

## Planetary Phenomena of Neptune from -5400 through -4898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 1

Attention, astronomical year style is used: The year -5400 in astronomical counting style is the year 5401 BCE in historical counting style.

|                  |                      |                        |                  |                      |           |             |
|------------------|----------------------|------------------------|------------------|----------------------|-----------|-------------|
| morning rise     | -5400 Jan 08 j 11:41 | 23°M.45'37             | conjunction      | -5394 Jan 05 j 16:11 | 6°♂31'33  | -0°35'34    |
| retrograde       | -5400 Apr 08 j 20:25 | 25°M.44'18             | minimum elong    | -5394 Jan 05 j 16:11 | 6°♂31'33  | 0°35'51     |
| opposition       | -5400 Jun 28 j 19:57 | 24°M.19'10 -0°06'44    | max. Earth dist. | -5394 Jan 06 j 18:41 | 6°♂34'03  | 30.92505 AU |
| min. Earth dist. | -5400 Jun 27 j 20:15 | 24°M.20'48 28.96968 AU | morning rise     | -5394 Jan 21 j 12:55 | 7°♂07'12  |             |
| direct           | -5400 Sep 14 j 15:32 | 22°M.56'25             | retrograde       | -5394 Apr 23 j 03:50 | 9°♂06'11  |             |
| evening set      | -5400 Dec 09 j 15:21 | 24°M.48'34             | opposition       | -5394 Jul 12 j 21:42 | 7°♂40'51  | -0°40'54    |
|                  |                      |                        | min. Earth dist. | -5394 Jul 11 j 21:15 | 7°♂42'33  | 28.92240 AU |
| conjunction      | -5400 Dec 25 j 05:31 | 25°M.23'37 -0°08'58    | direct           | -5394 Sep 28 j 11:09 | 6°♂18'01  |             |
| minimum elong    | -5400 Dec 25 j 05:31 | 25°M.23'37 0°09'13     | evening set      | -5394 Dec 23 j 11:15 | 8°♂10'20  |             |
| behind sun begin | -5400 Dec 25 j 00:02 | 25°M.23'07             |                  |                      |           |             |
| behind sun end   | -5400 Dec 25 j 10:59 | 25°M.24'07             | conjunction      | -5393 Jan 08 j 04:26 | 8°♂45'37  | -0°40'47    |
| max. Earth dist. | -5400 Dec 26 j 05:25 | 25°M.25'52 30.96403 AU | minimum elong    | -5393 Jan 08 j 04:25 | 8°♂45'37  | 0°41'05     |
| morning rise     | -5399 Jan 09 j 23:45 | 25°M.59'04             | max. Earth dist. | -5393 Jan 09 j 06:32 | 8°♂48'04  | 30.91882 AU |
| retrograde       | -5399 Apr 11 j 09:48 | 27°M.57'47             | morning rise     | -5393 Jan 24 j 01:39 | 9°♂21'17  |             |
| min. Earth dist. | -5399 Jun 30 j 09:09 | 26°M.34'10 28.95930 AU | retrograde       | -5393 Apr 25 j 18:31 | 11°♂20'19 |             |
| opposition       | -5399 Jul 01 j 08:17 | 26°M.32'34 -0°12'30    | min. Earth dist. | -5393 Jul 14 j 08:47 | 9°♂56'44  | 28.91599 AU |
| direct           | -5399 Sep 17 j 01:31 | 25°M.09'46             | opposition       | -5393 Jul 15 j 09:52 | 9°♂54'59  | -0°46'27    |
| evening set      | -5399 Dec 12 j 02:16 | 27°M.01'55             | direct           | -5393 Sep 30 j 21:38 | 8°♂32'09  |             |
|                  |                      |                        | evening set      | -5393 Dec 25 j 23:15 | 10°♂24'30 |             |
| conjunction      | -5399 Dec 27 j 17:05 | 27°M.37'01 -0°14'20    |                  |                      |           |             |
| minimum elong    | -5399 Dec 27 j 17:06 | 27°M.37'01 0°14'34     | conjunction      | -5392 Jan 10 j 16:52 | 10°♂59'50 | -0°45'57    |
| behind sun begin | -5399 Dec 27 j 14:16 | 27°M.36'46             | minimum elong    | -5392 Jan 10 j 16:51 | 10°♂59'50 | 0°46'14     |
| behind sun end   | -5399 Dec 27 j 19:55 | 27°M.37'16             | max. Earth dist. | -5392 Jan 11 j 18:45 | 11°♂02'16 | 30.91191 AU |
| max. Earth dist. | -5399 Dec 28 j 18:26 | 27°M.39'24 30.95418 AU | morning rise     | -5392 Jan 26 j 14:36 | 11°♂35'33 |             |
| morning rise     | -5398 Jan 12 j 11:42 | 28°M.12'30             | retrograde       | -5392 Apr 27 j 06:07 | 13°♂34'37 |             |
|                  | -5398 Mar 18 j 13:26 | 0°♂                    | opposition       | -5392 Jul 16 j 22:12 | 12°♂09'17 | -0°51'56    |
| retrograde       | -5398 Apr 13 j 22:42 | 0°♂11'15               | min. Earth dist. | -5392 Jul 15 j 22:23 | 12°♂10'56 | 28.90869 AU |
|                  | -5398 May 10 j 17:30 | 30°♂M.                 | direct           | -5392 Oct 02 j 08:01 | 10°♂46'24 |             |
| opposition       | -5398 Jul 03 j 20:34 | 28°M.45'59 -0°18'14    | evening set      | -5392 Dec 27 j 11:21 | 12°♂38'49 |             |
| min. Earth dist. | -5398 Jul 02 j 20:09 | 28°M.47'41 28.95002 AU |                  |                      |           |             |
| direct           | -5398 Sep 19 j 13:52 | 27°M.23'10             | conjunction      | -5391 Jan 12 j 05:30 | 13°♂14'10 | -0°51'02    |
| evening set      | -5398 Dec 14 j 13:20 | 29°M.15'20             | minimum elong    | -5391 Jan 12 j 05:30 | 13°♂14'10 | 0°51'20     |
|                  |                      |                        | max. Earth dist. | -5391 Jan 13 j 07:28 | 13°♂16'37 | 30.90411 AU |
| conjunction      | -5398 Dec 30 j 04:31 | 29°M.50'27 -0°19'41    | morning rise     | -5391 Jan 28 j 03:35 | 13°♂49'54 |             |
| minimum elong    | -5398 Dec 30 j 04:31 | 29°M.50'27 0°19'56     | retrograde       | -5391 Apr 29 j 19:35 | 15°♂49'00 |             |
| max. Earth dist. | -5398 Dec 31 j 05:18 | 29°M.52'48 30.94553 AU | min. Earth dist. | -5391 Jul 18 j 09:47 | 14°♂25'20 | 28.90037 AU |
|                  | -5397 Jan 03 j 09:36 | 0°♂                    | opposition       | -5391 Jul 19 j 10:14 | 14°♂23'38 | -0°57'20    |
| morning rise     | -5397 Jan 14 j 23:50 | 0°♂25'59               | direct           | -5391 Oct 04 j 19:56 | 13°♂00'42 |             |
| retrograde       | -5397 Apr 16 j 13:44 | 2°♂24'48               | evening set      | -5391 Dec 29 j 23:35 | 14°♂53'10 |             |
| min. Earth dist. | -5397 Jul 05 j 08:39 | 1°♂01'10 28.94203 AU   |                  |                      |           |             |
| opposition       | -5397 Jul 06 j 08:59 | 0°♂59'29 -0°23'57      | conjunction      | -5390 Jan 14 j 18:04 | 15°♂28'33 | -0°56'03    |
|                  | -5397 Aug 15 j 04:31 | 30°♂M.                 | minimum elong    | -5390 Jan 14 j 18:03 | 15°♂28'33 | 0°56'20     |
| direct           | -5397 Sep 22 j 01:03 | 29°M.36'39             | max. Earth dist. | -5390 Jan 15 j 19:00 | 15°♂30'54 | 30.89527 AU |
|                  | -5397 Oct 28 j 22:13 | 0°♂                    | morning rise     | -5390 Jan 30 j 16:43 | 16°♂04'19 |             |
| evening set      | -5397 Dec 17 j 00:32 | 1°♂28'50               | retrograde       | -5390 May 02 j 08:44 | 18°♂03'26 |             |
|                  |                      |                        | opposition       | -5390 Jul 21 j 22:28 | 16°♂38'01 | -1°02'39    |
| conjunction      | -5396 Jan 01 j 16:22 | 2°♂04'00 -0°25'01      | min. Earth dist. | -5390 Jul 20 j 23:14 | 16°♂39'38 | 28.89126 AU |
| minimum elong    | -5396 Jan 01 j 16:22 | 2°♂04'00 0°25'16       | direct           | -5390 Oct 07 j 05:53 | 15°♂15'01 |             |
| max. Earth dist. | -5396 Jan 02 j 18:40 | 2°♂06'29 30.93799 AU   | evening set      | -5389 Jan 01 j 11:36 | 17°♂07'30 |             |
| morning rise     | -5396 Jan 17 j 12:04 | 2°♂39'34               |                  |                      |           |             |
| retrograde       | -5396 Apr 18 j 02:14 | 4°♂38'26               | conjunction      | -5389 Jan 17 j 06:43 | 17°♂42'55 | -1°00'58    |
| opposition       | -5396 Jul 07 j 21:08 | 3°♂13'06 -0°29'39      | minimum elong    | -5389 Jan 17 j 06:43 | 17°♂42'55 | 1°01'17     |
| min. Earth dist. | -5396 Jul 06 j 20:28 | 3°♂14'49 28.93494 AU   | max. Earth dist. | -5389 Jan 18 j 08:25 | 17°♂45'20 | 30.88590 AU |
| direct           | -5396 Sep 23 j 13:28 | 1°♂50'16               | morning rise     | -5389 Feb 02 j 05:40 | 18°♂18'43 |             |
| evening set      | -5396 Dec 18 j 12:00 | 3°♂42'29               | retrograde       | -5389 May 04 j 22:02 | 20°♂17'49 |             |
|                  |                      |                        | min. Earth dist. | -5389 Jul 23 j 10:38 | 18°♂54'01 | 28.88173 AU |
| conjunction      | -5395 Jan 03 j 04:14 | 4°♂17'42 -0°30'19      | opposition       | -5389 Jul 24 j 10:26 | 18°♂52'21 | -1°07'52    |
| minimum elong    | -5395 Jan 03 j 04:13 | 4°♂17'42 0°30'35       | direct           | -5389 Oct 09 j 18:41 | 17°♂29'17 |             |
| max. Earth dist. | -5395 Jan 04 j 05:52 | 4°♂20'07 30.93136 AU   | evening set      | -5388 Jan 04 j 00:01 | 19°♂21'49 |             |
| morning rise     | -5395 Jan 19 j 00:34 | 4°♂53'18               |                  |                      |           |             |
| retrograde       | -5395 Apr 20 j 16:10 | 6°♂52'13               | conjunction      | -5388 Jan 19 j 19:24 | 19°♂57'15 | -1°05'48    |
| min. Earth dist. | -5395 Jul 09 j 08:25 | 5°♂28'37 28.92863 AU   | minimum elong    | -5388 Jan 19 j 19:24 | 19°♂57'15 | 1°06'06     |
| opposition       | -5395 Jul 10 j 09:24 | 5°♂26'53 -0°35'18      | max. Earth dist. | -5388 Jan 20 j 19:54 | 19°♂59'33 | 30.87640 AU |
| direct           | -5395 Sep 25 j 23:53 | 4°♂04'03               | morning rise     | -5388 Feb 04 j 18:57 | 20°♂33'05 |             |
| evening set      | -5395 Dec 20 j 23:28 | 5°♂56'18               | retrograde       | -5388 May 06 j 12:55 | 22°♂32'10 |             |

## Planetary Phenomena of Neptune from -5400 through -4898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 2

Attention, astronomical year style is used: The year -5388 in astronomical counting style is the year 5389 BCE in historical counting style.

