

The Venus Phase Cycle, 1900-2050
by Patricia White

Venus takes only 225 days to orbit the Sun. However, when she is viewed from Earth, her full synodic cycle (from inferior conjunction to inferior conjunction with the Sun) takes 584 days, or about 1.6 years. This is due to the interaction of Venus's 225-day orbital period with the 365-day orbital period of the Earth.

Below is a listing of the principal stages in each Venus phase cycle, with a line space between each 1.6-year cycle. Note that each new Venus phase cycle begins about a biquintile (144 degrees) earlier in the zodiac than the previous one. In five successive phase cycles the inferior conjunction points (or other comparable points in the cycles) trace a pentagram around the zodiac.

Five Venus phase cycles take almost exactly eight years. At the end of every five cycles, we have inserted an extra line space. This marks the beginning of a new series of five cycles. The new series traces a similar pentagram, but everything is displaced approximately two degrees earlier.

Note also that every four years the superior conjunction takes place at almost exactly the same zodiacal degree (within only a few minutes of arc) and usually on the same day of the year as the preceding inferior conjunction.

The underlined inferior conjunctions in 2004 and 2012 are transits of Venus, rare occurrences when Venus passes across the face of the Sun when viewed from Earth. See this author's article "Coming Full Circle: The June 8, 2004 Transit of Venus."

4	28	1900	Max. Elong. E.	23:10	GMT	...	23Ge41
6	16	1900	Retro. Station	22:22	GMT	...	24Cn00
7	8	1900	Inferior Conj.	11:06	GMT	...	15Cn48
7	30	1900	Direct Station	2:32	GMT	...	7Cn30
9	17	1900	Max. Elong. W.	18:27	GMT	...	8Le22
5	1	1901	Superior Conj.	2:04	GMT	...	10Ta00
12	5	1901	Max. Elong. E.	9:41	GMT	...	29Cp50
1	25	1902	Retro. Station	3:05	GMT	...	3Pi22
2	14	1902	Inferior Conj.	22:58	GMT	...	25Aq21
3	7	1902	Direct Station	12:48	GMT	...	17Aq32
4	25	1902	Max. Elong. W.	23:31	GMT	...	18Pi37
11	29	1902	Superior Conj.	2:37	GMT	...	5Sg57
7	10	1903	Max. Elong. E.	4:16	GMT	...	2Vi14
8	27	1903	Retro. Station	17:38	GMT	...	1Li44
9	17	1903	Inferior Conj.	21:13	GMT	...	23Vi47
10	9	1903	Direct Station	4:38	GMT	...	15Vi40
11	28	1903	Max. Elong. W.	10:58	GMT	...	18Li18
7	8	1904	Superior Conj.	8:15	GMT	...	15Cn42
2	14	1905	Max. Elong. E.	14:28	GMT	...	11Ar55

4	6	1905	Retro. Station	3:55	GMT	...	14Ta42
4	27	1905	Inferior Conj.	9:52	GMT	...	6Ta27
5	18	1905	Direct Station	18:06	GMT	...	28Ar16
7	6	1905	Max. Elong. W.	14:50	GMT	...	28Ta12
2	14	1906	Superior Conj.	9:40	GMT	...	24Aq48
9	20	1906	Max. Elong. E.	6:05	GMT	...	12Sc46
11	9	1906	Retro. Station	15:37	GMT	...	14Sg45
11	30	1906	Inferior Conj.	5:20	GMT	...	7Sg06
12	20	1906	Direct Station	16:27	GMT	...	29Sc27
2	9	1907	Max. Elong. W.	18:21	GMT	...	3Cp05
9	15	1907	Superior Conj.	1:37	GMT	...	21Vi04
4	26	1908	Max. Elong. E.	13:01	GMT	...	21Ge24
6	14	1908	Retro. Station	14:52	GMT	...	21Cn51
7	6	1908	Inferior Conj.	3:32	GMT	...	13Cn38
7	27	1908	Direct Station	18:27	GMT	...	5Cn21
9	15	1908	Max. Elong. W.	10:23	GMT	...	6Le10
4	28	1909	Superior Conj.	17:52	GMT	...	7Ta47
12	2	1909	Max. Elong. E.	23:33	GMT	...	27Cp25
1	22	1910	Retro. Station	17:25	GMT	...	0Pi56
2	12	1910	Inferior Conj.	12:24	GMT	...	22Aq56
3	5	1910	Direct Station	1:57	GMT	...	15Aq07
4	23	1910	Max. Elong. W.	15:10	GMT	...	16Pi21
11	26	1910	Superior Conj.	13:55	GMT	...	3Sg27
7	7	1911	Max. Elong. E.	20:21	GMT	...	0Vi03
8	25	1911	Retro. Station	7:57	GMT	...	29Vi29
9	15	1911	Inferior Conj.	11:58	GMT	...	21Vi31
10	6	1911	Direct Station	20:26	GMT	...	13Vi23
11	26	1911	Max. Elong. W.	1:25	GMT	...	15Li57
7	6	1912	Superior Conj.	2:33	GMT	...	13Cn38
2	12	1913	Max. Elong. E.	6:01	GMT	...	9Ar39
4	3	1913	Retro. Station	19:48	GMT	...	12Ta30
4	25	1913	Inferior Conj.	1:50	GMT	...	4Ta15
5	16	1913	Direct Station	9:39	GMT	...	26Ar05
7	4	1913	Max. Elong. W.	4:38	GMT	...	25Ta57
2	11	1914	Superior Conj.	20:39	GMT	...	22Aq18
9	17	1914	Max. Elong. E.	18:01	GMT	...	10Sc21
11	7	1914	Retro. Station	3:13	GMT	...	12Sg17
11	27	1914	Inferior Conj.	17:37	GMT	...	4Sg39
12	18	1914	Direct Station	4:31	GMT	...	26Sc59
2	7	1915	Max. Elong. W.	6:38	GMT	...	0Cp37
9	12	1915	Superior Conj.	18:21	GMT	...	18Vi54
4	24	1916	Max. Elong. E.	3:53	GMT	...	19Ge11
6	12	1916	Retro. Station	7:50	GMT	...	19Cn44
7	3	1916	Inferior Conj.	19:59	GMT	...	11Cn30
7	25	1916	Direct Station	10:50	GMT	...	3Cn13
9	13	1916	Max. Elong. W.	3:16	GMT	...	4Le01
4	26	1917	Superior Conj.	9:30	GMT	...	5Ta34

