1.0	Venus	41 Pi	SGR Albaldah
-2	991069	2044/10/01	22:02:18	0.00112	0.00422	0.00008	152.690	11.748	1.13	342	-39	-3.9	1.3	290.9	1.0	Venus	32 Alpha	LEO Regulus
-2	1109136	2145/07/31	03:24:38	0.00121	0.00347	0.00008	97.942	22.409	1.37	179	-31	-3.8	3.2	229.3	1.0	Venus	13 Mu	GEM Tejat
-2	732889	2197/09/02	08:01:59	0.00163	0.00664	0.00008	203.922	-12.178	0.72	333	46	-4.3	1.1	541.9	1.2	Venus	67 Alpha	VIR Spica
-2	546461	2400/11/17	01:49:00	0.01418	0.01620	0.00008	253.568	-27.170	0.29	327	21	-3.9	1.0	2114	3.7	Venus	21 Alpha	SCO Antares
-2	1103327	2420/08/12	11:41:53	0.00285	0.00323	0.00008	116.277	21.063	1.48	352	-26	-3.8	3.5	105.7	1.0	Venus	55 Delta	GEM Wasat
-2	675517	2425/10/30	14:34:31	0.00005	0.00288	0.00002	228.684	-17.702	1.65	343	13	-3.9	2.8	194.2	1.0	Venus	9 Alpha2	LIB Zubenelgenub
-2	1093912	2431/08/05	07:11:51	0.00295	0.00478	0.00008	90.873	21.237	1.00	182	-42	-4.0	3.0	284.0	1.1	Venus	123 Zeta	TAU Alheka

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Mars

Conditions of minimum geocentric angular distance (within 0.050 \emptyset)																		
#1	#2	Date	TDT	Dm (\emptyset)	Dl	Err	RA (\emptyset)	Dec	r1	p (\emptyset)	e	m1	m*	tm(s)	tw(h)			
-4	1137916	1976/04/08	00:58:20	0.00053	0.00253	0.00004	100.622	25.154	1.48	354	81	0.9	3.2	297.9	2.4	Mars	27 Epsilon	GEM Mebsuta
-4	564091	2078/10/03	22:02:02	0.00060	0.00277	0.00008	261.710	-25.069	1.35	357	71	0.5	3.4	232.7	1.7	Mars	42 Theta	OPH
-4	627995	2127/02/28	20:00:14	0.00201	0.00314	0.00008	243.217	-20.131	1.19	348	-95	0.4	2.7	307.6	2.5	Mars	8 Beta1	SCO Graffias

<http://www.les-merides.astronomiques.lfrance.com>

Jupiter

Conditions of minimum geocentric angular distance (within 0.0500)

#1	#2	Date	TDT	Dm (°)	Dl	Err	RA (°)	Dec	r1	p (°)	e	m1	m*	tm(s)	tw(h)			
-5	627995	1876/02/28	05:13:58	0.00441	0.00563	0.00008	239.559	-19.471	5.18	170	-97	-2.0	2.7	9734	21.0	Jupiter	8 Beta1	SCO Graffias
-5	627995	1971/05/13	19:08:04	0.00489	0.00667	0.00008	240.946	-19.726	4.37	349	-170	-2.5	2.7	5839	9.7	Jupiter	8 Beta1	SCO Graffias

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Saturn

Conditions of minimum geocentric angular distance (within 0.050°)																		
#1	#2	Date	TDT	Dm (°)	Dl	Err	RA (°)	Dec	r1	p (°)	e	m1	m*	tm(s)	tw(h)			
-6	1109136	2474/12/30	05:06:17	0.00240	0.00308	0.00008	102.915	22.069	8.04	174	-177	-0.0	3.2	3649	14.5	Saturn	13 Mu	GEM Tejat

<http://www.ephemerides.astronomiques.iffrance.com>

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Uranus

Conditions of minimum geocentric angular distance (within 0.0500°)

#1	#2	Date	TDT	Dm (°)	Dl	Err	RA (°)	Dec	r1	p (°)	e	m1	m*	tm(s)	tw(h)
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Neptune

Conditions of minimum geocentric angular distance (within 0.0500°)

#1	#2	Date	TDT	Dm (°)	Dl	Err	RA (°)	Dec	r1	p (°)	e	m1	m*	tm(s)	tw(h)
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Pluto

Conditions of minimum geocentric angular distance (within 0.0500°)

#1	#2	Date	TDT	Dm (°)	Dl	Err	RA (°)	Dec	r1	p (°)	e	m1	m*	tm(s)	tw(h)
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2007 July 20

Main Abbreviations

Dm: Minimum *apparent* angular separation (degrees).

Err: Estimated angular uncertainty (degrees) of *Dm*.

r1* & *r2: Geocentric (or planetocentric) distances (AU) of the two bodies at the epoch of minimum separation.

p: Position angle (degrees) of body #2 with respect to the center of body #1 at the minimum angular separation, measured clockwise from South = 0.

e: Elongation (degrees) from the Sun of body #1.

m1* & *m2: Approximate visual magnitudes of the two bodies.

tm: Maximum observable occultation time, in seconds (only present in the case of an occultation, when $Dm < DI$).

tw: Approximate time half-window (in hours) within which the angular distance is smaller than the selected value.

We strongly recommend to read with attention the Handbook!

SOLEX 9.12 is used by <http://ephemerides.astronomiques.ifrance.com>

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