|                  |                      |                                   |             |                  |                      |                          |             |
|------------------|----------------------|-----------------------------------|-------------|------------------|----------------------|--------------------------|-------------|
| opposition       | -5388 Jul 25 j 22:17 | 21° $\mathring{A}$ 06'39          | -1°12'59    | conjunction      | -5381 Feb 04 j 14:34 | 5° $\mathring{B}$ 38'40  | -1°36'29    |
| min. Earth dist. | -5388 Jul 24 j 23:08 | 21° $\mathring{A}$ 08'16          | 28.87254 AU | minimum elong    | -5381 Feb 04 j 14:33 | 5° $\mathring{B}$ 38'40  | 1°36'48     |
| direct           | -5388 Oct 11 j 06:06 | 19° $\mathring{A}$ 43'29          |             | max. Earth dist. | -5381 Feb 05 j 14:48 | 5° $\mathring{B}$ 40'57  | 30.83973 AU |
| evening set      | -5387 Jan 05 j 12:20 | 21° $\mathring{A}$ 36'04          |             | morning rise     | -5381 Feb 20 j 16:34 | 6° $\mathring{B}$ 14'38  |             |
|                  |                      |                                   |             | retrograde       | -5381 May 23 j 07:58 | 8° $\mathring{B}$ 13'45  |             |
| conjunction      | -5387 Jan 21 j 08:17 | 22° $\mathring{A}$ 11'33          | -1°10'32    | min. Earth dist. | -5381 Aug 10 j 10:16 | 6° $\mathring{B}$ 49'49  | 28.83994 AU |
| minimum elong    | -5387 Jan 21 j 08:16 | 22° $\mathring{A}$ 11'33          | 1°10'51     | opposition       | -5381 Aug 11 j 07:59 | 6° $\mathring{B}$ 48'18  | -1°45'19    |
| max. Earth dist. | -5387 Jan 22 j 09:54 | 22° $\mathring{A}$ 13'57          | 30.86742 AU | direct           | -5381 Oct 27 j 10:46 | 5° $\mathring{B}$ 24'54  |             |
| morning rise     | -5387 Feb 06 j 08:03 | 22° $\mathring{A}$ 47'23          |             | evening set      | -5380 Jan 22 j 05:39 | 7° $\mathring{B}$ 18'06  |             |
| retrograde       | -5387 May 09 j 01:19 | 24° $\mathring{A}$ 46'28          |             |                  |                      |                          |             |
| min. Earth dist. | -5387 Jul 27 j 10:50 | 23° $\mathring{A}$ 22'32          | 28.86406 AU | conjunction      | -5380 Feb 07 j 04:22 | 7° $\mathring{B}$ 53'44  | -1°40'20    |
| opposition       | -5387 Jul 28 j 10:04 | 23° $\mathring{A}$ 20'55          | -1°17'59    | minimum elong    | -5380 Feb 07 j 04:21 | 7° $\mathring{B}$ 53'44  | 1°40'38     |
| direct           | -5387 Oct 13 j 18:53 | 21° $\mathring{A}$ 57'42          |             | max. Earth dist. | -5380 Feb 08 j 04:52 | 7° $\mathring{B}$ 56'03  | 30.83773 AU |
| evening set      | -5386 Jan 08 j 00:39 | 23° $\mathring{A}$ 50'19          |             | morning rise     | -5380 Feb 23 j 06:29 | 8° $\mathring{B}$ 29'44  |             |
|                  |                      |                                   |             | retrograde       | -5380 May 24 j 21:02 | 10° $\mathring{B}$ 28'49 |             |
| conjunction      | -5386 Jan 23 j 20:53 | 24° $\mathring{A}$ 25'49          | -1°15'10    | opposition       | -5380 Aug 12 j 19:24 | 9° $\mathring{B}$ 03'25  | -1°49'21    |
| minimum elong    | -5386 Jan 23 j 20:53 | 24° $\mathring{A}$ 25'49          | 1°15'28     | min. Earth dist. | -5380 Aug 11 j 21:35 | 9° $\mathring{B}$ 04'57  | 28.83770 AU |
| max. Earth dist. | -5386 Jan 24 j 21:40 | 24° $\mathring{A}$ 28'09          | 30.85952 AU | direct           | -5380 Oct 28 j 23:32 | 7° $\mathring{B}$ 39'59  |             |
| morning rise     | -5386 Feb 08 j 21:10 | 25° $\mathring{A}$ 01'42          |             | evening set      | -5379 Jan 23 j 19:12 | 9° $\mathring{B}$ 33'17  |             |
| retrograde       | -5386 May 11 j 15:33 | 27° $\mathring{A}$ 00'46          |             |                  |                      |                          |             |
| opposition       | -5386 Jul 30 j 21:52 | 25° $\mathring{A}$ 35'11          | -1°22'52    | conjunction      | -5379 Feb 08 j 18:05 | 10° $\mathring{B}$ 08'57 | -1°44'03    |
| min. Earth dist. | -5386 Jul 29 j 22:24 | 25° $\mathring{A}$ 36'50          | 28.85695 AU | minimum elong    | -5379 Feb 08 j 18:05 | 10° $\mathring{B}$ 08'57 | 1°44'21     |
| direct           | -5386 Oct 16 j 05:48 | 24° $\mathring{A}$ 11'55          |             | max. Earth dist. | -5379 Feb 09 j 16:44 | 10° $\mathring{B}$ 11'04 | 30.83510 AU |
| evening set      | -5385 Jan 10 j 13:07 | 26° $\mathring{A}$ 04'36          |             | morning rise     | -5379 Feb 24 j 20:39 | 10° $\mathring{B}$ 44'57 |             |
|                  |                      |                                   |             | retrograde       | -5379 May 27 j 11:21 | 12° $\mathring{B}$ 44'01 |             |
| conjunction      | -5385 Jan 26 j 09:50 | 26° $\mathring{A}$ 40'08          | -1°19'40    | min. Earth dist. | -5379 Aug 14 j 10:26 | 11° $\mathring{B}$ 20'04 | 28.83480 AU |
| minimum elong    | -5385 Jan 26 j 09:50 | 26° $\mathring{A}$ 40'08          | 1°19'59     | opposition       | -5379 Aug 15 j 07:05 | 11° $\mathring{B}$ 18'37 | -1°53'14    |
| max. Earth dist. | -5385 Jan 27 j 11:23 | 26° $\mathring{A}$ 42'32          | 30.85296 AU | direct           | -5379 Oct 31 j 10:39 | 9° $\mathring{B}$ 55'08  |             |
| morning rise     | -5385 Feb 11 j 10:24 | 27° $\mathring{A}$ 16'02          |             | evening set      | -5378 Jan 26 j 08:29 | 11° $\mathring{B}$ 48'30 |             |
| retrograde       | -5385 May 14 j 03:56 | 29° $\mathring{A}$ 15'06          |             |                  |                      |                          |             |
| min. Earth dist. | -5385 Aug 01 j 10:36 | 27° $\mathring{A}$ 51'07          | 28.85121 AU | conjunction      | -5378 Feb 11 j 07:53 | 12° $\mathring{B}$ 24'12 | -1°47'35    |
| opposition       | -5385 Aug 02 j 09:33 | 27° $\mathring{A}$ 49'31          | -1°27'38    | minimum elong    | -5378 Feb 11 j 07:53 | 12° $\mathring{B}$ 24'12 | 1°47'53     |
| direct           | -5385 Oct 18 j 17:34 | 26° $\mathring{A}$ 26'13          |             | max. Earth dist. | -5378 Feb 12 j 06:57 | 12° $\mathring{B}$ 26'22 | 30.83165 AU |
| evening set      | -5384 Jan 13 j 01:44 | 28° $\mathring{A}$ 18'59          |             | morning rise     | -5378 Feb 27 j 10:34 | 13° $\mathring{B}$ 00'13 |             |
|                  |                      |                                   |             | retrograde       | -5378 May 29 j 23:55 | 14° $\mathring{B}$ 59'13 |             |
| conjunction      | -5384 Jan 28 j 22:52 | 28° $\mathring{A}$ 54'32          | -1°24'04    | opposition       | -5378 Aug 17 j 18:39 | 13° $\mathring{B}$ 33'50 | -1°56'56    |
| minimum elong    | -5384 Jan 28 j 22:52 | 28° $\mathring{A}$ 54'32          | 1°24'22     | min. Earth dist. | -5378 Aug 16 j 22:32 | 13° $\mathring{B}$ 35'15 | 28.83092 AU |
| max. Earth dist. | -5384 Jan 29 j 23:56 | 28° $\mathring{A}$ 56'54          | 30.84801 AU | direct           | -5378 Nov 02 j 23:27 | 12° $\mathring{B}$ 10'16 |             |
| morning rise     | -5384 Feb 13 j 23:50 | 29° $\mathring{A}$ 30'27          |             | evening set      | -5377 Jan 28 j 22:07 | 14° $\mathring{B}$ 03'43 |             |
|                  | -5384 Feb 27 j 20:42 | 0° $\mathring{B}$                 |             |                  |                      |                          |             |
| retrograde       | -5384 May 15 j 18:42 | 1° $\mathring{B}$ 29'31           |             | conjunction      | -5377 Feb 13 j 21:46 | 14° $\mathring{B}$ 39'25 | -1°50'58    |
| opposition       | -5384 Aug 03 j 21:09 | 0° $\mathring{B}$ 03'57           | -1°32'16    | minimum elong    | -5377 Feb 13 j 21:46 | 14° $\mathring{B}$ 39'25 | 1°51'17     |
| min. Earth dist. | -5384 Aug 02 j 21:28 | 0° $\mathring{B}$ 05'37           | 28.84699 AU | max. Earth dist. | -5377 Feb 14 j 19:04 | 14° $\mathring{B}$ 41'25 | 30.82749 AU |
|                  | -5384 Aug 06 j 05:31 | 30° $\mathring{R}$ $\mathring{A}$ |             | morning rise     | -5377 Mar 02 j 00:53 | 15° $\mathring{B}$ 15'27 |             |
| direct           | -5384 Oct 20 j 04:29 | 28° $\mathring{A}$ 40'37          |             | retrograde       | -5377 Jun 01 j 14:44 | 17° $\mathring{B}$ 14'23 |             |
|                  | -5384 Dec 29 j 18:01 | 0° $\mathring{B}$                 |             | min. Earth dist. | -5377 Aug 19 j 10:31 | 15° $\mathring{B}$ 50'20 | 28.82659 AU |
| evening set      | -5383 Jan 14 j 14:30 | 0° $\mathring{B}$ 33'29           |             | opposition       | -5377 Aug 20 j 06:02 | 15° $\mathring{B}$ 48'58 | -2°00'28    |
|                  |                      |                                   |             | direct           | -5377 Nov 05 j 11:07 | 14° $\mathring{B}$ 25'19 |             |
| conjunction      | -5383 Jan 30 j 11:57 | 1° $\mathring{B}$ 09'04           | -1°28'20    | evening set      | -5376 Jan 31 j 11:44 | 16° $\mathring{B}$ 18'49 |             |
| minimum elong    | -5383 Jan 30 j 11:56 | 1° $\mathring{B}$ 09'04           | 1°28'40     |                  |                      |                          |             |
| max. Earth dist. | -5383 Jan 31 j 13:00 | 1° $\mathring{B}$ 11'25           | 30.84427 AU | conjunction      | -5376 Feb 16 j 11:50 | 16° $\mathring{B}$ 54'33 | -1°54'11    |
| morning rise     | -5383 Feb 15 j 13:15 | 1° $\mathring{B}$ 45'00           |             | minimum elong    | -5376 Feb 16 j 11:50 | 16° $\mathring{B}$ 54'33 | 1°54'29     |
| retrograde       | -5383 May 18 j 05:31 | 3° $\mathring{B}$ 44'05           |             | max. Earth dist. | -5376 Feb 17 j 09:16 | 16° $\mathring{B}$ 56'33 | 30.82289 AU |
| min. Earth dist. | -5383 Aug 05 j 10:13 | 2° $\mathring{B}$ 20'08           | 28.84392 AU | morning rise     | -5376 Mar 03 j 15:05 | 17° $\mathring{B}$ 30'35 |             |
| opposition       | -5383 Aug 06 j 08:46 | 2° $\mathring{B}$ 18'33           | -1°36'46    | retrograde       | -5376 Jun 03 j 03:35 | 19° $\mathring{B}$ 29'25 |             |
| direct           | -5383 Oct 22 j 14:40 | 0° $\mathring{B}$ 55'12           |             | opposition       | -5376 Aug 21 j 17:26 | 18° $\mathring{B}$ 03'59 | -2°03'48    |
| evening set      | -5382 Jan 17 j 03:20 | 2° $\mathring{B}$ 48'10           |             | min. Earth dist. | -5376 Aug 20 j 23:02 | 18° $\mathring{B}$ 05'17 | 28.82204 AU |
|                  |                      |                                   |             | direct           | -5376 Nov 07 j 00:09 | 16° $\mathring{B}$ 40'15 |             |
| conjunction      | -5382 Feb 02 j 01:16 | 3° $\mathring{B}$ 23'46           | -1°32'29    | evening set      | -5375 Feb 02 j 01:21 | 18° $\mathring{B}$ 33'49 |             |
| minimum elong    | -5382 Feb 02 j 01:15 | 3° $\mathring{B}$ 23'46           | 1°32'47     |                  |                      |                          |             |
| max. Earth dist. | -5382 Feb 03 j 02:30 | 3° $\mathring{B}$ 26'08           | 30.84175 AU | conjunction      | -5375 Feb 18 j 01:43 | 19° $\mathring{B}$ 09'34 | -1°57'13    |
| morning rise     | -5382 Feb 18 j 02:48 | 3° $\mathring{B}$ 59'44           |             | minimum elong    | -5375 Feb 18 j 01:43 | 19° $\mathring{B}$ 09'34 | 1°57'32     |
| retrograde       | -5382 May 20 j 18:59 | 5° $\mathring{B}$ 58'49           |             | max. Earth dist. | -5375 Feb 18 j 22:02 | 19° $\mathring{B}$ 11'28 | 30.81853 AU |
| opposition       | -5382 Aug 08 j 20:18 | 4° $\mathring{B}$ 33'20           | -1°41'07    | morning rise     | -5375 Mar 06 j 05:16 | 19° $\mathring{B}$ 45'36 |             |
| min. Earth dist. | -5382 Aug 07 j 21:06 | 4° $\mathring{B}$ 34'58           | 28.84178 AU | retrograde       | -5375 Jun 05 j 17:36 | 21° $\mathring{B}$ 44'21 |             |
| direct           | -5382 Oct 25 j 01:49 | 3° $\mathring{B}$ 09'58           |             | min. Earth dist. | -5375 Aug 23 j 09:54 | 20° $\mathring{B}$ 20'14 | 28.81803 AU |
| evening set      | -5381 Jan 19 j 16:23 | 5° $\mathring{B}$ 03'02           |             | opposition       | -5375 Aug 24 j 04:36 | 20° $\mathring{B}$ 18'54 | -2°06'57    |

Attention, astronomical year style is used: The year -5375 in astronomical counting style is the year 5376 BCE in historical counting style.

|                  |                      |                                   |             |                  |                      |                     |             |
|------------------|----------------------|-----------------------------------|-------------|------------------|----------------------|---------------------|-------------|
| direct           | -5375 Nov 09 j 12:23 | 18° $\overline{3}$ 55'04          |             | minimum elong    | -5368 Mar 06 j 05:02 | 4° $\approx$ 54'41  | 2°13'31     |
| evening set      | -5374 Feb 04 j 15:01 | 20° $\overline{3}$ 48'43          |             | max. Earth dist. | -5368 Mar 06 j 21:06 | 4° $\approx$ 56'11  | 30.81921 AU |
|                  |                      |                                   |             | morning rise     | -5368 Mar 22 j 10:01 | 5° $\approx$ 30'45  |             |
| conjunction      | -5374 Feb 20 j 15:41 | 21° $\overline{3}$ 24'28          | -2°00'05    | retrograde       | -5368 Jun 21 j 11:53 | 7° $\approx$ 29'04  |             |
| minimum elong    | -5374 Feb 20 j 15:41 | 21° $\overline{3}$ 24'28          | 2°00'23     | opposition       | -5368 Sep 08 j 10:14 | 6° $\approx$ 04'00  | -2°23'21    |
| max. Earth dist. | -5374 Feb 21 j 11:43 | 21° $\overline{3}$ 26'21          | 30.81482 AU | min. Earth dist. | -5368 Sep 07 j 19:49 | 6° $\approx$ 05'01  | 28.82236 AU |
| morning rise     | -5374 Mar 08 j 19:26 | 22° $\overline{3}$ 00'31          |             | direct           | -5368 Nov 24 j 18:45 | 4° $\approx$ 39'55  |             |
| retrograde       | -5374 Jun 08 j 05:06 | 23° $\overline{3}$ 59'11          |             | evening set      | -5367 Feb 20 j 16:47 | 6° $\approx$ 34'22  |             |
| opposition       | -5374 Aug 26 j 15:51 | 22° $\overline{3}$ 33'44          | -2°09'55    |                  |                      |                     |             |
| min. Earth dist. | -5374 Aug 25 j 22:30 | 22° $\overline{3}$ 34'58          | 28.81499 AU | conjunction      | -5367 Mar 08 j 19:39 | 7° $\approx$ 10'15  | -2°14'45    |
| direct           | -5374 Nov 11 j 23:16 | 21° $\overline{3}$ 09'50          |             | minimum elong    | -5367 Mar 08 j 19:39 | 7° $\approx$ 10'15  | 2°15'02     |
| evening set      | -5373 Feb 07 j 04:37 | 23° $\overline{3}$ 03'33          |             | max. Earth dist. | -5367 Mar 09 j 11:36 | 7° $\approx$ 11'44  | 30.82179 AU |
|                  |                      |                                   |             | morning rise     | -5367 Mar 25 j 00:36 | 7° $\approx$ 46'19  |             |
| conjunction      | -5373 Feb 23 j 05:43 | 23° $\overline{3}$ 39'19          | -2°02'46    | retrograde       | -5367 Jun 24 j 00:59 | 9° $\approx$ 44'34  |             |
| minimum elong    | -5373 Feb 23 j 05:43 | 23° $\overline{3}$ 39'19          | 2°03'04     | opposition       | -5367 Sep 10 j 21:20 | 8° $\approx$ 19'34  | -2°24'51    |
| max. Earth dist. | -5373 Feb 24 j 01:34 | 23° $\overline{3}$ 41'10          | 30.81243 AU | min. Earth dist. | -5367 Sep 10 j 08:25 | 8° $\approx$ 20'29  | 28.82462 AU |
| morning rise     | -5373 Mar 11 j 09:40 | 24° $\overline{3}$ 15'22          |             | direct           | -5367 Nov 27 j 07:58 | 6° $\approx$ 55'27  |             |
| retrograde       | -5373 Jun 10 j 18:48 | 26° $\overline{3}$ 13'57          |             | evening set      | -5366 Feb 23 j 07:13 | 8° $\approx$ 50'02  |             |
| min. Earth dist. | -5373 Aug 28 j 09:02 | 24° $\overline{3}$ 49'48          | 28.81326 AU |                  |                      |                     |             |
| opposition       | -5373 Aug 29 j 02:56 | 24° $\overline{3}$ 48'31          | -2°12'41    | conjunction      | -5366 Mar 11 j 10:19 | 9° $\approx$ 25'55  | -2°16'03    |
| direct           | -5373 Nov 14 j 11:06 | 23° $\overline{3}$ 24'33          |             | minimum elong    | -5366 Mar 11 j 10:19 | 9° $\approx$ 25'55  | 2°16'18     |
| evening set      | -5372 Feb 09 j 18:32 | 25° $\overline{3}$ 18'22          |             | max. Earth dist. | -5366 Mar 12 j 00:21 | 9° $\approx$ 27'13  | 30.82369 AU |
|                  |                      |                                   |             | morning rise     | -5366 Mar 27 j 15:31 | 10° $\approx$ 02'00 |             |
| conjunction      | -5372 Feb 25 j 19:49 | 25° $\overline{3}$ 54'09          | -2°05'15    | retrograde       | -5366 Jun 26 j 15:16 | 12° $\approx$ 00'09 |             |
| minimum elong    | -5372 Feb 25 j 19:49 | 25° $\overline{3}$ 54'09          | 2°05'32     | opposition       | -5366 Sep 13 j 08:18 | 10° $\approx$ 35'12 | -2°26'07    |
| max. Earth dist. | -5372 Feb 26 j 14:38 | 25° $\overline{3}$ 55'55          | 30.81130 AU | min. Earth dist. | -5366 Sep 12 j 19:37 | 10° $\approx$ 36'06 | 28.82607 AU |
| morning rise     | -5372 Mar 13 j 00:03 | 26° $\overline{3}$ 30'12          |             | direct           | -5366 Nov 29 j 20:41 | 9° $\approx$ 11'01  |             |
| retrograde       | -5372 Jun 12 j 06:48 | 28° $\overline{3}$ 28'44          |             | evening set      | -5365 Feb 25 j 21:42 | 11° $\approx$ 05'42 |             |
| opposition       | -5372 Aug 30 j 14:02 | 27° $\overline{3}$ 03'21          | -2°15'14    |                  |                      |                     |             |
| min. Earth dist. | -5372 Aug 29 j 21:31 | 27° $\overline{3}$ 04'31          | 28.81300 AU | conjunction      | -5365 Mar 14 j 01:06 | 11° $\approx$ 41'36 | -2°17'08    |
| direct           | -5372 Nov 15 j 20:21 | 25° $\overline{3}$ 39'19          |             | minimum elong    | -5365 Mar 14 j 01:06 | 11° $\approx$ 41'36 | 2°17'23     |
| evening set      | -5371 Feb 11 j 08:18 | 27° $\overline{3}$ 33'15          |             | max. Earth dist. | -5365 Mar 14 j 14:13 | 11° $\approx$ 42'49 | 30.82456 AU |
|                  |                      |                                   |             | morning rise     | -5365 Mar 30 j 06:25 | 12° $\approx$ 17'41 |             |
| conjunction      | -5371 Feb 27 j 10:03 | 28° $\overline{3}$ 09'03          | -2°07'33    | retrograde       | -5365 Jun 29 j 03:42 | 14° $\approx$ 15'43 |             |
| minimum elong    | -5371 Feb 27 j 10:03 | 28° $\overline{3}$ 09'03          | 2°07'51     | opposition       | -5365 Sep 15 j 19:24 | 12° $\approx$ 50'48 | -2°27'09    |
| max. Earth dist. | -5371 Feb 28 j 05:13 | 28° $\overline{3}$ 10'51          | 30.81176 AU | min. Earth dist. | -5365 Sep 15 j 08:41 | 12° $\approx$ 51'33 | 28.82652 AU |
| morning rise     | -5371 Mar 15 j 14:20 | 28° $\overline{3}$ 45'07          |             | direct           | -5365 Dec 02 j 08:24 | 11° $\approx$ 26'33 |             |
|                  | -5371 Apr 23 j 08:51 | 0° $\approx$                      |             | evening set      | -5364 Feb 28 j 12:12 | 13° $\approx$ 21'18 |             |
| retrograde       | -5371 Jun 14 j 19:03 | 0° $\approx$ 43'35                |             |                  |                      |                     |             |
|                  | -5371 Aug 07 j 09:41 | 30° $\overline{R}$ $\overline{3}$ |             | conjunction      | -5364 Mar 15 j 15:55 | 13° $\approx$ 57'13 | -2°18'00    |
| min. Earth dist. | -5371 Sep 01 j 08:12 | 29° $\overline{3}$ 19'27          | 28.81412 AU | minimum elong    | -5364 Mar 15 j 15:55 | 13° $\approx$ 57'13 | 2°18'14     |
| opposition       | -5371 Sep 02 j 01:05 | 29° $\overline{3}$ 18'15          | -2°17'35    | max. Earth dist. | -5364 Mar 16 j 03:54 | 13° $\approx$ 58'20 | 30.82474 AU |
| direct           | -5371 Nov 18 j 08:54 | 27° $\overline{3}$ 54'13          |             | morning rise     | -5364 Mar 31 j 21:21 | 14° $\approx$ 33'17 |             |
| evening set      | -5370 Feb 13 j 22:10 | 29° $\overline{3}$ 48'16          |             |                  | -5364 Apr 13 j 11:06 | 15° $\approx$       |             |
|                  | -5370 Feb 19 j 05:59 | 0° $\approx$                      |             | retrograde       | -5364 Jun 30 j 18:04 | 16° $\approx$ 31'11 |             |
|                  |                      |                                   |             | opposition       | -5364 Sep 17 j 06:08 | 15° $\approx$ 06'17 | -2°27'58    |
| conjunction      | -5370 Mar 02 j 00:03 | 0° $\approx$ 24'05                | -2°09'39    | min. Earth dist. | -5364 Sep 16 j 19:29 | 15° $\approx$ 07'03 | 28.82640 AU |
| minimum elong    | -5370 Mar 02 j 00:03 | 0° $\approx$ 24'05                | 2°09'56     |                  | -5364 Sep 20 j 22:33 | 15° $\approx$       |             |
| max. Earth dist. | -5370 Mar 02 j 17:39 | 0° $\approx$ 25'43                | 30.81351 AU | direct           | -5364 Dec 03 j 21:14 | 13° $\approx$ 41'57 |             |
| morning rise     | -5370 Mar 18 j 04:42 | 1° $\approx$ 00'09                |             |                  | -5363 Feb 12 j 12:15 | 15° $\approx$       |             |
| retrograde       | -5370 Jun 17 j 08:24 | 2° $\approx$ 58'34                |             | evening set      | -5363 Mar 02 j 02:43 | 15° $\approx$ 36'46 |             |
| opposition       | -5370 Sep 04 j 12:14 | 1° $\approx$ 33'19                | -2°19'44    |                  |                      |                     |             |
| min. Earth dist. | -5370 Sep 03 j 20:23 | 1° $\approx$ 34'27                | 28.81648 AU | conjunction      | -5363 Mar 18 j 06:36 | 16° $\approx$ 12'42 | -2°18'40    |
| direct           | -5370 Nov 20 j 19:16 | 0° $\approx$ 09'15                |             | minimum elong    | -5363 Mar 18 j 06:36 | 16° $\approx$ 12'42 | 2°18'54     |
| evening set      | -5369 Feb 16 j 12:10 | 2° $\approx$ 03'27                |             | max. Earth dist. | -5363 Mar 18 j 17:11 | 16° $\approx$ 13'41 | 30.82449 AU |
|                  |                      |                                   |             | morning rise     | -5363 Apr 03 j 12:12 | 16° $\approx$ 48'46 |             |
| conjunction      | -5369 Mar 04 j 14:32 | 2° $\approx$ 39'17                | -2°11'33    | retrograde       | -5363 Jul 03 j 05:18 | 18° $\approx$ 46'31 |             |
| minimum elong    | -5369 Mar 04 j 14:32 | 2° $\approx$ 39'17                | 2°11'51     | opposition       | -5363 Sep 19 j 17:04 | 17° $\approx$ 21'38 | -2°28'34    |
| max. Earth dist. | -5369 Mar 05 j 08:35 | 2° $\approx$ 40'58                | 30.81620 AU | min. Earth dist. | -5363 Sep 19 j 08:12 | 17° $\approx$ 22'16 | 28.82629 AU |
| morning rise     | -5369 Mar 20 j 19:12 | 3° $\approx$ 15'21                |             | direct           | -5363 Dec 06 j 07:25 | 15° $\approx$ 57'13 |             |
| retrograde       | -5369 Jun 19 j 20:59 | 5° $\approx$ 13'43                |             | evening set      | -5362 Mar 04 j 16:54 | 17° $\approx$ 52'05 |             |
| opposition       | -5369 Sep 06 j 23:09 | 3° $\approx$ 48'34                | -2°21'39    |                  |                      |                     |             |
| min. Earth dist. | -5369 Sep 06 j 07:58 | 3° $\approx$ 49'39                | 28.81938 AU | conjunction      | -5362 Mar 20 j 21:12 | 18° $\approx$ 28'01 | -2°19'07    |
| direct           | -5369 Nov 23 j 07:13 | 2° $\approx$ 24'30                |             | minimum elong    | -5362 Mar 20 j 21:13 | 18° $\approx$ 28'01 | 2°19'20     |
| evening set      | -5368 Feb 19 j 02:32 | 4° $\approx$ 18'50                |             | max. Earth dist. | -5362 Mar 21 j 07:40 | 18° $\approx$ 29'00 | 30.82459 AU |
|                  |                      |                                   |             | morning rise     | -5362 Apr 06 j 02:50 | 19° $\approx$ 04'06 |             |
| conjunction      | -5368 Mar 06 j 05:02 | 4° $\approx$ 54'41                | -2°13'16    | retrograde       | -5362 Jul 05 j 16:38 | 21° $\approx$ 01'41 |             |