11	30	1917	Max. Elong. E.	14:16	GMT	...	25Cp04
1	20	1918	Retro. Station	7:53	GMT	...	28Aq31
2	10	1918	Inferior Conj.	1:47	GMT	...	20Aq32
3	2	1918	Direct Station	15:27	GMT	...	12Aq44
4	21	1918	Max. Elong. W.	6:39	GMT	...	14Pi06
11	24	1918	Superior Conj.	1:07	GMT	...	0Sg57
7	5	1919	Max. Elong. E.	11:52	GMT	...	27Le51
8	22	1919	Retro. Station	21:54	GMT	...	27Vi14
9	13	1919	Inferior Conj.	2:52	GMT	...	19Vi16
10	4	1919	Direct Station	11:49	GMT	...	11Vi08
11	23	1919	Max. Elong. W.	15:18	GMT	...	13Li35
7	3	1920	Superior Conj.	20:54	GMT	...	11Cn34
2	9	1921	Max. Elong. E.	20:48	GMT	...	7Ar21
4	1	1921	Retro. Station	11:22	GMT	...	10Ta17
4	22	1921	Inferior Conj.	17:39	GMT	...	2Ta02
5	14	1921	Direct Station	0:30	GMT	...	23Ar52
7	1	1921	Max. Elong. W.	18:25	GMT	...	23Ta41
2	9	1922	Superior Conj.	7:19	GMT	...	19Aq47
9	15	1922	Max. Elong. E.	6:50	GMT	...	7Sc58
11	4	1922	Retro. Station	15:24	GMT	...	9Sg50
11	25	1922	Inferior Conj.	6:00	GMT	...	2Sg12
12	15	1922	Direct Station	17:11	GMT	...	24Sc30
2	4	1923	Max. Elong. W.	19:58	GMT	...	28Sg11
9	10	1923	Superior Conj.	11:04	GMT	...	16Vi42
4	21	1924	Max. Elong. E.	19:32	GMT	...	16Ge59
6	10	1924	Retro. Station	0:52	GMT	...	17Cn35
7	1	1924	Inferior Conj.	12:22	GMT	...	9Cn21
7	23	1924	Direct Station	3:36	GMT	...	1Cn04
9	10	1924	Max. Elong. W.	20:07	GMT	...	1Le52
4	24	1925	Superior Conj.	1:14	GMT	...	3Ta21
11	28	1925	Max. Elong. E.	5:05	GMT	...	22Cp41
1	17	1926	Retro. Station	22:13	GMT	...	26Aq05
2	7	1926	Inferior Conj.	15:11	GMT	...	18Aq06
2	28	1926	Direct Station	4:50	GMT	...	10Aq20
4	18	1926	Max. Elong. W.	21:21	GMT	...	11Pi49
11	21	1926	Superior Conj.	12:29	GMT	...	28Sc27
7	3	1927	Max. Elong. E.	2:50	GMT	...	25Le38
8	20	1927	Retro. Station	11:44	GMT	...	25Vi00
9	10	1927	Inferior Conj.	17:53	GMT	...	17Vi01
10	2	1927	Direct Station	2:52	GMT	...	8Vi51
11	21	1927	Max. Elong. W.	5:12	GMT	...	11Li12
7	1	1928	Superior Conj.	15:34	GMT	...	9Cn31
2	7	1929	Max. Elong. E.	11:35	GMT	...	5Ar01
3	30	1929	Retro. Station	3:05	GMT	...	8Ta03
4	20	1929	Inferior Conj.	9:28	GMT	...	29Ar48
5	11	1929	Direct Station	15:04	GMT	...	21Ar39
6	29	1929	Max. Elong. W.	9:00	GMT	...	21Ta27
2	6	1930	Superior Conj.	17:42	GMT	...	17Aq14