Attention, astronomical year style is used: The year -5362 in astronomical counting style is the year 5363 BCE in historical counting style.

|                  |                      |           |             |                  |                      |           |             |
|------------------|----------------------|-----------|-------------|------------------|----------------------|-----------|-------------|
| opposition       | -5362 Sep 22 j 03:45 | 19°36'49" | -2°28'56"   | direct           | -5356 Dec 21 j 19:45 | 1°41'25"  |             |
| min. Earth dist. | -5362 Sep 21 j 18:53 | 19°37'27" | 28.82660 AU | evening set      | -5355 Mar 20 j 22:03 | 3°36'55"  |             |
| direct           | -5362 Dec 08 j 20:45 | 18°12'18" |             |                  |                      |           |             |
| evening set      | -5361 Mar 07 j 07:26 | 20°07'15" |             | conjunction      | -5355 Apr 06 j 03:53 | 4°12'54"  | -2°16'19"   |
|                  |                      |           |             | minimum elong    | -5355 Apr 06 j 03:54 | 4°12'54"  | 2°16'29"    |
| conjunction      | -5361 Mar 23 j 11:50 | 20°43'11" | -2°19'21"   | max. Earth dist. | -5355 Apr 06 j 07:50 | 4°13'16"  | 30.85479 AU |
| minimum elong    | -5361 Mar 23 j 11:50 | 20°43'11" | 2°19'34"    | morning rise     | -5355 Apr 22 j 10:05 | 4°48'56"  |             |
| max. Earth dist. | -5361 Mar 23 j 20:26 | 20°43'59" | 30.82531 AU | retrograde       | -5355 Jul 21 j 08:57 | 6°45'37"  |             |
| morning rise     | -5361 Apr 08 j 17:43 | 21°19'15" |             | opposition       | -5355 Oct 07 j 05:59 | 5°21'12"  | -2°25'08"   |
| retrograde       | -5361 Jul 08 j 04:42 | 23°16'42" |             | min. Earth dist. | -5355 Oct 07 j 02:24 | 5°21'28"  | 28.85974 AU |
| opposition       | -5361 Sep 24 j 14:24 | 21°51'51" | -2°29'05"   | direct           | -5355 Dec 24 j 08:59 | 3°56'24"  |             |
| min. Earth dist. | -5361 Sep 24 j 06:44 | 21°52'24" | 28.82792 AU | evening set      | -5354 Mar 23 j 12:36 | 5°51'59"  |             |
| direct           | -5361 Dec 11 j 06:53 | 20°27'14" |             |                  |                      |           |             |
| evening set      | -5360 Mar 08 j 21:48 | 22°22'16" |             | conjunction      | -5354 Apr 08 j 18:35 | 6°27'59"  | -2°15'04"   |
|                  |                      |           |             | minimum elong    | -5354 Apr 08 j 18:35 | 6°27'59"  | 2°15'12"    |
| conjunction      | -5360 Mar 25 j 02:36 | 22°58'12" | -2°19'23"   | max. Earth dist. | -5354 Apr 08 j 21:03 | 6°28'13"  | 30.86114 AU |
| minimum elong    | -5360 Mar 25 j 02:37 | 22°58'12" | 2°19'35"    | morning rise     | -5354 Apr 25 j 00:50 | 7°04'01"  |             |
| max. Earth dist. | -5360 Mar 25 j 11:32 | 22°59'02" | 30.82719 AU | retrograde       | -5354 Jul 23 j 20:32 | 9°00'34"  |             |
| morning rise     | -5360 Apr 10 j 08:24 | 23°34'16" |             | opposition       | -5354 Oct 09 j 16:43 | 7°36'14"  | -2°23'41"   |
| retrograde       | -5360 Jul 09 j 15:59 | 25°31'34" |             | min. Earth dist. | -5354 Oct 09 j 15:13 | 7°36'20"  | 28.86574 AU |
| opposition       | -5360 Sep 26 j 01:05 | 24°06'46" | -2°28'59"   | direct           | -5354 Dec 26 j 19:52 | 6°11'23"  |             |
| min. Earth dist. | -5360 Sep 25 j 17:52 | 24°07'17" | 28.83041 AU | evening set      | -5353 Mar 26 j 03:14 | 8°07'03"  |             |
| direct           | -5360 Dec 12 j 18:52 | 22°42'05" |             |                  |                      |           |             |
| evening set      | -5359 Mar 11 j 12:08 | 24°37'11" |             | conjunction      | -5353 Apr 11 j 09:31 | 8°43'04"  | -2°13'37"   |
|                  |                      |           |             | minimum elong    | -5353 Apr 11 j 09:32 | 8°43'04"  | 2°13'45"    |
| conjunction      | -5359 Mar 27 j 17:00 | 25°13'07" | -2°19'12"   | max. Earth dist. | -5353 Apr 11 j 11:12 | 8°43'13"  | 30.86675 AU |
| minimum elong    | -5359 Mar 27 j 17:01 | 25°13'07" | 2°19'24"    | morning rise     | -5353 Apr 27 j 15:43 | 9°19'06"  |             |
| max. Earth dist. | -5359 Mar 28 j 00:09 | 25°13'47" | 30.83045 AU | retrograde       | -5353 Jul 26 j 08:32 | 11°15'28" |             |
| morning rise     | -5359 Apr 12 j 23:02 | 25°49'11" |             | opposition       | -5353 Oct 12 j 03:12 | 9°51'13"  | -2°22'01"   |
| retrograde       | -5359 Jul 12 j 04:45 | 27°46'21" |             | min. Earth dist. | -5353 Oct 12 j 02:07 | 9°51'17"  | 28.87077 AU |
| opposition       | -5359 Sep 28 j 11:43 | 26°21'36" | -2°28'41"   | direct           | -5353 Dec 29 j 09:13 | 8°26'19"  |             |
| min. Earth dist. | -5359 Sep 28 j 04:55 | 26°22'05" | 28.83445 AU | evening set      | -5352 Mar 27 j 17:58 | 10°22'03" |             |
| direct           | -5359 Dec 15 j 06:39 | 24°56'52" |             |                  |                      |           |             |
| evening set      | -5358 Mar 14 j 02:27 | 26°52'03" |             | conjunction      | -5352 Apr 13 j 00:16 | 10°58'04" | -2°11'58"   |
|                  |                      |           |             | minimum elong    | -5352 Apr 13 j 00:17 | 10°58'04" | 2°12'05"    |
| conjunction      | -5358 Mar 30 j 07:42 | 27°28'00" | -2°18'48"   | max. Earth dist. | -5352 Apr 12 j 23:42 | 10°58'01" | 30.87145 AU |
| minimum elong    | -5358 Mar 30 j 07:42 | 27°28'00" | 2°18'59"    | morning rise     | -5352 Apr 29 j 06:36 | 11°34'05" |             |
| max. Earth dist. | -5358 Mar 30 j 15:09 | 27°28'42" | 30.83517 AU | retrograde       | -5352 Jul 27 j 20:39 | 13°30'18" |             |
| morning rise     | -5358 Apr 15 j 13:39 | 28°04'03" |             | opposition       | -5352 Oct 13 j 13:49 | 12°06'06" | -2°20'09"   |
|                  | -5358 Jul 06 j 17:09 | 0°        |             | min. Earth dist. | -5352 Oct 13 j 14:14 | 12°06'04" | 28.87519 AU |
| retrograde       | -5358 Jul 14 j 16:20 | 0°01'06"  |             | direct           | -5352 Dec 30 j 19:32 | 10°41'08" |             |
|                  | -5358 Jul 22 j 18:46 | 30°       |             | evening set      | -5351 Mar 30 j 08:15 | 12°36'55" |             |
| opposition       | -5358 Sep 30 j 22:18 | 28°36'25" | -2°28'08"   |                  |                      |           |             |
| min. Earth dist. | -5358 Sep 30 j 16:42 | 28°36'49" | 28.83981 AU | conjunction      | -5351 Apr 15 j 14:53 | 13°12'56" | -2°10'07"   |
| direct           | -5358 Dec 17 j 19:27 | 27°11'39" |             | minimum elong    | -5351 Apr 15 j 14:54 | 13°12'56" | 2°10'14"    |
| evening set      | -5357 Mar 16 j 16:56 | 29°06'56" |             | max. Earth dist. | -5351 Apr 15 j 14:14 | 13°12'53" | 30.87565 AU |
|                  |                      |           |             | morning rise     | -5351 May 01 j 21:03 | 13°48'57" |             |
| conjunction      | -5357 Apr 01 j 22:21 | 29°42'54" | -2°18'11"   | retrograde       | -5351 Jul 30 j 07:02 | 15°45'00" |             |
| minimum elong    | -5357 Apr 01 j 22:21 | 29°42'54" | 2°18'22"    | opposition       | -5351 Oct 16 j 00:18 | 14°20'50" | -2°18'04"   |
| max. Earth dist. | -5357 Apr 02 j 04:06 | 29°43'26" | 30.84123 AU | min. Earth dist. | -5351 Oct 16 j 01:33 | 14°20'45" | 28.87915 AU |
|                  | -5357 Apr 09 j 14:03 | 0°        |             | direct           | -5350 Jan 02 j 07:49 | 12°55'48" |             |
| morning rise     | -5357 Apr 18 j 04:32 | 0°18'57"  |             | evening set      | -5350 Apr 01 j 22:47 | 14°51'38" |             |
| retrograde       | -5357 Jul 17 j 06:16 | 2°15'52"  |             |                  |                      |           |             |
| opposition       | -5357 Oct 03 j 08:50 | 0°51'16"  | -2°27'21"   | conjunction      | -5350 Apr 18 j 05:24 | 15°27'39" | -2°08'05"   |
| min. Earth dist. | -5357 Oct 03 j 03:16 | 0°51'40"  | 28.84625 AU | minimum elong    | -5350 Apr 18 j 05:25 | 15°27'39" | 2°08'11"    |
|                  | -5357 Nov 04 j 12:57 | 30°       |             | max. Earth dist. | -5350 Apr 18 j 02:34 | 15°27'23" | 30.87975 AU |
| direct           | -5357 Dec 20 j 07:53 | 29°26'29" |             | morning rise     | -5350 May 04 j 11:45 | 16°03'40" |             |
|                  | -5356 Feb 03 j 09:58 | 0°        |             | retrograde       | -5350 Aug 01 j 18:39 | 17°59'32" |             |
| evening set      | -5356 Mar 18 j 07:29 | 1°21'53"  |             | opposition       | -5350 Oct 18 j 10:35 | 16°35'24" | -2°15'47"   |
|                  |                      |           |             | min. Earth dist. | -5350 Oct 18 j 12:36 | 16°35'15" | 28.88340 AU |
| conjunction      | -5356 Apr 03 j 13:07 | 1°57'52"  | -2°17'21"   | direct           | -5349 Jan 04 j 19:41 | 15°10'18" |             |
| minimum elong    | -5356 Apr 03 j 13:07 | 1°57'52"  | 2°17'31"    | evening set      | -5349 Apr 04 j 13:07 | 17°06'10" |             |
| max. Earth dist. | -5356 Apr 03 j 18:21 | 1°58'21"  | 30.84789 AU |                  |                      |           |             |
| morning rise     | -5356 Apr 19 j 19:14 | 2°33'54"  |             | conjunction      | -5349 Apr 20 j 20:03 | 17°42'12" | -2°05'51"   |
| retrograde       | -5356 Jul 18 j 18:39 | 4°30'42"  |             | minimum elong    | -5349 Apr 20 j 20:04 | 17°42'12" | 2°05'56"    |
| opposition       | -5356 Oct 04 j 19:26 | 3°06'12"  | -2°26'21"   | max. Earth dist. | -5349 Apr 20 j 17:22 | 17°41'57" | 30.88422 AU |
| min. Earth dist. | -5356 Oct 04 j 15:46 | 3°06'28"  | 28.85306 AU | morning rise     | -5349 May 07 j 02:12 | 18°18'11" |             |

## Planetary Phenomena of Neptune from -5400 through -4898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 5

Attention, astronomical year style is used: The year -5349 in astronomical counting style is the year 5350 BCE in historical counting style.