9	12	1930	Max. Elong. E.	20:29	GMT	...	5Sc38
11	2	1930	Retro. Station	3:52	GMT	...	7Sg23
11	22	1930	Inferior Conj.	18:18	GMT	...	29Sc44
12	13	1930	Direct Station	6:26	GMT	...	22Sc02
2	2	1931	Max. Elong. W.	9:47	GMT	...	25Sg47
9	8	1931	Superior Conj.	4:13	GMT	...	14Vi33
4	19	1932	Max. Elong. E.	11:26	GMT	...	14Ge47
6	7	1932	Retro. Station	17:37	GMT	...	15Cn26
6	29	1932	Inferior Conj.	4:41	GMT	...	7Cn12
7	20	1932	Direct Station	20:24	GMT	...	28Ge55
9	8	1932	Max. Elong. W.	12:27	GMT	...	29Cn42
4	21	1933	Superior Conj.	16:23	GMT	...	1Ta06
11	25	1933	Max. Elong. E.	19:13	GMT	...	20Cp18
1	15	1934	Retro. Station	11:47	GMT	...	23Aq39
2	5	1934	Inferior Conj.	4:26	GMT	...	15Aq41
2	25	1934	Direct Station	17:45	GMT	...	7Aq56
4	16	1934	Max. Elong. W.	11:15	GMT	...	9Pi29
11	19	1934	Superior Conj.	0:21	GMT	...	25Sc59
6	30	1935	Max. Elong. E.	17:00	GMT	...	23Le23
8	18	1935	Retro. Station	1:44	GMT	...	22Vi46
9	8	1935	Inferior Conj.	8:50	GMT	...	14Vi46
9	29	1935	Direct Station	17:48	GMT	...	6Vi36
11	18	1935	Max. Elong. W.	19:29	GMT	...	8Li52
6	29	1936	Superior Conj.	9:45	GMT	...	7Cn27
2	5	1937	Max. Elong. E.	2:36	GMT	...	2Ar43
3	27	1937	Retro. Station	19:08	GMT	...	5Ta50
4	18	1937	Inferior Conj.	1:15	GMT	...	27Ar36
5	9	1937	Direct Station	5:58	GMT	...	19Ar26
6	27	1937	Max. Elong. W.	0:21	GMT	...	19Ta16
2	4	1938	Superior Conj.	4:06	GMT	...	14Aq42
9	10	1938	Max. Elong. E.	10:43	GMT	...	3Sc19
10	30	1938	Retro. Station	16:24	GMT	...	4Sg56
11	20	1938	Inferior Conj.	6:32	GMT	...	27Sc17
12	10	1938	Direct Station	19:55	GMT	...	19Sc34
1	30	1939	Max. Elong. W.	23:38	GMT	...	23Sg23
9	5	1939	Superior Conj.	21:16	GMT	...	12Vi24
4	17	1940	Max. Elong. E.	3:15	GMT	...	12Ge36
6	5	1940	Retro. Station	10:07	GMT	...	13Cn18
6	26	1940	Inferior Conj.	21:15	GMT	...	5Cn04
7	18	1940	Direct Station	13:15	GMT	...	26Ge47
9	6	1940	Max. Elong. W.	4:18	GMT	...	27Cn31
4	19	1941	Superior Conj.	7:36	GMT	...	28Ar51
11	23	1941	Max. Elong. E.	8:31	GMT	...	17Cp51
1	13	1942	Retro. Station	0:44	GMT	...	21Aq11
2	2	1942	Inferior Conj.	17:34	GMT	...	13Aq15
2	23	1942	Direct Station	6:04	GMT	...	5Aq31
4	14	1942	Max. Elong. W.	0:42	GMT	...	7Pi08

11	16	1942	Superior Conj.	12:11	GMT	...	23Sc31
6	28	1943	Max. Elong. E.	7:21	GMT	...	21Le08
8	15	1943	Retro. Station	16:39	GMT	...	20Vi33
9	6	1943	Inferior Conj.	0:07	GMT	...	12Vi32
9	27	1943	Direct Station	9:17	GMT	...	4Vi21
11	16	1943	Max. Elong. W.	10:43	GMT	...	6Li33
6	27	1944	Superior Conj.	3:59	GMT	...	5Cn22
2	2	1945	Max. Elong. E.	18:22	GMT	...	0Ar26
3	25	1945	Retro. Station	11:26	GMT	...	3Ta35
4	15	1945	Inferior Conj.	16:46	GMT	...	25Ar21
5	6	1945	Direct Station	21:05	GMT	...	17Ar12
6	24	1945	Max. Elong. W.	16:00	GMT	...	17Ta04
2	1	1946	Superior Conj.	14:22	GMT	...	12Aq08
9	8	1946	Max. Elong. E.	1:38	GMT	...	1Sc02
10	28	1946	Retro. Station	4:54	GMT	...	2Sg30
11	17	1946	Inferior Conj.	19:04	GMT	...	24Sc50
12	8	1946	Direct Station	9:35	GMT	...	17Sc07
1	28	1947	Max. Elong. W.	12:44	GMT	...	20Sg56
9	3	1947	Superior Conj.	14:26	GMT	...	10Vi14
4	14	1948	Max. Elong. E.	18:14	GMT	...	10Ge22
6	3	1948	Retro. Station	2:03	GMT	...	11Cn09
6	24	1948	Inferior Conj.	13:39	GMT	...	2Cn55
7	16	1948	Direct Station	5:28	GMT	...	24Ge38
9	3	1948	Max. Elong. W.	18:54	GMT	...	25Cn17
4	16	1949	Superior Conj.	22:51	GMT	...	26Ar36
11	20	1949	Max. Elong. E.	20:39	GMT	...	15Cp22
1	10	1950	Retro. Station	13:38	GMT	...	18Aq45
1	31	1950	Inferior Conj.	6:43	GMT	...	10Aq50
2	20	1950	Direct Station	18:06	GMT	...	3Aq06
4	11	1950	Max. Elong. W.	14:06	GMT	...	4Pi46
11	14	1950	Superior Conj.	0:01	GMT	...	21Sc03
6	25	1951	Max. Elong. E.	22:12	GMT	...	18Le55
8	13	1951	Retro. Station	7:53	GMT	...	18Vi20
9	3	1951	Inferior Conj.	15:10	GMT	...	10Vi18
9	25	1951	Direct Station	1:01	GMT	...	2Vi06
11	14	1951	Max. Elong. W.	2:44	GMT	...	4Li17
6	24	1952	Superior Conj.	22:19	GMT	...	3Cn18
1	31	1953	Max. Elong. E.	10:59	GMT	...	28Pi12
3	23	1953	Retro. Station	3:54	GMT	...	1Ta21
4	13	1953	Inferior Conj.	8:17	GMT	...	23Ar06
5	4	1953	Direct Station	12:35	GMT	...	14Ar58
6	22	1953	Max. Elong. W.	7:48	GMT	...	14Ta54
1	30	1954	Superior Conj.	0:19	GMT	...	9Aq35
9	5	1954	Max. Elong. E.	15:43	GMT	...	28Li43
10	25	1954	Retro. Station	16:38	GMT	...	0Sg04
11	15	1954	Inferior Conj.	7:28	GMT	...	22Sc24
12	5	1954	Direct Station	22:40	GMT	...	14Sc40
1	26	1955	Max. Elong. W.	0:36	GMT	...	18Sg27

9	1	1955	Superior Conj.	7:59	GMT	...	8Vi07
4	12	1956	Max. Elong. E.	8:05	GMT	...	8Ge05
5	31	1956	Retro. Station	18:05	GMT	...	9Cn01
6	22	1956	Inferior Conj.	6:10	GMT	...	0Cn47
7	13	1956	Direct Station	21:22	GMT	...	22Ge30
9	1	1956	Max. Elong. W.	9:22	GMT	...	23Cn03
4	14	1957	Superior Conj.	13:41	GMT	...	24Ar20
11	18	1957	Max. Elong. E.	8:25	GMT	...	12Cp53
1	8	1958	Retro. Station	2:49	GMT	...	16Aq18
1	28	1958	Inferior Conj.	19:49	GMT	...	8Aq24
2	18	1958	Direct Station	6:19	GMT	...	0Aq41
4	9	1958	Max. Elong. W.	4:30	GMT	...	2Pi27
11	11	1958	Superior Conj.	12:22	GMT	...	18Sc37
6	23	1959	Max. Elong. E.	14:06	GMT	...	16Le45
8	10	1959	Retro. Station	23:17	GMT	...	16Vi07
9	1	1959	Inferior Conj.	6:24	GMT	...	8Vi05
9	22	1959	Direct Station	17:17	GMT	...	29Le52
11	11	1959	Max. Elong. W.	19:15	GMT	...	2Li02
6	22	1960	Superior Conj.	16:27	GMT	...	1Cn13
1	29	1961	Max. Elong. E.	3:54	GMT	...	25Pi58
3	20	1961	Retro. Station	20:14	GMT	...	29Ar06
4	10	1961	Inferior Conj.	23:52	GMT	...	20Ar52
5	2	1961	Direct Station	4:17	GMT	...	12Ar44
6	19	1961	Max. Elong. W.	23:01	GMT	...	12Ta41
1	27	1962	Superior Conj.	10:21	GMT	...	7Aq00
9	3	1962	Max. Elong. E.	4:57	GMT	...	26Li22
10	23	1962	Retro. Station	4:16	GMT	...	27Sc38
11	12	1962	Inferior Conj.	20:08	GMT	...	19Sc58
12	3	1962	Direct Station	11:28	GMT	...	12Sc13
1	23	1963	Max. Elong. W.	11:56	GMT	...	15Sg55
8	30	1963	Superior Conj.	1:32	GMT	...	5Vi59
4	9	1964	Max. Elong. E.	21:44	GMT	...	5Ge47
5	29	1964	Retro. Station	10:31	GMT	...	6Cn52
6	19	1964	Inferior Conj.	22:42	GMT	...	28Ge38
7	11	1964	Direct Station	13:02	GMT	...	20Ge21
8	30	1964	Max. Elong. W.	0:35	GMT	...	20Cn50
4	12	1965	Superior Conj.	4:23	GMT	...	22Ar03
11	15	1965	Max. Elong. E.	21:13	GMT	...	10Cp26
1	5	1966	Retro. Station	16:22	GMT	...	13Aq50
1	26	1966	Inferior Conj.	8:39	GMT	...	5Aq57
2	15	1966	Direct Station	18:43	GMT	...	28Cp14
4	6	1966	Max. Elong. W.	19:43	GMT	...	0Pi09
11	9	1966	Superior Conj.	0:41	GMT	...	16Sc10
6	21	1967	Max. Elong. E.	6:32	GMT	...	14Le35
8	8	1967	Retro. Station	14:31	GMT	...	13Vi54
8	29	1967	Inferior Conj.	21:42	GMT	...	5Vi51
9	20	1967	Direct Station	9:35	GMT	...	27Le38