|                  |                      |                      |             |                  |                      |                      |             |
|------------------|----------------------|----------------------|-------------|------------------|----------------------|----------------------|-------------|
| retrograde       | -5349 Aug 04 j 05:00 | 20° $\text{H}$ 13'53 |             | evening set      | -5342 Apr 20 j 16:26 | 2° $\text{V}$ 45'42  |             |
| opposition       | -5349 Oct 20 j 21:01 | 18° $\text{H}$ 49'48 | -2°13'18    |                  |                      |                      |             |
| min. Earth dist. | -5349 Oct 21 j 00:22 | 18° $\text{H}$ 49'34 | 28.88815 AU | conjunction      | -5342 May 06 j 23:50 | 3° $\text{V}$ 21'44  | -1°45'09    |
| direct           | -5348 Jan 07 j 08:33 | 17° $\text{H}$ 24'38 |             | minimum elong    | -5342 May 06 j 23:50 | 3° $\text{V}$ 21'44  | 1°45'09     |
| evening set      | -5348 Apr 06 j 03:28 | 19° $\text{H}$ 20'33 |             | max. Earth dist. | -5342 May 06 j 15:10 | 3° $\text{V}$ 20'56  | 30.94651 AU |
|                  |                      |                      |             | morning rise     | -5342 May 23 j 05:22 | 3° $\text{V}$ 57'39  |             |
| conjunction      | -5348 Apr 22 j 10:22 | 19° $\text{H}$ 56'34 | -2°03'26    | retrograde       | -5342 Aug 19 j 16:12 | 5° $\text{V}$ 52'18  |             |
| minimum elong    | -5348 Apr 22 j 10:22 | 19° $\text{H}$ 56'34 | 2°03'30     | opposition       | -5342 Nov 04 j 21:15 | 4° $\text{V}$ 28'50  | -1°50'30    |
| max. Earth dist. | -5348 Apr 22 j 05:55 | 19° $\text{H}$ 56'10 | 30.88955 AU | min. Earth dist. | -5342 Nov 05 j 05:38 | 4° $\text{V}$ 28'14  | 28.95273 AU |
| morning rise     | -5348 May 08 j 16:36 | 20° $\text{H}$ 32'33 |             | direct           | -5341 Jan 22 j 22:41 | 3° $\text{V}$ 03'35  |             |
| retrograde       | -5348 Aug 05 j 17:42 | 22° $\text{H}$ 28'05 |             | evening set      | -5341 Apr 23 j 06:49 | 4° $\text{V}$ 59'56  |             |
| opposition       | -5348 Oct 22 j 07:16 | 21° $\text{H}$ 04'03 | -2°10'37    |                  |                      |                      |             |
| min. Earth dist. | -5348 Oct 22 j 10:27 | 21° $\text{H}$ 03'49 | 28.89404 AU | conjunction      | -5341 May 09 j 14:02 | 5° $\text{V}$ 35'57  | -1°41'31    |
| direct           | -5347 Jan 08 j 20:48 | 19° $\text{H}$ 38'49 |             | minimum elong    | -5341 May 09 j 14:03 | 5° $\text{V}$ 35'57  | 1°41'30     |
| evening set      | -5347 Apr 08 j 17:39 | 21° $\text{H}$ 34'48 |             | max. Earth dist. | -5341 May 09 j 03:00 | 5° $\text{V}$ 34'56  | 30.95676 AU |
|                  |                      |                      |             | morning rise     | -5341 May 25 j 19:34 | 6° $\text{V}$ 11'51  |             |
| conjunction      | -5347 Apr 25 j 00:43 | 22° $\text{H}$ 10'49 | -2°00'49    | retrograde       | -5341 Aug 22 j 03:27 | 8° $\text{V}$ 06'20  |             |
| minimum elong    | -5347 Apr 25 j 00:44 | 22° $\text{H}$ 10'49 | 2°00'54     | opposition       | -5341 Nov 07 j 07:42 | 6° $\text{V}$ 42'57  | -1°46'32    |
| max. Earth dist. | -5347 Apr 24 j 20:09 | 22° $\text{H}$ 10'24 | 30.89609 AU | min. Earth dist. | -5341 Nov 07 j 16:55 | 6° $\text{V}$ 42'18  | 28.96253 AU |
| morning rise     | -5347 May 11 j 06:46 | 22° $\text{H}$ 46'47 |             | direct           | -5340 Jan 25 j 10:06 | 5° $\text{V}$ 17'41  |             |
| retrograde       | -5347 Aug 08 j 05:06 | 24° $\text{H}$ 42'10 |             | evening set      | -5340 Apr 24 j 20:53 | 7° $\text{V}$ 14'03  |             |
| opposition       | -5347 Oct 24 j 17:39 | 23° $\text{H}$ 18'11 | -2°07'44    |                  |                      |                      |             |
| min. Earth dist. | -5347 Oct 24 j 22:20 | 23° $\text{H}$ 17'51 | 28.90132 AU | conjunction      | -5340 May 11 j 04:13 | 7° $\text{V}$ 50'05  | -1°37'44    |
| direct           | -5346 Jan 11 j 09:20 | 21° $\text{H}$ 52'56 |             | minimum elong    | -5340 May 11 j 04:13 | 7° $\text{V}$ 50'05  | 1°37'43     |
| evening set      | -5346 Apr 11 j 07:44 | 23° $\text{H}$ 48'58 |             | max. Earth dist. | -5340 May 10 j 17:08 | 7° $\text{V}$ 49'03  | 30.96604 AU |
|                  |                      |                      |             | morning rise     | -5340 May 27 j 09:23 | 8° $\text{V}$ 25'57  |             |
| conjunction      | -5346 Apr 27 j 14:53 | 24° $\text{H}$ 24'59 | -1°58'02    | retrograde       | -5340 Aug 23 j 13:11 | 10° $\text{V}$ 20'17 |             |
| minimum elong    | -5346 Apr 27 j 14:54 | 24° $\text{H}$ 24'59 | 1°58'05     | opposition       | -5340 Nov 08 j 18:13 | 8° $\text{V}$ 56'57  | -1°42'25    |
| max. Earth dist. | -5346 Apr 27 j 09:18 | 24° $\text{H}$ 24'28 | 30.90428 AU | min. Earth dist. | -5340 Nov 09 j 05:01 | 8° $\text{V}$ 56'11  | 28.97126 AU |
| morning rise     | -5346 May 13 j 20:59 | 25° $\text{H}$ 00'56 |             | direct           | -5339 Jan 26 j 22:09 | 7° $\text{V}$ 31'39  |             |
| retrograde       | -5346 Aug 10 j 18:23 | 26° $\text{H}$ 56'09 |             | evening set      | -5339 Apr 27 j 11:01 | 9° $\text{V}$ 28'02  |             |
| opposition       | -5346 Oct 27 j 03:54 | 25° $\text{H}$ 32'16 | -2°04'39    |                  |                      |                      |             |
| min. Earth dist. | -5346 Oct 27 j 08:13 | 25° $\text{H}$ 31'57 | 28.91009 AU | conjunction      | -5339 May 13 j 18:09 | 10° $\text{V}$ 04'03 | -1°33'48    |
| direct           | -5345 Jan 13 j 23:17 | 24° $\text{H}$ 07'00 |             | minimum elong    | -5339 May 13 j 18:10 | 10° $\text{V}$ 04'03 | 1°33'47     |
| evening set      | -5345 Apr 13 j 21:59 | 26° $\text{H}$ 03'06 |             | max. Earth dist. | -5339 May 13 j 04:58 | 10° $\text{V}$ 02'49 | 30.97454 AU |
|                  |                      |                      |             | morning rise     | -5339 May 29 j 23:18 | 10° $\text{V}$ 39'54 |             |
| conjunction      | -5345 Apr 30 j 05:11 | 26° $\text{H}$ 39'08 | -1°55'04    | retrograde       | -5339 Aug 26 j 01:00 | 12° $\text{V}$ 34'03 |             |
| minimum elong    | -5345 Apr 30 j 05:12 | 26° $\text{H}$ 39'08 | 1°55'07     | opposition       | -5339 Nov 11 j 04:29 | 11° $\text{V}$ 10'46 | -1°38'09    |
| max. Earth dist. | -5345 Apr 29 j 22:46 | 26° $\text{H}$ 38'32 | 30.91375 AU | min. Earth dist. | -5339 Nov 11 j 15:24 | 11° $\text{V}$ 10'00 | 28.97938 AU |
| morning rise     | -5345 May 16 j 11:10 | 27° $\text{H}$ 15'04 |             | direct           | -5338 Jan 29 j 10:14 | 9° $\text{V}$ 45'24  |             |
| retrograde       | -5345 Aug 13 j 05:32 | 29° $\text{H}$ 10'08 |             | evening set      | -5338 Apr 30 j 00:53 | 11° $\text{V}$ 41'49 |             |
| opposition       | -5345 Oct 29 j 14:12 | 27° $\text{H}$ 46'21 | -2°01'23    |                  |                      |                      |             |
| min. Earth dist. | -5345 Oct 29 j 20:12 | 27° $\text{H}$ 45'55 | 28.92017 AU | conjunction      | -5338 May 16 j 08:07 | 12° $\text{V}$ 17'48 | -1°29'45    |
| direct           | -5344 Jan 16 j 10:29 | 26° $\text{H}$ 21'05 |             | minimum elong    | -5338 May 16 j 08:07 | 12° $\text{V}$ 17'48 | 1°29'43     |
| evening set      | -5344 Apr 15 j 12:10 | 28° $\text{H}$ 17'16 |             | max. Earth dist. | -5338 May 15 j 18:36 | 12° $\text{V}$ 16'33 | 30.98239 AU |
|                  |                      |                      |             | morning rise     | -5338 Jun 01 j 12:57 | 12° $\text{V}$ 53'38 |             |
| conjunction      | -5344 May 01 j 19:29 | 28° $\text{H}$ 53'17 | -1°51'56    | retrograde       | -5338 Aug 28 j 11:03 | 14° $\text{V}$ 47'37 |             |
| minimum elong    | -5344 May 01 j 19:30 | 28° $\text{H}$ 53'18 | 1°51'58     | opposition       | -5338 Nov 13 j 14:56 | 13° $\text{V}$ 24'22 | -1°33'45    |
| max. Earth dist. | -5344 May 01 j 12:43 | 28° $\text{H}$ 52'40 | 30.92444 AU | min. Earth dist. | -5338 Nov 14 j 03:41 | 13° $\text{V}$ 23'28 | 28.98702 AU |
| morning rise     | -5344 May 18 j 01:19 | 29° $\text{H}$ 29'13 |             | direct           | -5337 Jan 31 j 23:18 | 11° $\text{V}$ 58'57 |             |
|                  | -5344 Jun 01 j 17:04 | 0° $\text{V}$        |             | evening set      | -5337 May 02 j 14:48 | 13° $\text{V}$ 55'22 |             |
| retrograde       | -5344 Aug 14 j 17:55 | 1° $\text{V}$ 24'09  |             |                  |                      |                      |             |
| opposition       | -5344 Oct 31 j 00:31 | 0° $\text{V}$ 00'28  | -1°57'56    | conjunction      | -5337 May 18 j 21:52 | 14° $\text{V}$ 31'21 | -1°25'34    |
| min. Earth dist. | -5344 Oct 31 j 06:35 | 0° $\text{V}$ 00'02  | 28.93103 AU | minimum elong    | -5337 May 18 j 21:52 | 14° $\text{V}$ 31'21 | 1°25'30     |
|                  | -5344 Oct 31 j 07:09 | 30° $\text{H}$       |             | max. Earth dist. | -5337 May 18 j 07:00 | 14° $\text{V}$ 29'58 | 30.99010 AU |
| direct           | -5343 Jan 17 j 23:39 | 28° $\text{H}$ 35'14 |             | morning rise     | -5337 Jun 04 j 02:34 | 15° $\text{V}$ 07'08 |             |
|                  | -5343 Apr 03 j 01:40 | 0° $\text{V}$        |             | retrograde       | -5337 Aug 30 j 22:59 | 17° $\text{V}$ 00'57 |             |
| evening set      | -5343 Apr 18 j 02:17 | 0° $\text{V}$ 31'28  |             | opposition       | -5337 Nov 16 j 01:07 | 15° $\text{V}$ 37'44 | -1°29'12    |
|                  |                      |                      |             | min. Earth dist. | -5337 Nov 16 j 13:42 | 15° $\text{V}$ 36'51 | 28.99468 AU |
| conjunction      | -5343 May 04 j 09:30 | 1° $\text{V}$ 07'30  | -1°48'37    | direct           | -5336 Feb 03 j 13:27 | 14° $\text{V}$ 12'17 |             |
| minimum elong    | -5343 May 04 j 09:31 | 1° $\text{V}$ 07'30  | 1°48'38     | evening set      | -5336 May 04 j 04:34 | 16° $\text{V}$ 08'42 |             |
| max. Earth dist. | -5343 May 04 j 01:02 | 1° $\text{V}$ 06'43  | 30.93552 AU |                  |                      |                      |             |
| morning rise     | -5343 May 20 j 15:18 | 1° $\text{V}$ 43'25  |             | conjunction      | -5336 May 20 j 11:30 | 16° $\text{V}$ 44'40 | -1°21'16    |
| retrograde       | -5343 Aug 17 j 06:21 | 3° $\text{V}$ 38'13  |             | minimum elong    | -5336 May 20 j 11:31 | 16° $\text{V}$ 44'40 | 1°21'12     |
| opposition       | -5343 Nov 02 j 10:56 | 2° $\text{V}$ 14'39  | -1°54'18    | max. Earth dist. | -5336 May 19 j 19:59 | 16° $\text{V}$ 43'14 | 30.99797 AU |
| min. Earth dist. | -5343 Nov 02 j 18:19 | 2° $\text{V}$ 14'07  | 28.94217 AU | morning rise     | -5336 Jun 05 j 15:54 | 17° $\text{V}$ 20'26 |             |
| direct           | -5342 Jan 20 j 10:05 | 0° $\text{V}$ 49'24  |             | retrograde       | -5336 Sep 01 j 09:37 | 19° $\text{V}$ 14'05 |             |

Attention, astronomical year style is used: The year -5336 in astronomical counting style is the year 5337 BCE in historical counting style.

|                  |                      |                           |             |                  |  |                      |                              |             |
|------------------|----------------------|---------------------------|-------------|------------------|--|----------------------|------------------------------|-------------|
| opposition       | -5336 Nov 17 j 11:35 | 17° $\Upsilon$ 50'54      | -1°24'32    |                  |  | -5329 Mar 23 j 08:00 | 0° $\mathcal{B}$             |             |
| min. Earth dist. | -5336 Nov 18 j 01:38 | 17° $\Upsilon$ 49'55      | 29.00292 AU | evening set      |  | -5329 May 21 j 02:46 | 1° $\mathcal{B}$ 39'54       |             |
| direct           | -5335 Feb 05 j 01:09 | 16° $\Upsilon$ 25'25      |             |                  |  |                      |                              |             |
| evening set      | -5335 May 06 j 17:59 | 18° $\Upsilon$ 21'50      |             | conjunction      |  | -5329 Jun 06 j 08:14 | 2° $\mathcal{B}$ 15'46       | -0°48'09    |
| max. Earth dist. | -5335 May 22 j 09:10 | 18° $\Upsilon$ 56'20      | 31.00672 AU | minimum elong    |  | -5329 Jun 06 j 08:14 | 2° $\mathcal{B}$ 15'46       | 0°48'00     |
|                  |                      |                           |             | max. Earth dist. |  | -5329 Jun 05 j 12:41 | 2° $\mathcal{B}$ 13'57       | 31.07664 AU |
| conjunction      | -5335 May 23 j 00:50 | 18° $\Upsilon$ 57'47      | -1°16'50    | morning rise     |  | -5329 Jun 22 j 10:14 | 2° $\mathcal{B}$ 51'21       |             |
| minimum elong    | -5335 May 23 j 00:51 | 18° $\Upsilon$ 57'47      | 1°16'45     | retrograde       |  | -5329 Sep 17 j 11:55 | 4° $\mathcal{B}$ 44'12       |             |
| morning rise     | -5335 Jun 08 j 04:58 | 19° $\Upsilon$ 33'31      |             | opposition       |  | -5329 Dec 03 j 12:24 | 3° $\mathcal{B}$ 21'41       | -0°48'48    |
| retrograde       | -5335 Sep 03 j 21:11 | 21° $\Upsilon$ 27'01      |             | min. Earth dist. |  | -5329 Dec 04 j 06:50 | 3° $\mathcal{B}$ 20'23       | 29.08256 AU |
| opposition       | -5335 Nov 19 j 21:52 | 20° $\Upsilon$ 03'54      | -1°19'45    | direct           |  | -5328 Feb 21 j 12:55 | 1° $\mathcal{B}$ 56'20       |             |
| min. Earth dist. | -5335 Nov 20 j 11:44 | 20° $\Upsilon$ 02'55      | 29.01204 AU | evening set      |  | -5328 May 22 j 16:11 | 3° $\mathcal{B}$ 53'01       |             |
| direct           | -5334 Feb 07 j 15:06 | 18° $\Upsilon$ 38'23      |             |                  |  |                      |                              |             |
| evening set      | -5334 May 09 j 07:37 | 20° $\Upsilon$ 34'50      |             | conjunction      |  | -5328 Jun 07 j 21:14 | 4° $\mathcal{B}$ 28'51       | -0°43'05    |
|                  |                      |                           |             | minimum elong    |  | -5328 Jun 07 j 21:14 | 4° $\mathcal{B}$ 28'51       | 0°42'56     |
| conjunction      | -5334 May 25 j 14:12 | 21° $\Upsilon$ 10'46      | -1°12'18    | max. Earth dist. |  | -5328 Jun 07 j 00:16 | 4° $\mathcal{B}$ 26'54       | 31.08742 AU |
| minimum elong    | -5334 May 25 j 14:12 | 21° $\Upsilon$ 10'46      | 1°12'13     | morning rise     |  | -5328 Jun 23 j 22:56 | 5° $\mathcal{B}$ 04'24       |             |
| max. Earth dist. | -5334 May 24 j 21:16 | 21° $\Upsilon$ 09'12      | 31.01645 AU | retrograde       |  | -5328 Sep 18 j 23:32 | 6° $\mathcal{B}$ 57'09       |             |
| morning rise     | -5334 Jun 10 j 18:06 | 21° $\Upsilon$ 46'29      |             | opposition       |  | -5328 Dec 04 j 22:59 | 5° $\mathcal{B}$ 34'42       | -0°43'21    |
| retrograde       | -5334 Sep 06 j 08:51 | 23° $\Upsilon$ 39'50      |             | min. Earth dist. |  | -5328 Dec 05 j 17:14 | 5° $\mathcal{B}$ 33'25       | 29.09267 AU |
| opposition       | -5334 Nov 22 j 08:07 | 22° $\Upsilon$ 16'48      | -1°14'51    | direct           |  | -5327 Feb 23 j 02:22 | 4° $\mathcal{B}$ 09'21       |             |
| min. Earth dist. | -5334 Nov 22 j 22:48 | 22° $\Upsilon$ 15'46      | 29.02244 AU | evening set      |  | -5327 May 25 j 05:19 | 6° $\mathcal{B}$ 06'03       |             |
| direct           | -5333 Feb 10 j 02:15 | 20° $\Upsilon$ 51'17      |             |                  |  |                      |                              |             |
| evening set      | -5333 May 11 j 21:06 | 22° $\Upsilon$ 47'46      |             | conjunction      |  | -5327 Jun 10 j 10:04 | 6° $\mathcal{B}$ 41'51       | -0°37'58    |
| max. Earth dist. | -5333 May 27 j 11:04 | 23° $\Upsilon$ 22'09      | 31.02751 AU | minimum elong    |  | -5327 Jun 10 j 10:04 | 6° $\mathcal{B}$ 41'51       | 0°37'47     |
|                  |                      |                           |             | max. Earth dist. |  | -5327 Jun 09 j 12:22 | 6° $\mathcal{B}$ 39'50       | 31.09690 AU |
| conjunction      | -5333 May 28 j 03:38 | 23° $\Upsilon$ 23'41      | -1°07'40    | morning rise     |  | -5327 Jun 26 j 11:17 | 7° $\mathcal{B}$ 17'22       |             |
| minimum elong    | -5333 May 28 j 03:39 | 23° $\Upsilon$ 23'41      | 1°07'34     | retrograde       |  | -5327 Sep 21 j 10:04 | 9° $\mathcal{B}$ 10'01       |             |
| morning rise     | -5333 Jun 13 j 07:07 | 23° $\Upsilon$ 59'22      |             | opposition       |  | -5327 Dec 07 j 09:39 | 7° $\mathcal{B}$ 47'36       | -0°37'50    |
| retrograde       | -5333 Sep 08 j 18:18 | 25° $\Upsilon$ 52'36      |             | min. Earth dist. |  | -5327 Dec 08 j 05:36 | 7° $\mathcal{B}$ 46'12       | 29.10161 AU |
| opposition       | -5333 Nov 24 j 18:32 | 24° $\Upsilon$ 29'40      | -1°09'50    | direct           |  | -5326 Feb 25 j 13:59 | 6° $\mathcal{B}$ 22'14       |             |
| min. Earth dist. | -5333 Nov 25 j 09:39 | 24° $\Upsilon$ 28'36      | 29.03391 AU | evening set      |  | -5326 May 27 j 18:30 | 8° $\mathcal{B}$ 18'55       |             |
| direct           | -5332 Feb 12 j 15:09 | 23° $\Upsilon$ 04'11      |             |                  |  |                      |                              |             |
| evening set      | -5332 May 13 j 10:34 | 25° $\Upsilon$ 00'42      |             | conjunction      |  | -5326 Jun 12 j 22:54 | 8° $\mathcal{B}$ 54'41       | -0°32'47    |
|                  |                      |                           |             | minimum elong    |  | -5326 Jun 12 j 22:55 | 8° $\mathcal{B}$ 54'41       | 0°32'37     |
| conjunction      | -5332 May 29 j 16:42 | 25° $\Upsilon$ 36'36      | -1°02'55    | max. Earth dist. |  | -5326 Jun 12 j 00:42 | 8° $\mathcal{B}$ 52'38       | 31.10535 AU |
| minimum elong    | -5332 May 29 j 16:42 | 25° $\Upsilon$ 36'36      | 1°02'49     | morning rise     |  | -5326 Jun 28 j 23:41 | 9° $\mathcal{B}$ 30'10       |             |
| max. Earth dist. | -5332 May 28 j 22:32 | 25° $\Upsilon$ 34'55      | 31.03957 AU | retrograde       |  | -5326 Sep 23 j 21:32 | 11° $\mathcal{B}$ 22'41      |             |
| morning rise     | -5332 Jun 14 j 19:58 | 26° $\Upsilon$ 12'16      |             | opposition       |  | -5326 Dec 09 j 20:06 | 10° $\mathcal{B}$ 00'18      | -0°32'17    |
| retrograde       | -5332 Sep 10 j 05:14 | 28° $\Upsilon$ 05'24      |             | min. Earth dist. |  | -5326 Dec 10 j 16:09 | 9° $\mathcal{B}$ 58'54       | 29.10947 AU |
| opposition       | -5332 Nov 26 j 04:54 | 26° $\Upsilon$ 42'35      | -1°04'42    | direct           |  | -5325 Feb 28 j 04:52 | 8° $\mathcal{B}$ 34'54       |             |
| min. Earth dist. | -5332 Nov 26 j 20:15 | 26° $\Upsilon$ 41'30      | 29.04636 AU | evening set      |  | -5325 May 30 j 07:38 | 10° $\mathcal{B}$ 31'35      |             |
| direct           | -5331 Feb 14 j 01:54 | 25° $\Upsilon$ 17'08      |             |                  |  |                      |                              |             |
| evening set      | -5331 May 15 j 23:54 | 27° $\Upsilon$ 13'42      |             | conjunction      |  | -5325 Jun 15 j 11:34 | 11° $\mathcal{B}$ 07'19      | -0°27'34    |
|                  |                      |                           |             | minimum elong    |  | -5325 Jun 15 j 11:35 | 11° $\mathcal{B}$ 07'19      | 0°27'23     |
| conjunction      | -5331 Jun 01 j 05:57 | 27° $\Upsilon$ 49'36      | -0°58'05    | max. Earth dist. |  | -5325 Jun 14 j 12:04 | 11° $\mathcal{B}$ 05'09      | 31.11289 AU |
| minimum elong    | -5331 Jun 01 j 05:58 | 27° $\Upsilon$ 49'36      | 0°57'57     | morning rise     |  | -5325 Jul 01 j 11:56 | 11° $\mathcal{B}$ 42'46      |             |
| max. Earth dist. | -5331 May 31 j 12:20 | 27° $\Upsilon$ 47'58      | 31.05224 AU | retrograde       |  | -5325 Sep 26 j 08:59 | 13° $\mathcal{B}$ 35'09      |             |
| morning rise     | -5331 Jun 17 j 08:43 | 28° $\Upsilon$ 25'14      |             | opposition       |  | -5325 Dec 12 j 06:44 | 12° $\mathcal{B}$ 12'47      | -0°26'42    |
|                  | -5331 Aug 10 j 22:28 | 0° $\mathcal{B}$          |             | min. Earth dist. |  | -5325 Dec 13 j 03:39 | 12° $\mathcal{B}$ 11'19      | 29.11686 AU |
| retrograde       | -5331 Sep 12 j 14:49 | 0° $\mathcal{B}$ 18'16    |             | direct           |  | -5324 Mar 01 j 17:23 | 10° $\mathcal{B}$ 47'21      |             |
|                  | -5331 Oct 15 j 19:59 | 30° $\mathcal{R}\Upsilon$ |             | evening set      |  | -5324 May 31 j 20:19 | 12° $\mathcal{B}$ 44'00      |             |
| opposition       | -5331 Nov 28 j 15:19 | 28° $\Upsilon$ 55'34      | -0°59'29    |                  |  |                      |                              |             |
| min. Earth dist. | -5331 Nov 29 j 08:02 | 28° $\Upsilon$ 54'23      | 29.05901 AU | conjunction      |  | -5324 Jun 16 j 23:57 | 13° $\mathcal{B}$ 19'42      | -0°22'20    |
| direct           | -5330 Feb 16 j 12:54 | 27° $\Upsilon$ 30'10      |             | minimum elong    |  | -5324 Jun 16 j 23:58 | 13° $\mathcal{B}$ 19'42      | 0°22'08     |
| evening set      | -5330 May 18 j 13:23 | 29° $\Upsilon$ 26'47      |             | max. Earth dist. |  | -5324 Jun 16 j 00:55 | 13° $\mathcal{B}$ 17'34      | 31.12016 AU |
|                  | -5330 Jun 02 j 14:28 | 0° $\mathcal{B}$          |             | morning rise     |  | -5324 Jul 02 j 23:44 | 13° $\mathcal{B}$ 55'06      |             |
|                  |                      |                           |             |                  |  | -5324 Aug 05 j 02:57 | 15° $\mathcal{B}$            |             |
| conjunction      | -5330 Jun 03 j 19:02 | 0° $\mathcal{B}$ 02'39    | -0°53'09    | retrograde       |  | -5324 Sep 27 j 17:43 | 15° $\mathcal{B}$ 47'22      |             |
| minimum elong    | -5330 Jun 03 j 19:02 | 0° $\mathcal{B}$ 02'39    | 0°53'01     |                  |  | -5324 Nov 22 j 03:47 | 15° $\mathcal{R}\mathcal{B}$ |             |
| max. Earth dist. | -5330 Jun 02 j 23:37 | 0° $\mathcal{B}$ 00'51    | 31.06486 AU | opposition       |  | -5324 Dec 13 j 17:21 | 14° $\mathcal{B}$ 25'01      | -0°21'04    |
| morning rise     | -5330 Jun 19 j 21:37 | 0° $\mathcal{B}$ 38'17    |             | min. Earth dist. |  | -5324 Dec 14 j 14:41 | 14° $\mathcal{B}$ 23'32      | 29.12406 AU |
| retrograde       | -5330 Sep 15 j 02:18 | 2° $\mathcal{B}$ 31'13    |             | direct           |  | -5323 Mar 04 j 07:01 | 12° $\mathcal{B}$ 59'33      |             |
| opposition       | -5330 Dec 01 j 01:45 | 1° $\mathcal{B}$ 08'37    | -0°54'11    | evening set      |  | -5323 Jun 03 j 09:06 | 14° $\mathcal{B}$ 56'10      |             |
| min. Earth dist. | -5330 Dec 01 j 18:23 | 1° $\mathcal{B}$ 07'27    | 29.07129 AU |                  |  | -5323 Jun 05 j 03:22 | 15° $\mathcal{B}$            |             |
|                  | -5329 Jan 17 j 11:53 | 30° $\mathcal{R}\Upsilon$ |             | max. Earth dist. |  | -5323 Jun 18 j 11:44 | 15° $\mathcal{B}$ 29'34      | 31.12757 AU |
| direct           | -5329 Feb 19 j 00:16 | 29° $\Upsilon$ 43'14      |             |                  |  |                      |                              |             |

## Planetary Phenomena of Neptune from -5400 through -4898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 7

Attention, astronomical year style is used: The year -5323 in astronomical counting style is the year 5324 BCE in historical counting style.

|                  |                      |                    |             |                  |                      |                     |             |
|------------------|----------------------|--------------------|-------------|------------------|----------------------|---------------------|-------------|
| conjunction      | -5323 Jun 19 j 12:09 | 15° <b>8</b> 31'50 | -0°17'04    | direct           | -5317 Mar 18 j 04:25 | 26° <b>8</b> 09'51  |             |
| minimum elong    | -5323 Jun 19 j 12:09 | 15° <b>8</b> 31'50 | 0°16'51     | evening set      | -5317 Jun 17 j 11:23 | 28° <b>8</b> 06'29  |             |
| morning rise     | -5323 Jul 05 j 11:34 | 16° <b>8</b> 07'11 |             | max. Earth dist. | -5317 Jul 02 j 10:49 | 28° <b>8</b> 39'38  | 31.18854 AU |
| retrograde       | -5323 Sep 30 j 04:19 | 17° <b>8</b> 59'20 |             |                  |                      |                     |             |
| opposition       | -5323 Dec 16 j 03:46 | 16° <b>8</b> 37'00 | -0°15'25    | conjunction      | -5317 Jul 03 j 11:24 | 28° <b>8</b> 41'55  | 0°14'51     |
| min. Earth dist. | -5323 Dec 17 j 01:03 | 16° <b>8</b> 35'31 | 29.13185 AU | minimum elong    | -5317 Jul 03 j 11:24 | 28° <b>8</b> 41'55  | 0°15'06     |
| direct           | -5322 Mar 06 j 18:39 | 15° <b>8</b> 11'30 |             | behind sun begin | -5317 Jul 03 j 09:14 | 28° <b>8</b> 41'44  |             |
| evening set      | -5322 Jun 05 j 21:36 | 17° <b>8</b> 08'06 |             | behind sun end   | -5317 Jul 03 j 13:34 | 28° <b>8</b> 42'07  |             |
| max. Earth dist. | -5322 Jun 21 j 00:52 | 17° <b>8</b> 41'33 | 31.13569 AU | morning rise     | -5317 Jul 19 j 07:22 | 29° <b>8</b> 17'02  |             |
|                  |                      |                    |             |                  | -5317 Aug 09 j 03:38 | 0° <b>II</b>        |             |
| conjunction      | -5322 Jun 22 j 00:22 | 17° <b>8</b> 43'44 | -0°11'47    | retrograde       | -5317 Oct 13 j 16:22 | 1° <b>II</b> 08'50  |             |
| minimum elong    | -5322 Jun 22 j 00:22 | 17° <b>8</b> 43'44 | 0°11'34     |                  | -5317 Dec 21 j 21:43 | 30° <b>R</b> 8      |             |
| behind sun begin | -5322 Jun 21 j 19:43 | 17° <b>8</b> 43'19 |             | opposition       | -5317 Dec 29 j 20:09 | 29° <b>8</b> 46'52  | 0°18'36     |
| behind sun end   | -5322 Jun 22 j 05:00 | 17° <b>8</b> 44'09 |             | min. Earth dist. | -5317 Dec 30 j 18:49 | 29° <b>8</b> 45'18  | 29.19397 AU |
| morning rise     | -5322 Jul 07 j 23:06 | 18° <b>8</b> 19'02 |             | direct           | -5316 Mar 19 j 18:37 | 28° <b>8</b> 21'34  |             |
| retrograde       | -5322 Oct 02 j 13:07 | 20° <b>8</b> 11'05 |             |                  | -5316 Jun 10 j 10:47 | 0° <b>II</b>        |             |
| opposition       | -5322 Dec 18 j 14:27 | 18° <b>8</b> 48'47 | -0°09'45    | evening set      | -5316 Jun 18 j 23:34 | 0° <b>II</b> 18'12  |             |
| min. Earth dist. | -5322 Dec 19 j 12:35 | 18° <b>8</b> 47'14 | 29.14040 AU |                  |                      |                     |             |
| direct           | -5321 Mar 09 j 06:34 | 17° <b>8</b> 23'16 |             | conjunction      | -5316 Jul 04 j 22:53 | 0° <b>II</b> 53'36  | 0°20'07     |
| evening set      | -5321 Jun 08 j 10:10 | 19° <b>8</b> 19'51 |             | minimum elong    | -5316 Jul 04 j 22:53 | 0° <b>II</b> 53'36  | 0°20'21     |
| max. Earth dist. | -5321 Jun 23 j 11:42 | 19° <b>8</b> 53'10 | 31.14484 AU | max. Earth dist. | -5316 Jul 03 j 21:20 | 0° <b>II</b> 51'14  | 31.19854 AU |
|                  |                      |                    |             | morning rise     | -5316 Jul 20 j 18:17 | 1° <b>II</b> 28'40  |             |
| conjunction      | -5321 Jun 24 j 12:15 | 19° <b>8</b> 55'26 | -0°06'30    | retrograde       | -5316 Oct 15 j 03:58 | 3° <b>II</b> 20'27  |             |
| minimum elong    | -5321 Jun 24 j 12:15 | 19° <b>8</b> 55'26 | 0°06'16     | opposition       | -5316 Dec 31 j 07:09 | 1° <b>II</b> 58'32  | 0°24'13     |
| behind sun begin | -5321 Jun 24 j 06:04 | 19° <b>8</b> 54'54 |             | min. Earth dist. | -5315 Jan 01 j 06:27 | 1° <b>II</b> 56'55  | 29.20356 AU |
| behind sun end   | -5321 Jun 24 j 18:25 | 19° <b>8</b> 55'59 |             | direct           | -5315 Mar 22 j 06:35 | 0° <b>II</b> 33'15  |             |
| morning rise     | -5321 Jul 10 j 10:36 | 20° <b>8</b> 30'43 |             | evening set      | -5315 Jun 21 j 11:39 | 2° <b>II</b> 29'54  |             |
| retrograde       | -5321 Oct 04 j 23:17 | 22° <b>8</b> 22'41 |             | max. Earth dist. | -5315 Jul 06 j 09:24 | 3° <b>II</b> 02'55  | 31.20746 AU |
| opposition       | -5321 Dec 21 j 01:02 | 21° <b>8</b> 00'25 | -0°04'05    |                  |                      |                     |             |
| min. Earth dist. | -5321 Dec 21 j 22:17 | 20° <b>8</b> 58'56 | 29.15012 AU | conjunction      | -5315 Jul 07 j 10:31 | 3° <b>II</b> 05'15  | 0°25'21     |
| direct           | -5320 Mar 10 j 18:15 | 19° <b>8</b> 34'55 |             | minimum elong    | -5315 Jul 07 j 10:30 | 3° <b>II</b> 05'15  | 0°25'36     |
| evening set      | -5320 Jun 09 j 22:30 | 21° <b>8</b> 31'30 |             | morning rise     | -5315 Jul 23 j 05:11 | 3° <b>II</b> 40'16  |             |
| max. Earth dist. | -5320 Jun 25 j 00:24 | 22° <b>8</b> 04'51 | 31.15507 AU | retrograde       | -5315 Oct 17 j 13:07 | 5° <b>II</b> 32'01  |             |
|                  |                      |                    |             | opposition       | -5314 Jan 02 j 18:03 | 4° <b>II</b> 10'09  | 0°29'48     |
| conjunction      | -5320 Jun 26 j 00:13 | 22° <b>8</b> 07'04 | -0°01'09    | min. Earth dist. | -5314 Jan 03 j 17:53 | 4° <b>II</b> 08'30  | 29.21179 AU |
| minimum elong    | -5320 Jun 26 j 00:12 | 22° <b>8</b> 07'04 | 0°00'56     | direct           | -5314 Mar 24 j 19:59 | 2° <b>II</b> 44'53  |             |
| behind sun begin | -5320 Jun 25 j 17:41 | 22° <b>8</b> 06'29 |             | evening set      | -5314 Jun 23 j 23:51 | 4° <b>II</b> 41'32  |             |
| behind sun end   | -5320 Jun 26 j 06:44 | 22° <b>8</b> 07'38 |             |                  |                      |                     |             |
| morning rise     | -5320 Jul 11 j 21:51 | 22° <b>8</b> 42'17 |             | conjunction      | -5314 Jul 09 j 21:56 | 5° <b>II</b> 16'50  | 0°30'32     |
| asc. node        | -5320 Sep 10 j 22:00 | 24° <b>8</b> 22'59 |             | minimum elong    | -5314 Jul 09 j 21:56 | 5° <b>II</b> 16'50  | 0°30'47     |
| retrograde       | -5320 Oct 06 j 07:56 | 24° <b>8</b> 34'12 |             | max. Earth dist. | -5314 Jul 08 j 19:19 | 5° <b>II</b> 14'22  | 31.21507 AU |
| opposition       | -5320 Dec 22 j 11:47 | 23° <b>8</b> 12'00 | 0°01'36     | morning rise     | -5314 Jul 25 j 16:08 | 5° <b>II</b> 51'49  |             |
| min. Earth dist. | -5320 Dec 23 j 10:07 | 23° <b>8</b> 10'27 | 29.16087 AU | retrograde       | -5314 Oct 20 j 00:11 | 7° <b>II</b> 43'31  |             |
| direct           | -5319 Mar 13 j 05:28 | 21° <b>8</b> 46'33 |             | opposition       | -5313 Jan 05 j 05:02 | 6° <b>II</b> 21'40  | 0°35'19     |
| evening set      | -5319 Jun 12 j 10:44 | 23° <b>8</b> 43'08 |             | min. Earth dist. | -5313 Jan 06 j 04:50 | 6° <b>II</b> 20'02  | 29.21890 AU |
| max. Earth dist. | -5319 Jun 27 j 11:25 | 24° <b>8</b> 16'23 | 31.16626 AU | direct           | -5313 Mar 27 j 08:11 | 4° <b>II</b> 56'25  |             |
|                  |                      |                    |             | evening set      | -5313 Jun 26 j 11:41 | 6° <b>II</b> 53'03  |             |
| conjunction      | -5319 Jun 28 j 11:51 | 24° <b>8</b> 18'39 | 0°04'17     | max. Earth dist. | -5313 Jul 11 j 07:34 | 7° <b>II</b> 25'55  | 31.22157 AU |
| minimum elong    | -5319 Jun 28 j 11:51 | 24° <b>8</b> 18'39 | 0°04'31     |                  |                      |                     |             |
| behind sun begin | -5319 Jun 28 j 05:27 | 24° <b>8</b> 18'05 |             | conjunction      | -5313 Jul 12 j 09:17 | 7° <b>II</b> 28'18  | 0°35'41     |
| behind sun end   | -5319 Jun 28 j 18:14 | 24° <b>8</b> 19'13 |             | minimum elong    | -5313 Jul 12 j 09:17 | 7° <b>II</b> 28'18  | 0°35'58     |
| morning rise     | -5319 Jul 14 j 09:05 | 24° <b>8</b> 53'50 |             | morning rise     | -5313 Jul 28 j 02:40 | 8° <b>II</b> 03'13  |             |
| retrograde       | -5319 Oct 08 j 18:48 | 26° <b>8</b> 45'42 |             | retrograde       | -5313 Oct 22 j 09:08 | 9° <b>II</b> 54'54  |             |
| opposition       | -5319 Dec 24 j 22:26 | 25° <b>8</b> 23'35 | 0°07'17     | opposition       | -5312 Jan 07 j 16:11 | 8° <b>II</b> 33'03  | 0°40'47     |
| min. Earth dist. | -5319 Dec 25 j 20:02 | 25° <b>8</b> 22'05 | 29.17216 AU | min. Earth dist. | -5312 Jan 08 j 16:57 | 8° <b>II</b> 31'21  | 29.22496 AU |
| direct           | -5318 Mar 15 j 17:30 | 23° <b>8</b> 58'10 |             | direct           | -5312 Mar 28 j 20:45 | 7° <b>II</b> 07'49  |             |
| evening set      | -5318 Jun 14 j 23:04 | 25° <b>8</b> 54'47 |             | evening set      | -5312 Jun 27 j 23:33 | 9° <b>II</b> 04'24  |             |
|                  |                      |                    |             |                  |                      |                     |             |
| conjunction      | -5318 Jun 30 j 23:39 | 26° <b>8</b> 30'16 | 0°09'34     | conjunction      | -5312 Jul 13 j 20:21 | 9° <b>II</b> 39'36  | 0°40'46     |
| minimum elong    | -5318 Jun 30 j 23:39 | 26° <b>8</b> 30'16 | 0°09'48     | minimum elong    | -5312 Jul 13 j 20:20 | 9° <b>II</b> 39'36  | 0°41'02     |
| behind sun begin | -5318 Jun 30 j 18:20 | 26° <b>8</b> 29'48 |             | max. Earth dist. | -5312 Jul 12 j 17:35 | 9° <b>II</b> 37'07  | 31.22736 AU |
| behind sun end   | -5318 Jul 01 j 04:58 | 26° <b>8</b> 30'44 |             | morning rise     | -5312 Jul 29 j 13:16 | 10° <b>II</b> 14'29 |             |
| max. Earth dist. | -5318 Jun 29 j 23:05 | 26° <b>8</b> 27'59 | 31.17754 AU | retrograde       | -5312 Oct 23 j 18:55 | 12° <b>II</b> 06'07 |             |
| morning rise     | -5318 Jul 16 j 20:13 | 27° <b>8</b> 05'25 |             | opposition       | -5311 Jan 09 j 03:07 | 10° <b>II</b> 44'16 | 0°46'12     |
| retrograde       | -5318 Oct 11 j 05:09 | 28° <b>8</b> 57'15 |             | min. Earth dist. | -5311 Jan 10 j 03:01 | 10° <b>II</b> 42'38 | 29.23062 AU |
| opposition       | -5318 Dec 27 j 09:12 | 27° <b>8</b> 35'12 | 0°12'57     | direct           | -5311 Mar 31 j 08:44 | 9° <b>II</b> 19'01  |             |
| min. Earth dist. | -5318 Dec 28 j 08:06 | 27° <b>8</b> 33'37 | 29.18343 AU | evening set      | -5311 Jun 30 j 11:00 | 11° <b>II</b> 15'34 |             |