11	9	1967	Max. Elong. W.	10:55	GMT	...	29Vi46
6	20	1968	Superior Conj.	10:24	GMT	...	29Ge08
1	26	1969	Max. Elong. E.	20:08	GMT	...	23Pi41
3	18	1969	Retro. Station	11:51	GMT	...	26Ar50
4	8	1969	Inferior Conj.	15:12	GMT	...	18Ar36
4	29	1969	Direct Station	19:21	GMT	...	10Ar30
6	17	1969	Max. Elong. W.	12:55	GMT	...	10Ta26
1	24	1970	Superior Conj.	20:28	GMT	...	4Aq27
8	31	1970	Max. Elong. E.	17:50	GMT	...	24Li01
10	20	1970	Retro. Station	15:58	GMT	...	25Sc13
11	10	1970	Inferior Conj.	8:50	GMT	...	17Sc33
12	1	1970	Direct Station	0:05	GMT	...	9Sc47
1	20	1971	Max. Elong. W.	23:44	GMT	...	13Sg26
8	27	1971	Superior Conj.	18:55	GMT	...	3Vi51
4	7	1972	Max. Elong. E.	12:17	GMT	...	3Ge33
5	27	1972	Retro. Station	3:16	GMT	...	4Cn45
6	17	1972	Inferior Conj.	15:10	GMT	...	26Ge30
7	9	1972	Direct Station	4:57	GMT	...	18Ge13
8	27	1972	Max. Elong. W.	16:43	GMT	...	18Cn41
4	9	1973	Superior Conj.	19:15	GMT	...	19Ar48
11	13	1973	Max. Elong. E.	10:54	GMT	...	8Cp02
1	3	1974	Retro. Station	6:08	GMT	...	11Aq22
1	23	1974	Inferior Conj.	21:21	GMT	...	3Aq30
2	13	1974	Direct Station	7:30	GMT	...	25Cp48
4	4	1974	Max. Elong. W.	11:09	GMT	...	27Aq53
11	6	1974	Superior Conj.	13:10	GMT	...	13Sc44
6	18	1975	Max. Elong. E.	22:29	GMT	...	12Le26
8	6	1975	Retro. Station	5:22	GMT	...	11Vi43
8	27	1975	Inferior Conj.	13:12	GMT	...	3Vi39
9	18	1975	Direct Station	1:47	GMT	...	25Le26
11	7	1975	Max. Elong. W.	1:57	GMT	...	27Vi28
6	18	1976	Superior Conj.	4:38	GMT	...	27Ge04
1	24	1977	Max. Elong. E.	11:20	GMT	...	21Pi23
3	16	1977	Retro. Station	3:02	GMT	...	24Ar33
4	6	1977	Inferior Conj.	6:31	GMT	...	16Ar21
4	27	1977	Direct Station	9:50	GMT	...	8Ar15
6	15	1977	Max. Elong. W.	2:41	GMT	...	8Ta09
1	22	1978	Superior Conj.	6:17	GMT	...	1Aq52
8	29	1978	Max. Elong. E.	6:53	GMT	...	21Li40
10	18	1978	Retro. Station	3:59	GMT	...	22Sc48
11	7	1978	Inferior Conj.	21:35	GMT	...	15Sc08
11	28	1978	Direct Station	13:11	GMT	...	7Sc20
1	18	1979	Max. Elong. W.	12:44	GMT	...	10Sg58
8	25	1979	Superior Conj.	12:40	GMT	...	1Vi43
4	5	1980	Max. Elong. E.	3:29	GMT	...	1Ge18
5	24	1980	Retro. Station	20:12	GMT	...	2Cn35
6	15	1980	Inferior Conj.	7:28	GMT	...	24Ge20

7	6	1980	Direct Station	21:17	GMT	...	16Ge03
8	25	1980	Max. Elong. W.	9:22	GMT	...	16Cn32
4	7	1981	Superior Conj.	9:24	GMT	...	17Ar28
11	11	1981	Max. Elong. E.	1:02	GMT	...	5Cp38
12	31	1981	Retro. Station	19:47	GMT	...	8Aq54
1	21	1982	Inferior Conj.	10:08	GMT	...	1Aq03
2	10	1982	Direct Station	20:39	GMT	...	23Cp22
4	2	1982	Max. Elong. W.	1:58	GMT	...	25Aq34
11	4	1982	Superior Conj.	2:03	GMT	...	11Sc19
6	16	1983	Max. Elong. E.	13:40	GMT	...	10Le12
8	3	1983	Retro. Station	19:45	GMT	...	9Vi30
8	25	1983	Inferior Conj.	4:36	GMT	...	1Vi25
9	15	1983	Direct Station	17:24	GMT	...	23Le12
11	4	1983	Max. Elong. W.	16:22	GMT	...	25Vi08
6	15	1984	Superior Conj.	22:34	GMT	...	24Ge58
1	22	1985	Max. Elong. E.	2:10	GMT	...	19Pi02
3	13	1985	Retro. Station	18:18	GMT	...	22Ar18
4	3	1985	Inferior Conj.	22:01	GMT	...	14Ar05
4	25	1985	Direct Station	0:10	GMT	...	6Ar00
6	12	1985	Max. Elong. W.	16:55	GMT	...	5Ta54
1	19	1986	Superior Conj.	16:06	GMT	...	29Cp18
8	26	1986	Max. Elong. E.	20:37	GMT	...	19Li21
10	15	1986	Retro. Station	16:34	GMT	...	20Sc24
11	5	1986	Inferior Conj.	10:18	GMT	...	12Sc42
11	26	1986	Direct Station	2:48	GMT	...	4Sc54
1	16	1987	Max. Elong. W.	2:15	GMT	...	8Sg33
8	23	1987	Superior Conj.	6:26	GMT	...	29Le37
4	2	1988	Max. Elong. E.	19:29	GMT	...	29Ta07
5	22	1988	Retro. Station	13:27	GMT	...	0Cn27
6	13	1988	Inferior Conj.	0:01	GMT	...	22Ge12
7	4	1988	Direct Station	14:10	GMT	...	13Ge56
8	23	1988	Max. Elong. W.	1:50	GMT	...	14Cn24
4	4	1989	Superior Conj.	23:31	GMT	...	15Ar10
11	8	1989	Max. Elong. E.	14:56	GMT	...	3Cp14
12	29	1989	Retro. Station	8:51	GMT	...	6Aq25
1	18	1990	Inferior Conj.	22:43	GMT	...	28Cp35
2	8	1990	Direct Station	9:18	GMT	...	20Cp55
3	30	1990	Max. Elong. W.	15:49	GMT	...	23Aq13
11	1	1990	Superior Conj.	15:16	GMT	...	8Sc56
6	14	1991	Max. Elong. E.	4:21	GMT	...	7Le59
8	1	1991	Retro. Station	10:36	GMT	...	7Vi19
8	22	1991	Inferior Conj.	20:21	GMT	...	29Le15
9	13	1991	Direct Station	8:57	GMT	...	21Le00
11	2	1991	Max. Elong. W.	6:54	GMT	...	22Vi50
6	13	1992	Superior Conj.	16:32	GMT	...	22Ge54
1	19	1993	Max. Elong. E.	16:42	GMT	...	16Pi42
3	11	1993	Retro. Station	9:29	GMT	...	20Ar01
4	1	1993	Inferior Conj.	13:12	GMT	...	11Ar49

4	22	1993	Direct Station	14:14	GMT	...	3Ar44
6	10	1993	Max. Elong. W.	7:28	GMT	...	3Ta40
1	17	1994	Superior Conj.	2:04	GMT	...	26Cp44
8	24	1994	Max. Elong. E.	11:16	GMT	...	17Li05
10	13	1994	Retro. Station	5:42	GMT	...	18Sc01
11	2	1994	Inferior Conj.	23:12	GMT	...	10Sc18
11	23	1994	Direct Station	16:58	GMT	...	2Sc29
1	13	1995	Max. Elong. W.	16:12	GMT	...	6Sg09
8	21	1995	Superior Conj.	0:05	GMT	...	27Le29
3	31	1996	Max. Elong. E.	11:28	GMT	...	26Ta55
5	20	1996	Retro. Station	6:09	GMT	...	28Ge18
6	10	1996	Inferior Conj.	16:19	GMT	...	20Ge03
7	2	1996	Direct Station	6:52	GMT	...	11Ge47
8	20	1996	Max. Elong. W.	17:35	GMT	...	12Cn13
4	2	1997	Superior Conj.	13:46	GMT	...	12Ar51
11	6	1997	Max. Elong. E.	3:49	GMT	...	0Cp48
12	26	1997	Retro. Station	21:21	GMT	...	3Aq56
1	16	1998	Inferior Conj.	11:19	GMT	...	26Cp07
2	5	1998	Direct Station	21:27	GMT	...	18Cp28
3	28	1998	Max. Elong. W.	4:55	GMT	...	20Aq50
10	30	1998	Superior Conj.	4:23	GMT	...	6Sc32
6	11	1999	Max. Elong. E.	18:10	GMT	...	5Le44
7	30	1999	Retro. Station	1:42	GMT	...	5Vi08
8	20	1999	Inferior Conj.	11:58	GMT	...	27Le02
9	11	1999	Direct Station	0:24	GMT	...	18Le47
10	30	1999	Max. Elong. W.	22:00	GMT	...	20Vi32
6	11	2000	Superior Conj.	10:32	GMT	...	20Ge48
1	17	2001	Max. Elong. E.	7:27	GMT	...	14Pi21
3	9	2001	Retro. Station	1:07	GMT	...	17Ar44
3	30	2001	Inferior Conj.	4:17	GMT	...	9Ar32
4	20	2001	Direct Station	4:35	GMT	...	1Ar27
6	7	2001	Max. Elong. W.	22:50	GMT	...	1Ta27
1	14	2002	Superior Conj.	11:32	GMT	...	24Cp07
8	22	2002	Max. Elong. E.	2:34	GMT	...	14Li49
10	10	2002	Retro. Station	18:35	GMT	...	15Sc37
10	31	2002	Inferior Conj.	12:06	GMT	...	7Sc53
11	21	2002	Direct Station	7:13	GMT	...	0Sc03
1	11	2003	Max. Elong. W.	5:51	GMT	...	3Sg43
8	18	2003	Superior Conj.	18:06	GMT	...	25Le23
3	29	2004	Max. Elong. E.	3:01	GMT	...	24Ta41
5	17	2004	Retro. Station	22:29	GMT	...	26Ge08
6	8	2004	Inferior Conj.	8:44	GMT	...	17Ge53
6	29	2004	Direct Station	23:16	GMT	...	9Ge38
8	18	2004	Max. Elong. W.	8:33	GMT	...	10Cn00
3	31	2005	Superior Conj.	3:31	GMT	...	10Ar31
11	3	2005	Max. Elong. E.	15:46	GMT	...	28Sg19
12	24	2005	Retro. Station	9:37	GMT	...	1Aq28

1	13	2006	Inferior Conj.	23:59	GMT	...	23Cp40
2	3	2006	Direct Station	9:19	GMT	...	16Cp01
3	25	2006	Max. Elong. W.	17:42	GMT	...	18Aq26
10	27	2006	Superior Conj.	17:50	GMT	...	4Sc10
6	9	2007	Max. Elong. E.	8:37	GMT	...	3Le30
7	27	2007	Retro. Station	17:28	GMT	...	2Vi57
8	18	2007	Inferior Conj.	3:41	GMT	...	24Le51
9	8	2007	Direct Station	16:14	GMT	...	16Le35
10	28	2007	Max. Elong. W.	14:18	GMT	...	18Vi19
6	9	2008	Superior Conj.	4:20	GMT	...	18Ge43
1	14	2009	Max. Elong. E.	23:27	GMT	...	12Pi04
3	6	2009	Retro. Station	17:17	GMT	...	15Ar27
3	27	2009	Inferior Conj.	19:24	GMT	...	7Ar15
4	17	2009	Direct Station	19:25	GMT	...	29Pi12
6	5	2009	Max. Elong. W.	14:46	GMT	...	29Ar16
1	11	2010	Superior Conj.	21:06	GMT	...	21Cp32
8	19	2010	Max. Elong. E.	17:51	GMT	...	12Li35
10	8	2010	Retro. Station	7:05	GMT	...	13Sc14
10	29	2010	Inferior Conj.	1:11	GMT	...	5Sc30
11	18	2010	Direct Station	21:18	GMT	...	27Li39
1	8	2011	Max. Elong. W.	18:28	GMT	...	1Sg16
8	16	2011	Superior Conj.	12:09	GMT	...	23Le18
3	26	2012	Max. Elong. E.	17:34	GMT	...	22Ta25
5	15	2012	Retro. Station	14:34	GMT	...	24Ge00
6	6	2012	Inferior Conj.	1:10	GMT	...	15Ge45
6	27	2012	Direct Station	15:07	GMT	...	7Ge29
8	15	2012	Max. Elong. W.	22:42	GMT	...	7Cn46
3	28	2013	Superior Conj.	17:06	GMT	...	8Ar11
11	1	2013	Max. Elong. E.	2:58	GMT	...	25Sg49
12	21	2013	Retro. Station	21:54	GMT	...	28Cp59
1	11	2014	Inferior Conj.	12:25	GMT	...	21Cp12
1	31	2014	Direct Station	20:49	GMT	...	13Cp33
3	23	2014	Max. Elong. W.	7:05	GMT	...	16Aq02
10	25	2014	Superior Conj.	7:31	GMT	...	1Sc48
6	7	2015	Max. Elong. E.	0:04	GMT	...	1Le18
7	25	2015	Retro. Station	9:30	GMT	...	0Vi46
8	15	2015	Inferior Conj.	19:22	GMT	...	22Le39
9	6	2015	Direct Station	8:30	GMT	...	14Le23
10	26	2015	Max. Elong. W.	7:20	GMT	...	16Vi07
6	6	2016	Superior Conj.	21:51	GMT	...	16Ge36
1	12	2017	Max. Elong. E.	16:12	GMT	...	9Pi48
3	4	2017	Retro. Station	9:09	GMT	...	13Ar09
3	25	2017	Inferior Conj.	10:17	GMT	...	4Ar57
4	15	2017	Direct Station	10:18	GMT	...	26Pi55
6	3	2017	Max. Elong. W.	6:16	GMT	...	27Ar03
1	9	2018	Superior Conj.	7:01	GMT	...	18Cp57
8	17	2018	Max. Elong. E.	8:09	GMT	...	10Li18
10	5	2018	Retro. Station	19:04	GMT	...	10Sc50