Attention, astronomical year style is used: The year -5311 in astronomical counting style is the year 5312 BCE in historical counting style.

|                  |           |            |                 |             |                  |           |            |                        |             |
|------------------|-----------|------------|-----------------|-------------|------------------|-----------|------------|------------------------|-------------|
| max. Earth dist. | -5311 Jul | 15 j 05:23 | 11° $\Pi$ 48'19 | 31.23286 AU | min. Earth dist. | -5304 Jan | 26 j 08:03 | 25° $\Pi$ 58'32        | 29.28548 AU |
|                  |           |            |                 |             | direct           | -5304 Apr | 15 j 19:44 | 24° $\Pi$ 35'07        |             |
| conjunction      | -5311 Jul | 16 j 07:18 | 11° $\Pi$ 50'44 | 0°45'48     | evening set      | -5304 Jul | 15 j 17:28 | 26° $\Pi$ 31'34        |             |
| minimum elong    | -5311 Jul | 16 j 07:18 | 11° $\Pi$ 50'44 | 0°46'05     | max. Earth dist. | -5304 Jul | 30 j 09:18 | 27° $\Pi$ 04'10        | 31.28881 AU |
| morning rise     | -5311 Jul | 31 j 23:27 | 12° $\Pi$ 25'33 |             |                  |           |            |                        |             |
| retrograde       | -5311 Oct | 26 j 02:58 | 14° $\Pi$ 17'09 |             | conjunction      | -5304 Jul | 31 j 08:56 | 27° $\Pi$ 06'23        | 1°18'40     |
| opposition       | -5310 Jan | 11 j 14:15 | 12° $\Pi$ 55'18 | 0°51'32     | minimum elong    | -5304 Jul | 31 j 08:55 | 27° $\Pi$ 06'23        | 1°18'58     |
| min. Earth dist. | -5310 Jan | 12 j 15:05 | 12° $\Pi$ 53'36 | 29.23626 AU | morning rise     | -5304 Aug | 15 j 20:27 | 27° $\Pi$ 40'52        |             |
| direct           | -5310 Apr | 02 j 19:57 | 11° $\Pi$ 30'03 |             | retrograde       | -5304 Nov | 10 j 03:53 | 29° $\Pi$ 32'38        |             |
| evening set      | -5310 Jul | 02 j 22:32 | 13° $\Pi$ 26'33 |             | opposition       | -5303 Jan | 26 j 21:02 | 28° $\Pi$ 11'00        | 1°26'19     |
|                  |           |            |                 |             | min. Earth dist. | -5303 Jan | 27 j 20:24 | 28° $\Pi$ 09'24        | 29.29361 AU |
| conjunction      | -5310 Jul | 18 j 18:03 | 14° $\Pi$ 01'40 | 0°50'45     | direct           | -5303 Apr | 18 j 08:27 | 26° $\Pi$ 46'06        |             |
| minimum elong    | -5310 Jul | 18 j 18:03 | 14° $\Pi$ 01'40 | 0°51'02     | evening set      | -5303 Jul | 18 j 04:31 | 28° $\Pi$ 42'31        |             |
| max. Earth dist. | -5310 Jul | 17 j 15:53 | 13° $\Pi$ 59'13 | 31.23871 AU |                  |           |            |                        |             |
| morning rise     | -5310 Aug | 03 j 09:39 | 14° $\Pi$ 36'27 |             | conjunction      | -5303 Aug | 02 j 19:08 | 29° $\Pi$ 17'17        | 1°22'58     |
| retrograde       | -5310 Oct | 28 j 12:54 | 16° $\Pi$ 28'01 |             | minimum elong    | -5303 Aug | 02 j 19:08 | 29° $\Pi$ 17'17        | 1°23'17     |
| opposition       | -5309 Jan | 14 j 01:12 | 15° $\Pi$ 06'11 | 0°56'47     | max. Earth dist. | -5303 Aug | 01 j 18:39 | 29° $\Pi$ 14'59        | 31.29632 AU |
| min. Earth dist. | -5309 Jan | 15 j 00:52 | 15° $\Pi$ 04'33 | 29.24243 AU | morning rise     | -5303 Aug | 18 j 06:12 | 29° $\Pi$ 51'44        |             |
| direct           | -5309 Apr | 05 j 07:19 | 13° $\Pi$ 40'55 |             |                  | -5303 Aug | 22 j 01:32 | 0° $\Theta$            |             |
| evening set      | -5309 Jul | 05 j 09:55 | 15° $\Pi$ 37'24 |             | retrograde       | -5303 Nov | 12 j 14:03 | 1° $\Theta$ 43'31      |             |
| max. Earth dist. | -5309 Jul | 20 j 03:02 | 16° $\Pi$ 10'04 | 31.24526 AU | opposition       | -5302 Jan | 29 j 08:33 | 0° $\Theta$ 21'55      | 1°30'50     |
|                  |           |            |                 |             | min. Earth dist. | -5302 Jan | 30 j 06:56 | 0° $\Theta$ 20'23      | 29.30048 AU |
| conjunction      | -5309 Jul | 21 j 04:47 | 16° $\Pi$ 12'28 | 0°55'37     |                  | -5302 Feb | 11 j 21:34 | 30° $\mathbb{R}$ $\Pi$ |             |
| minimum elong    | -5309 Jul | 21 j 04:46 | 16° $\Pi$ 12'28 | 0°55'55     | direct           | -5302 Apr | 20 j 20:32 | 28° $\Pi$ 57'03        |             |
| morning rise     | -5309 Aug | 05 j 19:38 | 16° $\Pi$ 47'12 |             |                  | -5302 Jun | 24 j 06:34 | 0° $\Theta$            |             |
| retrograde       | -5309 Oct | 30 j 22:50 | 18° $\Pi$ 38'46 |             | evening set      | -5302 Jul | 20 j 15:26 | 0° $\Theta$ 53'27      |             |
| opposition       | -5308 Jan | 16 j 12:28 | 17° $\Pi$ 16'56 | 1°01'57     | max. Earth dist. | -5302 Aug | 04 j 05:40 | 1° $\Theta$ 25'56      | 31.30231 AU |
| min. Earth dist. | -5308 Jan | 17 j 12:36 | 17° $\Pi$ 15'17 | 29.24968 AU |                  |           |            |                        |             |
| direct           | -5308 Apr | 06 j 18:07 | 15° $\Pi$ 51'43 |             | conjunction      | -5302 Aug | 05 j 05:28 | 1° $\Theta$ 28'09      | 1°27'09     |
| evening set      | -5308 Jul | 06 j 21:02 | 17° $\Pi$ 48'10 |             | minimum elong    | -5302 Aug | 05 j 05:27 | 1° $\Theta$ 28'09      | 1°27'26     |
|                  |           |            |                 |             | morning rise     | -5302 Aug | 20 j 15:43 | 2° $\Theta$ 02'33      |             |
| conjunction      | -5308 Jul | 22 j 15:15 | 18° $\Pi$ 23'11 | 1°00'25     | retrograde       | -5302 Nov | 14 j 22:34 | 3° $\Theta$ 54'23      |             |
| minimum elong    | -5308 Jul | 22 j 15:14 | 18° $\Pi$ 23'11 | 1°00'42     | opposition       | -5301 Jan | 31 j 20:18 | 2° $\Theta$ 32'46      | 1°35'14     |
| max. Earth dist. | -5308 Jul | 21 j 14:20 | 18° $\Pi$ 20'51 | 31.25305 AU | min. Earth dist. | -5301 Feb | 01 j 19:40 | 2° $\Theta$ 31'11      | 29.30585 AU |
| morning rise     | -5308 Aug | 07 j 05:27 | 18° $\Pi$ 57'52 |             | direct           | -5301 Apr | 23 j 08:01 | 1° $\Theta$ 07'57      |             |
| retrograde       | -5308 Nov | 01 j 09:27 | 20° $\Pi$ 49'27 |             | evening set      | -5301 Jul | 23 j 02:22 | 3° $\Theta$ 04'17      |             |
| opposition       | -5307 Jan | 17 j 23:37 | 19° $\Pi$ 27'39 | 1°07'02     |                  |           |            |                        |             |
| min. Earth dist. | -5307 Jan | 18 j 22:48 | 19° $\Pi$ 26'04 | 29.25793 AU | conjunction      | -5301 Aug | 07 j 15:38 | 3° $\Theta$ 38'57      | 1°31'12     |
| direct           | -5307 Apr | 09 j 07:34 | 18° $\Pi$ 02'29 |             | minimum elong    | -5301 Aug | 07 j 15:37 | 3° $\Theta$ 38'57      | 1°31'30     |
| evening set      | -5307 Jul | 09 j 08:16 | 19° $\Pi$ 58'56 |             | max. Earth dist. | -5301 Aug | 06 j 15:34 | 3° $\Theta$ 36'41      | 31.30701 AU |
| max. Earth dist. | -5307 Jul | 24 j 00:30 | 20° $\Pi$ 31'32 | 31.26175 AU | morning rise     | -5301 Aug | 23 j 01:22 | 4° $\Theta$ 13'18      |             |
|                  |           |            |                 |             | retrograde       | -5301 Nov | 17 j 08:42 | 6° $\Theta$ 05'09      |             |
| conjunction      | -5307 Jul | 25 j 01:43 | 20° $\Pi$ 33'54 | 1°05'08     | opposition       | -5300 Feb | 03 j 08:01 | 4° $\Theta$ 43'32      | 1°39'30     |
| minimum elong    | -5307 Jul | 25 j 01:42 | 20° $\Pi$ 33'54 | 1°05'26     | min. Earth dist. | -5300 Feb | 04 j 06:16 | 4° $\Theta$ 42'01      | 29.30987 AU |
| morning rise     | -5307 Aug | 09 j 15:21 | 21° $\Pi$ 08'32 |             | direct           | -5300 Apr | 24 j 19:53 | 3° $\Theta$ 18'43      |             |
| retrograde       | -5307 Nov | 03 j 20:56 | 23° $\Pi$ 00'09 |             | evening set      | -5300 Jul | 24 j 12:59 | 5° $\Theta$ 15'00      |             |
| opposition       | -5306 Jan | 20 j 10:40 | 21° $\Pi$ 38'23 | 1°12'01     | max. Earth dist. | -5300 Aug | 08 j 01:43 | 5° $\Theta$ 47'22      | 31.31035 AU |
| min. Earth dist. | -5306 Jan | 21 j 09:50 | 21° $\Pi$ 36'48 | 29.26710 AU |                  |           |            |                        |             |
| direct           | -5306 Apr | 11 j 18:26 | 20° $\Pi$ 13'17 |             | conjunction      | -5300 Aug | 09 j 01:36 | 5° $\Theta$ 49'36      | 1°35'07     |
| evening set      | -5306 Jul | 11 j 19:23 | 22° $\Pi$ 09'45 |             | minimum elong    | -5300 Aug | 09 j 01:35 | 5° $\Theta$ 49'36      | 1°35'24     |
|                  |           |            |                 |             | morning rise     | -5300 Aug | 24 j 10:41 | 6° $\Theta$ 23'55      |             |
| conjunction      | -5306 Jul | 27 j 12:16 | 22° $\Pi$ 44'39 | 1°09'45     | retrograde       | -5300 Nov | 18 j 18:29 | 8° $\Theta$ 15'48      |             |
| minimum elong    | -5306 Jul | 27 j 12:15 | 22° $\Pi$ 44'39 | 1°10'02     | opposition       | -5299 Feb | 04 j 19:48 | 6° $\Theta$ 54'09      | 1°43'36     |
| max. Earth dist. | -5306 Jul | 26 j 12:14 | 22° $\Pi$ 42'25 | 31.27106 AU | min. Earth dist. | -5299 Feb | 05 j 18:43 | 6° $\Theta$ 52'35      | 29.31286 AU |
| morning rise     | -5306 Aug | 12 j 01:08 | 23° $\Pi$ 19'15 |             | direct           | -5299 Apr | 27 j 06:49 | 5° $\Theta$ 29'20      |             |
| retrograde       | -5306 Nov | 06 j 06:24 | 25° $\Pi$ 10'55 |             | evening set      | -5299 Jul | 26 j 23:34 | 7° $\Theta$ 25'33      |             |
| opposition       | -5305 Jan | 22 j 22:03 | 23° $\Pi$ 49'12 | 1°16'54     |                  |           |            |                        |             |
| min. Earth dist. | -5305 Jan | 23 j 21:12 | 23° $\Pi$ 47'37 | 29.27642 AU | conjunction      | -5299 Aug | 11 j 11:33 | 8° $\Theta$ 00'06      | 1°38'53     |
| direct           | -5305 Apr | 14 j 07:15 | 22° $\Pi$ 24'10 |             | minimum elong    | -5299 Aug | 11 j 11:32 | 8° $\Theta$ 00'06      | 1°39'12     |
| evening set      | -5305 Jul | 14 j 06:29 | 24° $\Pi$ 20'38 |             | max. Earth dist. | -5299 Aug | 10 j 12:29 | 7° $\Theta$ 57'56      | 31.31292 AU |
|                  |           |            |                 |             | morning rise     | -5299 Aug | 26 j 20:02 | 8° $\Theta$ 34'22      |             |
| conjunction      | -5305 Jul | 29 j 22:29 | 24° $\Pi$ 55'29 | 1°14'16     | retrograde       | -5299 Nov | 21 j 04:21 | 10° $\Theta$ 26'17     |             |
| minimum elong    | -5305 Jul | 29 j 22:29 | 24° $\Pi$ 55'29 | 1°14'35     | opposition       | -5298 Feb | 07 j 07:22 | 9° $\Theta$ 04'35      | 1°47'34     |
| max. Earth dist. | -5305 Jul | 28 j 21:38 | 24° $\Pi$ 53'10 | 31.28025 AU | min. Earth dist. | -5298 Feb | 08 j 05:28 | 9° $\Theta$ 03'05      | 29.31511 AU |
| morning rise     | -5305 Aug | 14 j 10:50 | 25° $\Pi$ 30'02 |             | direct           | -5298 Apr | 29 j 19:45 | 7° $\Theta$ 39'47      |             |
| retrograde       | -5305 Nov | 08 j 18:20 | 27° $\Pi$ 21'44 |             | evening set      | -5298 Jul | 29 j 10:06 | 9° $\Theta$ 35'56      |             |
| opposition       | -5304 Jan | 25 j 09:28 | 26° $\Pi$ 00'05 | 1°21'40     |                  |           |            |                        |             |



## Planetary Phenomena of Neptune from -5400 through -4898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 9

Attention, astronomical year style is used: The year -5298 in astronomical counting style is the year 5299 BCE in historical counting style.