10	26	2018	Inferior Conj.	14:16	GMT	...	3Sc06
11	16	2018	Direct Station	10:51	GMT	...	25Li14
1	6	2019	Max. Elong. W.	6:10	GMT	...	28Sc45
8	14	2019	Superior Conj.	6:08	GMT	...	21Le11
3	24	2020	Max. Elong. E.	7:37	GMT	...	20Ta08
5	13	2020	Retro. Station	6:46	GMT	...	21Ge50
6	3	2020	Inferior Conj.	17:44	GMT	...	13Ge36
6	25	2020	Direct Station	6:49	GMT	...	5Ge20
8	13	2020	Max. Elong. W.	13:14	GMT	...	5Cn32
3	26	2021	Superior Conj.	6:58	GMT	...	5Ar50
10	29	2021	Max. Elong. E.	14:56	GMT	...	23Sg20
12	19	2021	Retro. Station	10:36	GMT	...	26Cp29
1	9	2022	Inferior Conj.	0:48	GMT	...	18Cp43
1	29	2022	Direct Station	8:47	GMT	...	11Cp05
3	20	2022	Max. Elong. W.	21:39	GMT	...	13Aq42
10	22	2022	Superior Conj.	21:17	GMT	...	29Li27
6	4	2023	Max. Elong. E.	16:20	GMT	...	29Cn09
7	23	2023	Retro. Station	1:32	GMT	...	28Le36
8	13	2023	Inferior Conj.	11:15	GMT	...	20Le28
9	4	2023	Direct Station	1:20	GMT	...	12Le12
10	24	2023	Max. Elong. W.	0:07	GMT	...	13Vi54
6	4	2024	Superior Conj.	15:34	GMT	...	14Ge30
1	10	2025	Max. Elong. E.	8:39	GMT	...	7Pi31
3	2	2025	Retro. Station	0:36	GMT	...	10Ar50
3	23	2025	Inferior Conj.	1:07	GMT	...	2Ar39
4	13	2025	Direct Station	1:02	GMT	...	24Pi37
5	31	2025	Max. Elong. W.	20:53	GMT	...	24Ar48
1	6	2026	Superior Conj.	16:35	GMT	...	16Cp22
8	14	2026	Max. Elong. E.	21:55	GMT	...	8Li00
10	3	2026	Retro. Station	7:16	GMT	...	8Sc29
10	24	2026	Inferior Conj.	3:44	GMT	...	0Sc45
11	14	2026	Direct Station	0:28	GMT	...	22Li52
1	3	2027	Max. Elong. W.	18:16	GMT	...	26Sc17
8	12	2027	Superior Conj.	0:21	GMT	...	19Le07
3	21	2028	Max. Elong. E.	21:48	GMT	...	17Ta51
5	10	2028	Retro. Station	23:03	GMT	...	19Ge41
6	1	2028	Inferior Conj.	10:00	GMT	...	11Ge26
6	22	2028	Direct Station	22:13	GMT	...	3Ge11
8	11	2028	Max. Elong. W.	4:36	GMT	...	3Cn21
3	23	2029	Superior Conj.	20:12	GMT	...	3Ar29
10	27	2029	Max. Elong. E.	4:06	GMT	...	20Sg56
12	16	2029	Retro. Station	23:48	GMT	...	24Cp02
1	6	2030	Inferior Conj.	13:18	GMT	...	16Cp16
1	26	2030	Direct Station	21:33	GMT	...	8Cp38
3	18	2030	Max. Elong. W.	12:50	GMT	...	11Aq24
10	20	2030	Superior Conj.	11:13	GMT	...	27Li06
6	2	2031	Max. Elong. E.	8:23	GMT	...	26Cn59
7	20	2031	Retro. Station	17:08	GMT	...	26Le26

8	11	2031	Inferior Conj.	3:01	GMT	...	18Le17
9	1	2031	Direct Station	17:57	GMT	...	10Le01
10	21	2031	Max. Elong. W.	15:52	GMT	...	11Vi40
6	2	2032	Superior Conj.	9:08	GMT	...	12Ge24
1	8	2033	Max. Elong. E.	0:16	GMT	...	5Pi12
2	27	2033	Retro. Station	15:41	GMT	...	8Ar32
3	20	2033	Inferior Conj.	16:05	GMT	...	0Ar22
4	10	2033	Direct Station	15:27	GMT	...	22Pi21
5	29	2033	Max. Elong. W.	10:48	GMT	...	22Ar32
1	4	2034	Superior Conj.	2:10	GMT	...	13Cp46
8	12	2034	Max. Elong. E.	11:25	GMT	...	5Li41
9	30	2034	Retro. Station	19:37	GMT	...	6Sc08
10	21	2034	Inferior Conj.	17:04	GMT	...	28Li22
11	11	2034	Direct Station	14:03	GMT	...	20Li28
1	1	2035	Max. Elong. W.	6:57	GMT	...	23Sc49
8	9	2035	Superior Conj.	18:41	GMT	...	17Le02
3	19	2036	Max. Elong. E.	12:50	GMT	...	15Ta35
5	8	2036	Retro. Station	15:59	GMT	...	17Ge32
5	30	2036	Inferior Conj.	2:25	GMT	...	9Ge17
6	20	2036	Direct Station	14:12	GMT	...	1Ge01
8	8	2036	Max. Elong. W.	20:37	GMT	...	1Cn11
3	21	2037	Superior Conj.	9:16	GMT	...	1Ar06
10	24	2037	Max. Elong. E.	17:36	GMT	...	18Sg31
12	14	2037	Retro. Station	12:47	GMT	...	21Cp31
1	4	2038	Inferior Conj.	1:28	GMT	...	13Cp46
1	24	2038	Direct Station	10:20	GMT	...	6Cp08
3	16	2038	Max. Elong. W.	3:19	GMT	...	9Aq03
10	18	2038	Superior Conj.	1:41	GMT	...	24Li47
5	30	2039	Max. Elong. E.	23:55	GMT	...	24Cn47
7	18	2039	Retro. Station	8:36	GMT	...	24Le15
8	8	2039	Inferior Conj.	19:02	GMT	...	16Le06
8	30	2039	Direct Station	10:14	GMT	...	7Le50
10	19	2039	Max. Elong. W.	7:01	GMT	...	9Vi24
5	31	2040	Superior Conj.	2:26	GMT	...	10Ge16
1	5	2041	Max. Elong. E.	14:54	GMT	...	2Pi50
2	25	2041	Retro. Station	6:07	GMT	...	6Ar12
3	18	2041	Inferior Conj.	6:47	GMT	...	28Pi02
4	8	2041	Direct Station	5:08	GMT	...	20Pi03
5	27	2041	Max. Elong. W.	0:26	GMT	...	20Ar14
1	1	2042	Superior Conj.	12:16	GMT	...	11Cp12
8	10	2042	Max. Elong. E.	1:16	GMT	...	3Li24
9	28	2042	Retro. Station	8:42	GMT	...	3Sc47
10	19	2042	Inferior Conj.	6:29	GMT	...	26Li00
11	9	2042	Direct Station	4:05	GMT	...	18Li05
12	29	2042	Max. Elong. W.	20:33	GMT	...	21Sc24
8	7	2043	Superior Conj.	12:41	GMT	...	14Le56
3	17	2044	Max. Elong. E.	4:31	GMT	...	13Ta22
5	6	2044	Retro. Station	9:02	GMT	...	15Ge22

5	27	2044	Inferior Conj.	18:43	GMT	...	7Ge07
6	18	2044	Direct Station	6:37	GMT	...	28Ta52
8	6	2044	Max. Elong. W.	12:44	GMT	...	29Ge02
3	18	2045	Superior Conj.	22:24	GMT	...	28Pi44
10	22	2045	Max. Elong. E.	7:08	GMT	...	16Sg08
12	12	2045	Retro. Station	1:29	GMT	...	19Cp02
1	1	2046	Inferior Conj.	13:36	GMT	...	11Cp17
1	21	2046	Direct Station	22:58	GMT	...	3Cp40
3	13	2046	Max. Elong. W.	17:02	GMT	...	6Aq40
10	15	2046	Superior Conj.	16:02	GMT	...	22Li28
5	28	2047	Max. Elong. E.	14:37	GMT	...	22Cn34
7	15	2047	Retro. Station	23:47	GMT	...	22Le06
8	6	2047	Inferior Conj.	11:05	GMT	...	13Le57
8	28	2047	Direct Station	2:08	GMT	...	5Le40
10	16	2047	Max. Elong. W.	21:48	GMT	...	7Vi08
5	28	2048	Superior Conj.	19:52	GMT	...	8Ge09
1	3	2049	Max. Elong. E.	4:46	GMT	...	0Pi27
2	22	2049	Retro. Station	20:43	GMT	...	3Ar53
3	15	2049	Inferior Conj.	21:30	GMT	...	25Pi44
4	5	2049	Direct Station	18:37	GMT	...	17Pi45
5	24	2049	Max. Elong. W.	14:41	GMT	...	17Ar58
12	29	2049	Superior Conj.	21:53	GMT	...	8Cp37
8	7	2050	Max. Elong. E.	15:56	GMT	...	1Li09
9	25	2050	Retro. Station	22:20	GMT	...	1Sc27
10	16	2050	Inferior Conj.	20:02	GMT	...	23Li39
12	27	2050	Max. Elong. W.	11:04	GMT	...	19Sc01
11	6	2050	Direct Station	18:45	GMT	...	15Li42