|                  |                      |           |             |                  |                      |           |             |
|------------------|----------------------|-----------|-------------|------------------|----------------------|-----------|-------------|
| conjunction      | -5298 Aug 13 j 21:18 | 10°☾10'26 | 1°42'31     | direct           | -5291 May 15 j 06:17 | 22°☾52'33 |             |
| minimum elong    | -5298 Aug 13 j 21:18 | 10°☾10'26 | 1°42'49     | evening set      | -5291 Aug 13 j 08:44 | 24°☾48'28 |             |
| max. Earth dist. | -5298 Aug 12 j 22:01 | 10°☾08'15 | 31.31503 AU |                  |                      |           |             |
| morning rise     | -5298 Aug 29 j 05:16 | 10°☾44'40 |             | conjunction      | -5291 Aug 28 j 15:38 | 25°☾22'41 | 2°03'35     |
| retrograde       | -5298 Nov 23 j 15:39 | 12°☾36'38 |             | minimum elong    | -5291 Aug 28 j 15:38 | 25°☾22'41 | 2°03'52     |
| opposition       | -5297 Feb 09 j 19:11 | 11°☾14'53 | 1°51'22     | max. Earth dist. | -5291 Aug 27 j 21:12 | 25°☾20'57 | 31.34123 AU |
| min. Earth dist. | -5297 Feb 10 j 16:53 | 11°☾13'25 | 29.31745 AU | morning rise     | -5291 Sep 12 j 19:54 | 25°☾56'41 |             |
| direct           | -5297 May 02 j 06:17 | 9°☾50'05  |             | retrograde       | -5291 Dec 08 j 15:07 | 27°☾49'19 |             |
| evening set      | -5297 Jul 31 j 20:16 | 11°☾46'11 |             | opposition       | -5290 Feb 25 j 07:08 | 26°☾27'37 | 2°13'16     |
| max. Earth dist. | -5297 Aug 15 j 09:20 | 12°☾18'37 | 31.31746 AU | min. Earth dist. | -5290 Feb 26 j 01:06 | 26°☾26'24 | 29.34399 AU |
|                  |                      |           |             | direct           | -5290 May 17 j 16:42 | 25°☾03'19 |             |
| conjunction      | -5297 Aug 16 j 06:55 | 12°☾20'38 | 1°46'01     | evening set      | -5290 Aug 15 j 18:42 | 26°☾59'12 |             |
| minimum elong    | -5297 Aug 16 j 06:55 | 12°☾20'38 | 1°46'19     | max. Earth dist. | -5290 Aug 30 j 07:40 | 27°☾31'44 | 31.34314 AU |
| morning rise     | -5297 Aug 31 j 14:10 | 12°☾54'49 |             |                  |                      |           |             |
| retrograde       | -5297 Nov 26 j 01:01 | 14°☾46'51 |             | conjunction      | -5290 Aug 31 j 01:07 | 27°☾33'23 | 2°05'55     |
| opposition       | -5296 Feb 12 j 07:06 | 13°☾25'05 | 1°55'01     | minimum elong    | -5290 Aug 31 j 01:06 | 27°☾33'23 | 2°06'11     |
| min. Earth dist. | -5296 Feb 13 j 04:14 | 13°☾23'39 | 29.32019 AU | morning rise     | -5290 Sep 15 j 04:52 | 28°☾07'20 |             |
| direct           | -5296 May 03 j 19:18 | 12°☾00'19 |             |                  | -5290 Dec 08 j 20:30 | 0°♈       |             |
| evening set      | -5296 Aug 02 j 06:35 | 13°☾56'23 |             | retrograde       | -5290 Dec 11 j 01:17 | 0°♈00'05  |             |
|                  |                      |           |             |                  | -5290 Dec 13 j 06:31 | 30°♈☾     |             |
| conjunction      | -5296 Aug 17 j 16:26 | 14°☾30'47 | 1°49'21     | opposition       | -5289 Feb 27 j 19:29 | 28°☾38'22 | 2°15'40     |
| minimum elong    | -5296 Aug 17 j 16:25 | 14°☾30'47 | 1°49'38     | min. Earth dist. | -5289 Feb 28 j 12:32 | 28°☾37'13 | 29.34509 AU |
| max. Earth dist. | -5296 Aug 16 j 18:30 | 14°☾28'43 | 31.32060 AU | direct           | -5289 May 20 j 04:42 | 27°☾14'08 |             |
| morning rise     | -5296 Sep 01 j 23:17 | 15°☾04'55 |             | evening set      | -5289 Aug 18 j 04:35 | 29°☾09'56 |             |
| retrograde       | -5296 Nov 27 j 12:59 | 16°☾57'01 |             |                  |                      |           |             |
| opposition       | -5295 Feb 13 j 18:48 | 15°☾35'14 | 1°58'30     | conjunction      | -5289 Sep 02 j 10:22 | 29°☾44'05 | 2°08'05     |
| min. Earth dist. | -5295 Feb 14 j 14:42 | 15°☾33'53 | 29.32390 AU | minimum elong    | -5289 Sep 02 j 10:21 | 29°☾44'05 | 2°08'21     |
| direct           | -5295 May 06 j 07:19 | 14°☾10'32 |             | max. Earth dist. | -5289 Sep 01 j 16:31 | 29°☾42'24 | 31.34344 AU |
| evening set      | -5295 Aug 04 j 16:37 | 16°☾06'34 |             |                  | -5289 Sep 09 j 11:40 | 0°♈       |             |
| max. Earth dist. | -5295 Aug 19 j 05:53 | 16°☾39'03 | 31.32459 AU | morning rise     | -5289 Sep 17 j 13:49 | 0°♈18'01  |             |
|                  |                      |           |             | retrograde       | -5289 Dec 13 j 13:02 | 2°♈10'52  |             |
| conjunction      | -5295 Aug 20 j 02:02 | 16°☾40'56 | 1°52'31     | opposition       | -5288 Mar 01 j 07:56 | 0°♈49'06  | 2°17'53     |
| minimum elong    | -5295 Aug 20 j 02:01 | 16°☾40'56 | 1°52'50     | min. Earth dist. | -5288 Mar 02 j 00:39 | 0°♈47'58  | 29.34475 AU |
| morning rise     | -5295 Sep 04 j 08:11 | 17°☾15'02 |             |                  | -5288 Apr 02 j 16:17 | 30°♈☾     |             |
| retrograde       | -5295 Nov 29 j 22:50 | 19°☾07'14 |             | direct           | -5288 May 21 j 14:21 | 29°☾24'53 |             |
| opposition       | -5294 Feb 16 j 06:46 | 17°☾45'28 | 2°01'49     |                  | -5288 Jul 07 j 19:44 | 0°♈       |             |
| min. Earth dist. | -5294 Feb 17 j 02:49 | 17°☾44'06 | 29.32821 AU | evening set      | -5288 Aug 19 j 14:20 | 1°♈20'37  |             |
| direct           | -5294 May 08 j 19:46 | 16°☾20'51 |             |                  |                      |           |             |
| evening set      | -5294 Aug 07 j 02:45 | 18°☾16'51 |             | conjunction      | -5288 Sep 03 j 19:47 | 1°♈54'44  | 2°10'03     |
|                  |                      |           |             | minimum elong    | -5288 Sep 03 j 19:47 | 1°♈54'44  | 2°10'18     |
| conjunction      | -5294 Aug 22 j 11:23 | 18°☾51'10 | 1°55'32     | max. Earth dist. | -5288 Sep 03 j 03:22 | 1°♈53'11  | 31.34229 AU |
| minimum elong    | -5294 Aug 22 j 11:22 | 18°☾51'10 | 1°55'50     | morning rise     | -5288 Sep 18 j 22:43 | 2°♈28'39  |             |
| max. Earth dist. | -5294 Aug 21 j 15:10 | 18°☾49'16 | 31.32918 AU | retrograde       | -5288 Dec 14 j 22:54 | 4°♈21'34  |             |
| morning rise     | -5294 Sep 06 j 17:09 | 19°☾25'15 |             | opposition       | -5287 Mar 03 j 20:12 | 2°♈59'44  | 2°19'53     |
| retrograde       | -5294 Dec 02 j 09:14 | 21°☾17'32 |             | min. Earth dist. | -5287 Mar 04 j 12:41 | 2°♈58'38  | 29.34288 AU |
| opposition       | -5293 Feb 18 j 18:40 | 19°☾55'48 | 2°04'57     | direct           | -5287 May 24 j 03:27 | 1°♈35'33  |             |
| min. Earth dist. | -5293 Feb 19 j 13:04 | 19°☾54'33 | 29.33293 AU | evening set      | -5287 Aug 22 j 00:06 | 3°♈31'12  |             |
| direct           | -5293 May 11 j 07:32 | 18°☾31'16 |             | max. Earth dist. | -5287 Sep 05 j 11:58 | 4°♈03'40  | 31.33987 AU |
| evening set      | -5293 Aug 09 j 12:46 | 20°☾27'15 |             |                  |                      |           |             |
|                  |                      |           |             | conjunction      | -5287 Sep 06 j 04:55 | 4°♈05'16  | 2°11'50     |
| conjunction      | -5293 Aug 24 j 20:53 | 21°☾01'33 | 1°58'24     | minimum elong    | -5287 Sep 06 j 04:55 | 4°♈05'16  | 2°12'07     |
| minimum elong    | -5293 Aug 24 j 20:53 | 21°☾01'33 | 1°58'42     | morning rise     | -5287 Sep 21 j 07:42 | 4°♈39'09  |             |
| max. Earth dist. | -5293 Aug 24 j 01:54 | 20°☾59'46 | 31.33379 AU | retrograde       | -5287 Dec 17 j 11:31 | 6°♈32'09  |             |
| morning rise     | -5293 Sep 09 j 02:02 | 21°☾35'36 |             | opposition       | -5286 Mar 06 j 08:33 | 5°♈10'14  | 2°21'42     |
| retrograde       | -5293 Dec 04 j 18:27 | 23°☾28'00 |             | min. Earth dist. | -5286 Mar 06 j 23:55 | 5°♈09'12  | 29.34004 AU |
| opposition       | -5292 Feb 21 j 06:52 | 22°☾06'17 | 2°07'55     | direct           | -5286 May 26 j 15:30 | 3°♈46'02  |             |
| min. Earth dist. | -5292 Feb 22 j 01:44 | 22°☾05'00 | 29.33751 AU | evening set      | -5286 Aug 24 j 09:31 | 5°♈41'36  |             |
| direct           | -5292 May 12 j 18:43 | 20°☾41'51 |             |                  |                      |           |             |
| evening set      | -5292 Aug 10 j 22:41 | 22°☾37'48 |             | conjunction      | -5286 Sep 08 j 14:02 | 6°♈15'38  | 2°13'26     |
| max. Earth dist. | -5292 Aug 25 j 11:32 | 23°☾10'18 | 31.33807 AU | minimum elong    | -5286 Sep 08 j 14:02 | 6°♈15'38  | 2°13'41     |
|                  |                      |           |             | max. Earth dist. | -5286 Sep 07 j 22:51 | 6°♈14'12  | 31.33660 AU |
| conjunction      | -5292 Aug 26 j 06:11 | 23°☾12'03 | 2°01'05     | morning rise     | -5286 Sep 23 j 16:19 | 6°♈49'30  |             |
| minimum elong    | -5292 Aug 26 j 06:11 | 23°☾12'03 | 2°01'21     | retrograde       | -5286 Dec 19 j 21:17 | 8°♈42'35  |             |
| morning rise     | -5292 Sep 10 j 10:56 | 23°☾46'05 |             | opposition       | -5285 Mar 08 j 21:05 | 7°♈20'34  | 2°23'19     |
| retrograde       | -5292 Dec 06 j 04:55 | 25°☾38'36 |             | min. Earth dist. | -5285 Mar 09 j 12:30 | 7°♈19'32  | 29.33664 AU |
| opposition       | -5291 Feb 22 j 18:58 | 24°☾16'54 | 2°10'41     | direct           | -5285 May 29 j 03:56 | 5°♈56'23  |             |
| min. Earth dist. | -5291 Feb 23 j 12:25 | 24°☾15'43 | 29.34132 AU | evening set      | -5285 Aug 26 j 19:00 | 7°♈51'50  |             |

Attention, astronomical year style is used: The year -5285 in astronomical counting style is the year 5286 BCE in historical counting style.

|                  |                      |           |             |                  |                      |           |             |
|------------------|----------------------|-----------|-------------|------------------|----------------------|-----------|-------------|
| conjunction      | -5285 Sep 10 j 22:58 | 8°Ω25'50  | 2°14'51     | max. Earth dist. | -5279 Sep 22 j 20:00 | 21°Ω25'48 | 31.32480 AU |
| minimum elong    | -5285 Sep 10 j 22:58 | 8°Ω25'50  | 2°15'07     | morning rise     | -5279 Oct 08 j 05:06 | 22°Ω00'23 |             |
| max. Earth dist. | -5285 Sep 10 j 08:03 | 8°Ω24'25  | 31.33330 AU | retrograde       | -5278 Jan 03 j 22:40 | 23°Ω54'19 |             |
| morning rise     | -5285 Sep 26 j 01:05 | 8°Ω59'40  |             | opposition       | -5278 Mar 24 j 12:47 | 22°Ω32'02 | 2°28'46     |
| retrograde       | -5285 Dec 22 j 07:56 | 10°Ω52'50 |             | min. Earth dist. | -5278 Mar 24 j 21:15 | 22°Ω31'27 | 29.32570 AU |
| opposition       | -5284 Mar 10 j 09:27 | 9°Ω30'44  | 2°24'43     | direct           | -5278 Jun 13 j 11:20 | 21°Ω08'16 |             |
| min. Earth dist. | -5284 Mar 10 j 22:51 | 9°Ω29'50  | 29.33356 AU | evening set      | -5278 Sep 10 j 11:23 | 23°Ω03'13 |             |
| direct           | -5284 May 30 j 16:17 | 8°Ω06'34  |             |                  |                      |           |             |
| evening set      | -5284 Aug 28 j 04:13 | 10°Ω01'55 |             | conjunction      | -5278 Sep 25 j 13:06 | 23°Ω37'06 | 2°19'16     |
|                  |                      |           |             | minimum elong    | -5278 Sep 25 j 13:06 | 23°Ω37'06 | 2°19'27     |
| conjunction      | -5284 Sep 12 j 07:52 | 10°Ω35'54 | 2°16'04     | max. Earth dist. | -5278 Sep 25 j 04:31 | 23°Ω36'17 | 31.32279 AU |
| minimum elong    | -5284 Sep 12 j 07:52 | 10°Ω35'54 | 2°16'18     | morning rise     | -5278 Oct 10 j 13:57 | 24°Ω10'54 |             |
| max. Earth dist. | -5284 Sep 11 j 18:23 | 10°Ω34'37 | 31.33041 AU | retrograde       | -5277 Jan 06 j 12:05 | 26°Ω04'59 |             |
| morning rise     | -5284 Sep 27 j 09:38 | 11°Ω09'43 |             | opposition       | -5277 Mar 27 j 01:37 | 24°Ω42'39 | 2°28'42     |
| retrograde       | -5284 Dec 23 j 17:32 | 13°Ω02'58 |             | min. Earth dist. | -5277 Mar 27 j 08:48 | 24°Ω42'10 | 29.32314 AU |
| opposition       | -5283 Mar 12 j 21:58 | 11°Ω40'49 | 2°25'56     | direct           | -5277 Jun 15 j 22:11 | 23°Ω18'57 |             |
| min. Earth dist. | -5283 Mar 13 j 11:19 | 11°Ω39'55 | 29.33113 AU | evening set      | -5277 Sep 12 j 20:32 | 25°Ω13'51 |             |
| direct           | -5283 Jun 02 j 04:23 | 10°Ω16'40 |             |                  |                      |           |             |
| evening set      | -5283 Aug 30 j 13:30 | 12°Ω11'56 |             | conjunction      | -5277 Sep 27 j 22:13 | 25°Ω47'44 | 2°19'06     |
|                  |                      |           |             | minimum elong    | -5277 Sep 27 j 22:13 | 25°Ω47'44 | 2°19'18     |
| conjunction      | -5283 Sep 14 j 16:45 | 12°Ω45'53 | 2°17'06     | max. Earth dist. | -5277 Sep 27 j 15:10 | 25°Ω47'04 | 31.31951 AU |
| minimum elong    | -5283 Sep 14 j 16:45 | 12°Ω45'53 | 2°17'20     | morning rise     | -5277 Oct 12 j 22:51 | 26°Ω21'32 |             |
| max. Earth dist. | -5283 Sep 14 j 04:14 | 12°Ω44'42 | 31.32843 AU | retrograde       | -5276 Jan 08 j 22:56 | 28°Ω15'46 |             |
| morning rise     | -5283 Sep 29 j 18:17 | 13°Ω19'42 |             | opposition       | -5276 Mar 28 j 14:31 | 26°Ω53'22 | 2°28'26     |
|                  | -5283 Nov 28 j 05:42 | 15°Ω      |             | min. Earth dist. | -5276 Mar 28 j 21:56 | 26°Ω52'53 | 29.31919 AU |
| retrograde       | -5283 Dec 26 j 03:48 | 15°Ω13'03 |             | direct           | -5276 Jun 17 j 09:38 | 25°Ω29'44 |             |
|                  | -5282 Jan 23 j 17:59 | 15°℞Ω     |             | evening set      | -5276 Sep 14 j 05:42 | 27°Ω24'33 |             |
| opposition       | -5282 Mar 15 j 10:16 | 13°Ω50'51 | 2°26'55     |                  |                      |           |             |
| min. Earth dist. | -5282 Mar 15 j 21:34 | 13°Ω50'06 | 29.32949 AU | conjunction      | -5276 Sep 29 j 07:09 | 27°Ω58'25 | 2°18'44     |
| direct           | -5282 Jun 04 j 16:37 | 12°Ω26'46 |             | minimum elong    | -5276 Sep 29 j 07:09 | 27°Ω58'25 | 2°18'55     |
| evening set      | -5282 Sep 01 j 22:45 | 14°Ω21'58 |             | max. Earth dist. | -5276 Sep 29 j 00:09 | 27°Ω57'45 | 31.31494 AU |
|                  |                      |           |             | morning rise     | -5276 Oct 14 j 07:53 | 28°Ω32'14 |             |
| conjunction      | -5282 Sep 17 j 01:37 | 14°Ω55'54 | 2°17'56     |                  | -5276 Dec 01 j 04:11 | 0°℞       |             |
| minimum elong    | -5282 Sep 17 j 01:37 | 14°Ω55'54 | 2°18'09     | retrograde       | -5275 Jan 10 j 10:39 | 0°℞26'34  |             |
| max. Earth dist. | -5282 Sep 16 j 13:49 | 14°Ω54'47 | 31.32717 AU |                  | -5275 Feb 21 j 03:08 | 30°℞Ω     |             |
|                  | -5282 Sep 18 j 21:09 | 15°Ω      |             | opposition       | -5275 Mar 31 j 03:17 | 29°Ω04'07 | 2°27'56     |
| morning rise     | -5282 Oct 02 j 02:58 | 15°Ω29'42 |             | min. Earth dist. | -5275 Mar 31 j 08:59 | 29°Ω03'44 | 29.31385 AU |
| retrograde       | -5282 Dec 28 j 14:02 | 17°Ω23'12 |             | direct           | -5275 Jun 19 j 21:57 | 27°Ω40'31 |             |
| opposition       | -5281 Mar 17 j 22:55 | 16°Ω00'57 | 2°27'42     | evening set      | -5275 Sep 16 j 14:46 | 29°Ω35'14 |             |
| min. Earth dist. | -5281 Mar 18 j 09:58 | 16°Ω00'13 | 29.32863 AU |                  | -5275 Sep 27 j 15:45 | 0°℞       |             |
|                  | -5281 Apr 29 j 01:27 | 15°℞Ω     |             |                  |                      |           |             |
| direct           | -5281 Jun 07 j 02:39 | 14°Ω36'57 |             | conjunction      | -5275 Oct 01 j 16:06 | 0°℞09'07  | 2°18'11     |
|                  | -5281 Jul 14 j 21:38 | 15°Ω      |             | minimum elong    | -5275 Oct 01 j 16:07 | 0°℞09'07  | 2°18'22     |
| evening set      | -5281 Sep 04 j 07:47 | 16°Ω32'04 |             | max. Earth dist. | -5275 Oct 01 j 10:00 | 0°℞08'32  | 31.30889 AU |
|                  |                      |           |             | morning rise     | -5275 Oct 16 j 16:48 | 0°℞42'56  |             |
| conjunction      | -5281 Sep 19 j 10:26 | 17°Ω05'59 | 2°18'34     | retrograde       | -5274 Jan 12 j 21:18 | 2°℞37'23  |             |
| minimum elong    | -5281 Sep 19 j 10:26 | 17°Ω05'59 | 2°18'47     | opposition       | -5274 Apr 02 j 16:10 | 1°℞14'51  | 2°27'15     |
| max. Earth dist. | -5281 Sep 19 j 00:25 | 17°Ω05'02 | 31.32655 AU | min. Earth dist. | -5274 Apr 02 j 22:09 | 1°℞14'27  | 29.30728 AU |
| morning rise     | -5281 Oct 04 j 11:32 | 17°Ω39'47 |             |                  | -5274 May 29 j 22:06 | 30°℞Ω     |             |
| retrograde       | -5281 Dec 30 j 23:58 | 19°Ω33'25 |             | direct           | -5274 Jun 22 j 10:19 | 29°Ω51'16 |             |
| opposition       | -5280 Mar 19 j 11:30 | 18°Ω11'10 | 2°28'16     |                  | -5274 Jul 15 j 10:23 | 0°℞       |             |
| min. Earth dist. | -5280 Mar 19 j 21:09 | 18°Ω10'31 | 29.32800 AU | evening set      | -5274 Sep 18 j 23:46 | 1°℞45'53  |             |
| direct           | -5280 Jun 08 j 14:11 | 16°Ω47'14 |             |                  |                      |           |             |
| evening set      | -5280 Sep 05 j 17:02 | 18°Ω42'18 |             | conjunction      | -5274 Oct 04 j 01:02 | 2°℞19'45  | 2°17'26     |
|                  |                      |           |             | minimum elong    | -5274 Oct 04 j 01:02 | 2°℞19'45  | 2°17'35     |
| conjunction      | -5280 Sep 20 j 19:16 | 19°Ω16'13 | 2°19'00     | max. Earth dist. | -5274 Oct 03 j 19:55 | 2°℞19'16  | 31.30203 AU |
| minimum elong    | -5280 Sep 20 j 19:17 | 19°Ω16'13 | 2°19'12     | morning rise     | -5274 Oct 19 j 01:45 | 2°℞53'35  |             |
| max. Earth dist. | -5280 Sep 20 j 09:13 | 19°Ω15'16 | 31.32589 AU | retrograde       | -5273 Jan 15 j 08:11 | 4°℞48'08  |             |
| morning rise     | -5280 Oct 05 j 20:22 | 19°Ω50'01 |             | opposition       | -5273 Apr 05 j 04:59 | 3°℞25'31  | 2°26'21     |
| retrograde       | -5279 Jan 01 j 12:07 | 21°Ω43'48 |             | min. Earth dist. | -5273 Apr 05 j 09:02 | 3°℞25'14  | 29.30005 AU |
| opposition       | -5279 Mar 22 j 00:01 | 20°Ω21'31 | 2°28'38     | direct           | -5273 Jun 24 j 23:07 | 2°℞01'57  |             |
| min. Earth dist. | -5279 Mar 22 j 09:01 | 20°Ω20'55 | 29.32727 AU | evening set      | -5273 Sep 21 j 08:35 | 3°℞56'27  |             |
| direct           | -5279 Jun 10 j 23:05 | 18°Ω57'40 |             |                  |                      |           |             |
| evening set      | -5279 Sep 08 j 02:10 | 20°Ω52'42 |             | conjunction      | -5273 Oct 06 j 09:43 | 4°℞30'18  | 2°16'29     |
|                  |                      |           |             | minimum elong    | -5273 Oct 06 j 09:43 | 4°℞30'18  | 2°16'39     |
| conjunction      | -5279 Sep 23 j 04:18 | 21°Ω26'35 | 2°19'14     | max. Earth dist. | -5273 Oct 06 j 05:09 | 4°℞29'52  | 31.29471 AU |
| minimum elong    | -5279 Sep 23 j 04:18 | 21°Ω26'35 | 2°19'27     | morning rise     | -5273 Oct 21 j 10:36 | 5°℞04'10  |             |

Attention, astronomical year style is used: The year -5272 in astronomical counting style is the year 5273 BCE in historical counting style.

|                  |                      |                                 |             |                  |                      |   |             |
|------------------|----------------------|---------------------------------|-------------|------------------|----------------------|---|-------------|
| retrograde       | -5272 Jan 17 j 18:10 | 6° $\mathring{\text{N}}$ 58'49  |             | minimum elong    | -5266 Oct 20 j 23:49 | 19° $\mathring{\text{N}}$ 45'01                 | 2°04'34     |
| opposition       | -5272 Apr 06 j 17:54 | 5° $\mathring{\text{N}}$ 36'06  | 2°25'14     | max. Earth dist. | -5266 Oct 21 j 03:02 | 19° $\mathring{\text{N}}$ 45'19                 | 31.25924 AU |
| min. Earth dist. | -5272 Apr 06 j 21:44 | 5° $\mathring{\text{N}}$ 35'50  | 29.29286 AU | morning rise     | -5266 Nov 05 j 01:58 | 20° $\mathring{\text{N}}$ 19'02                 |             |
| direct           | -5272 Jun 26 j 09:34 | 4° $\mathring{\text{N}}$ 12'33  |             | retrograde       | -5265 Feb 02 j 04:09 | 22° $\mathring{\text{N}}$ 14'39                 |             |
| evening set      | -5272 Sep 22 j 17:23 | 6° $\mathring{\text{N}}$ 06'55  |             | opposition       | -5265 Apr 23 j 12:22 | 20° $\mathring{\text{N}}$ 51'33                 | 2°11'42     |
|                  |                      |                                 |             | min. Earth dist. | -5265 Apr 23 j 08:56 | 20° $\mathring{\text{N}}$ 51'46                 | 29.25804 AU |
| conjunction      | -5272 Oct 07 j 18:36 | 6° $\mathring{\text{N}}$ 40'47  | 2°15'21     | direct           | -5265 Jul 12 j 13:42 | 19° $\mathring{\text{N}}$ 28'26                 |             |
| minimum elong    | -5272 Oct 07 j 18:37 | 6° $\mathring{\text{N}}$ 40'48  | 2°15'29     | evening set      | -5265 Oct 08 j 07:13 | 21° $\mathring{\text{N}}$ 22'14                 |             |
| max. Earth dist. | -5272 Oct 07 j 16:00 | 6° $\mathring{\text{N}}$ 40'33  | 31.28775 AU |                  |                      |   |             |
| morning rise     | -5272 Oct 22 j 19:28 | 7° $\mathring{\text{N}}$ 14'39  |             | conjunction      | -5265 Oct 23 j 08:56 | 21° $\mathring{\text{N}}$ 56'12                 | 2°02'02     |
| retrograde       | -5271 Jan 19 j 03:27 | 9° $\mathring{\text{N}}$ 09'26  |             | minimum elong    | -5265 Oct 23 j 08:57 | 21° $\mathring{\text{N}}$ 56'12                 | 2°02'06     |
| opposition       | -5271 Apr 09 j 06:32 | 7° $\mathring{\text{N}}$ 46'37  | 2°23'55     | max. Earth dist. | -5265 Oct 23 j 13:12 | 21° $\mathring{\text{N}}$ 56'36                 | 31.25374 AU |
| min. Earth dist. | -5271 Apr 09 j 08:43 | 7° $\mathring{\text{N}}$ 46'28  | 29.28614 AU | morning rise     | -5265 Nov 07 j 11:22 | 22° $\mathring{\text{N}}$ 30'14                 |             |
| direct           | -5271 Jun 28 j 21:23 | 6° $\mathring{\text{N}}$ 23'06  |             | retrograde       | -5264 Feb 04 j 16:05 | 24° $\mathring{\text{N}}$ 26'00                 |             |
| evening set      | -5271 Sep 25 j 02:18 | 8° $\mathring{\text{N}}$ 17'23  |             | opposition       | -5264 Apr 25 j 01:26 | 23° $\mathring{\text{N}}$ 02'50                 | 2°08'59     |
|                  |                      |                                 |             | min. Earth dist. | -5264 Apr 24 j 20:18 | 23° $\mathring{\text{N}}$ 03'11                 | 29.25177 AU |
| conjunction      | -5271 Oct 10 j 03:21 | 8° $\mathring{\text{N}}$ 51'15  | 2°14'01     | direct           | -5264 Jul 14 j 02:17 | 21° $\mathring{\text{N}}$ 39'46                 |             |
| minimum elong    | -5271 Oct 10 j 03:21 | 8° $\mathring{\text{N}}$ 51'15  | 2°14'10     | evening set      | -5264 Oct 09 j 16:24 | 23° $\mathring{\text{N}}$ 33'29                 |             |
| max. Earth dist. | -5271 Oct 10 j 00:54 | 8° $\mathring{\text{N}}$ 51'01  | 31.28150 AU |                  |                      |   |             |
| morning rise     | -5271 Oct 25 j 04:29 | 9° $\mathring{\text{N}}$ 25'08  |             | conjunction      | -5264 Oct 24 j 18:11 | 24° $\mathring{\text{N}}$ 07'28                 | 1°59'24     |
| retrograde       | -5270 Jan 21 j 15:38 | 11° $\mathring{\text{N}}$ 20'02 |             | minimum elong    | -5264 Oct 24 j 18:12 | 24° $\mathring{\text{N}}$ 07'28                 | 1°59'26     |
| opposition       | -5270 Apr 11 j 19:25 | 9° $\mathring{\text{N}}$ 57'09  | 2°22'24     | max. Earth dist. | -5264 Oct 24 j 22:23 | 24° $\mathring{\text{N}}$ 07'52                 | 31.24677 AU |
| min. Earth dist. | -5270 Apr 11 j 20:29 | 9° $\mathring{\text{N}}$ 57'05  | 29.28042 AU | morning rise     | -5264 Nov 08 j 21:02 | 24° $\mathring{\text{N}}$ 41'33                 |             |
| direct           | -5270 Jul 01 j 06:27 | 8° $\mathring{\text{N}}$ 33'41  |             | retrograde       | -5263 Feb 06 j 03:11 | 26° $\mathring{\text{N}}$ 37'26                 |             |
| evening set      | -5270 Sep 27 j 10:55 | 10° $\mathring{\text{N}}$ 27'52 |             | opposition       | -5263 Apr 27 j 14:30 | 25° $\mathring{\text{N}}$ 14'12                 | 2°06'04     |
|                  |                      |                                 |             | min. Earth dist. | -5263 Apr 27 j 09:36 | 25° $\mathring{\text{N}}$ 14'31                 | 29.24409 AU |
| conjunction      | -5270 Oct 12 j 12:08 | 11° $\mathring{\text{N}}$ 01'44 | 2°12'30     | direct           | -5263 Jul 16 j 12:54 | 23° $\mathring{\text{N}}$ 51'10                 |             |
| minimum elong    | -5270 Oct 12 j 12:08 | 11° $\mathring{\text{N}}$ 01'44 | 2°12'37     | evening set      | -5263 Oct 12 j 01:25 | 25° $\mathring{\text{N}}$ 44'47                 |             |
| max. Earth dist. | -5270 Oct 12 j 11:56 | 11° $\mathring{\text{N}}$ 01'43 | 31.27624 AU |                  |                      |   |             |
| morning rise     | -5270 Oct 27 j 13:16 | 11° $\mathring{\text{N}}$ 35'39 |             | conjunction      | -5263 Oct 27 j 03:35 | 26° $\mathring{\text{N}}$ 18'47                 | 1°56'35     |
| retrograde       | -5269 Jan 24 j 02:00 | 13° $\mathring{\text{N}}$ 30'41 |             | minimum elong    | -5263 Oct 27 j 03:35 | 26° $\mathring{\text{N}}$ 18'47                 | 1°56'38     |
| opposition       | -5269 Apr 14 j 08:23 | 12° $\mathring{\text{N}}$ 07'45 | 2°20'40     | max. Earth dist. | -5263 Oct 27 j 09:20 | 26° $\mathring{\text{N}}$ 19'19                 | 31.23842 AU |
| min. Earth dist. | -5269 Apr 14 j 08:22 | 12° $\mathring{\text{N}}$ 07'45 | 29.27550 AU | morning rise     | -5263 Nov 11 j 06:38 | 26° $\mathring{\text{N}}$ 52'54                 |             |
| direct           | -5269 Jul 03 j 18:22 | 10° $\mathring{\text{N}}$ 44'21 |             | retrograde       | -5262 Feb 08 j 13:24 | 28° $\mathring{\text{N}}$ 48'53                 |             |
| evening set      | -5269 Sep 29 j 19:47 | 12° $\mathring{\text{N}}$ 38'27 |             | opposition       | -5262 Apr 30 j 03:38 | 27° $\mathring{\text{N}}$ 25'33                 | 2°02'59     |
|                  |                      |                                 |             | min. Earth dist. | -5262 Apr 29 j 21:32 | 27° $\mathring{\text{N}}$ 25'58                 | 29.23490 AU |
| conjunction      | -5269 Oct 14 j 20:55 | 13° $\mathring{\text{N}}$ 12'20 | 2°10'47     | direct           | -5262 Jul 19 j 01:35 | 26° $\mathring{\text{N}}$ 02'33                 |             |
| minimum elong    | -5269 Oct 14 j 20:56 | 13° $\mathring{\text{N}}$ 12'20 | 2°10'55     | evening set      | -5262 Oct 14 j 10:26 | 27° $\mathring{\text{N}}$ 56'02                 |             |
| max. Earth dist. | -5269 Oct 14 j 20:54 | 13° $\mathring{\text{N}}$ 12'20 | 31.27186 AU |                  |                      |   |             |
| morning rise     | -5269 Oct 29 j 22:25 | 13° $\mathring{\text{N}}$ 46'16 |             | conjunction      | -5262 Oct 29 j 12:41 | 28° $\mathring{\text{N}}$ 30'04                 | 1°53'36     |
| retrograde       | -5268 Jan 26 j 15:34 | 15° $\mathring{\text{N}}$ 41'27 |             | minimum elong    | -5262 Oct 29 j 12:41 | 28° $\mathring{\text{N}}$ 30'04                 | 1°53'38     |
| opposition       | -5268 Apr 15 j 21:12 | 14° $\mathring{\text{N}}$ 18'28 | 2°18'44     | max. Earth dist. | -5262 Oct 29 j 18:10 | 28° $\mathring{\text{N}}$ 30'35                 | 31.22876 AU |
| min. Earth dist. | -5268 Apr 15 j 19:32 | 14° $\mathring{\text{N}}$ 18'35 | 29.27140 AU | morning rise     | -5262 Nov 13 j 16:18 | 29° $\mathring{\text{N}}$ 04'13                 |             |
| direct           | -5268 Jul 05 j 03:47 | 12° $\mathring{\text{N}}$ 55'08 |             |                  | -5262 Dec 10 j 22:53 | 0° $\mathring{\text{N}}$                        |             |
| evening set      | -5268 Oct 01 j 04:30 | 14° $\mathring{\text{N}}$ 49'10 |             | retrograde       | -5261 Feb 11 j 02:00 | 1° $\mathring{\text{N}}$ 00'19                  |             |
|                  |                      |                                 |             |                  | -5261 Apr 18 j 05:42 | 30° $\mathring{\text{R}}$ $\mathring{\text{N}}$ |             |
| conjunction      | -5268 Oct 16 j 05:51 | 15° $\mathring{\text{N}}$ 23'04 | 2°08'53     | opposition       | -5261 May 02 j 16:50 | 29° $\mathring{\text{N}}$ 36'53                 | 1°59'43     |
| minimum elong    | -5268 Oct 16 j 05:52 | 15° $\mathring{\text{N}}$ 23'04 | 2°08'58     | min. Earth dist. | -5261 May 02 j 10:07 | 29° $\mathring{\text{N}}$ 37'20                 | 29.22476 AU |
| max. Earth dist. | -5268 Oct 16 j 07:40 | 15° $\mathring{\text{N}}$ 23'14 | 31.26787 AU | direct           | -5261 Jul 21 j 11:34 | 28° $\mathring{\text{N}}$ 13'53                 |             |
| morning rise     | -5268 Oct 31 j 07:28 | 15° $\mathring{\text{N}}$ 57'01 |             |                  | -5261 Oct 13 j 12:11 | 0° $\mathring{\text{N}}$                        |             |
| retrograde       | -5267 Jan 28 j 02:39 | 17° $\mathring{\text{N}}$ 52'22 |             | evening set      | -5261 Oct 16 j 19:22 | 0° $\mathring{\text{N}}$ 07'15                  |             |
| opposition       | -5267 Apr 18 j 10:13 | 16° $\mathring{\text{N}}$ 29'20 | 2°16'35     |                  |                      |   |             |
| min. Earth dist. | -5267 Apr 18 j 08:26 | 16° $\mathring{\text{N}}$ 29'27 | 29.26737 AU | conjunction      | -5261 Oct 31 j 22:02 | 0° $\mathring{\text{N}}$ 41'18                  | 1°50'28     |
| direct           | -5267 Jul 07 j 14:05 | 15° $\mathring{\text{N}}$ 06'05 |             | minimum elong    | -5261 Oct 31 j 22:03 | 0° $\mathring{\text{N}}$ 41'18                  | 1°50'30     |
| evening set      | -5267 Oct 03 j 13:22 | 17° $\mathring{\text{N}}$ 00'03 |             | max. Earth dist. | -5261 Nov 01 j 05:24 | 0° $\mathring{\text{N}}$ 42'00                  | 31.21830 AU |
|                  |                      |                                 |             | morning rise     | -5261 Nov 16 j 01:55 | 1° $\mathring{\text{N}}$ 15'30                  |             |
| conjunction      | -5267 Oct 18 j 14:44 | 17° $\mathring{\text{N}}$ 33'57 | 2°06'47     | retrograde       | -5260 Feb 13 j 12:03 | 3° $\mathring{\text{N}}$ 11'41                  |             |
| minimum elong    | -5267 Oct 18 j 14:44 | 17° $\mathring{\text{N}}$ 33'58 | 2°06'52     | opposition       | -5260 May 04 j 05:48 | 1° $\mathring{\text{N}}$ 48'08                  | 1°56'16     |
| max. Earth dist. | -5267 Oct 18 j 17:05 | 17° $\mathring{\text{N}}$ 34'11 | 31.26387 AU | min. Earth dist. | -5260 May 03 j 22:21 | 1° $\mathring{\text{N}}$ 48'39                  | 29.21405 AU |
| morning rise     | -5267 Nov 02 j 16:38 | 18° $\mathring{\text{N}}$ 07'57 |             | direct           | -5260 Jul 22 j 23:31 | 0° $\mathring{\text{N}}$ 25'08                  |             |
| retrograde       | -5266 Jan 30 j 15:39 | 20° $\mathring{\text{N}}$ 03'25 |             | evening set      | -5260 Oct 18 j 04:23 | 2° $\mathring{\text{N}}$ 18'24                  |             |
| opposition       | -5266 Apr 20 j 23:08 | 18° $\mathring{\text{N}}$ 40'22 | 2°14'15     |                  |                      |   |             |
| min. Earth dist. | -5266 Apr 20 j 19:29 | 18° $\mathring{\text{N}}$ 40'37 | 29.26308 AU | conjunction      | -5260 Nov 02 j 07:13 | 2° $\mathring{\text{N}}$ 52'28                  | 1°47'10     |
| direct           | -5266 Jul 10 j 02:02 | 17° $\mathring{\text{N}}$ 17'11 |             | minimum elong    | -5260 Nov 02 j 07:14 | 2° $\mathring{\text{N}}$ 52'28                  | 1°47'10     |
| evening set      | -5266 Oct 05 j 22:19 | 19° $\mathring{\text{N}}$ 11'04 |             | max. Earth dist. | -5260 Nov 02 j 14:39 | 2° $\mathring{\text{N}}$ 53'10                  | 31.20773 AU |
|                  |                      |                                 |             | morning rise     | -5260 Nov 17 j 11:40 | 3° $\mathring{\text{N}}$ 26'42                  |             |
| conjunction      | -5266 Oct 20 j 23:48 | 19° $\mathring{\text{N}}$ 45'01 | 2°04'30     | retrograde       | -5259 Feb 15 j 01:12 | 5° $\mathring{\text{N}}$ 23'00                  |             |

Attention, astronomical year style is used: The year -5259 in astronomical counting style is the year 5260 BCE in historical counting style.

|                  |                      |                    |             |                  |                      |                    |             |
|------------------|----------------------|--------------------|-------------|------------------|----------------------|--------------------|-------------|
| opposition       | -5259 May 06 j 18:45 | 3° <u>♂</u> 59'21  | 1°52'40     | max. Earth dist. | -5253 Nov 18 j 15:32 | 18° <u>♂</u> 14'40 | 31.14963 AU |
| min. Earth dist. | -5259 May 06 j 09:46 | 3° <u>♂</u> 59'58  | 29.20361 AU | morning rise     | -5253 Dec 03 j 09:25 | 18° <u>♂</u> 47'55 |             |
| direct           | -5259 Jul 25 j 09:09 | 2° <u>♂</u> 36'21  |             | retrograde       | -5252 Mar 02 j 16:34 | 20° <u>♂</u> 45'08 |             |
| evening set      | -5259 Oct 20 j 13:15 | 4° <u>♂</u> 29'31  |             | opposition       | -5252 May 22 j 13:43 | 19° <u>♂</u> 21'08 | 1°23'03     |
|                  |                      |                    |             | min. Earth dist. | -5252 May 21 j 22:52 | 19° <u>♂</u> 22'08 | 29.14598 AU |
| conjunction      | -5259 Nov 04 j 16:27 | 5° <u>♂</u> 03'37  | 1°43'43     | direct           | -5252 Aug 09 j 14:56 | 17° <u>♂</u> 58'29 |             |
| minimum elong    | -5259 Nov 04 j 16:28 | 5° <u>♂</u> 03'38  | 1°43'43     | evening set      | -5252 Nov 04 j 05:39 | 19° <u>♂</u> 51'15 |             |
| max. Earth dist. | -5259 Nov 05 j 01:40 | 5° <u>♂</u> 04'30  | 31.19750 AU |                  |                      |                    |             |
| morning rise     | -5259 Nov 19 j 21:12 | 5° <u>♂</u> 37'54  |             | conjunction      | -5252 Nov 19 j 11:35 | 20° <u>♂</u> 25'37 | 1°15'32     |
| retrograde       | -5258 Feb 17 j 12:10 | 7° <u>♂</u> 34'19  |             | minimum elong    | -5252 Nov 19 j 11:35 | 20° <u>♂</u> 25'37 | 1°15'27     |
| opposition       | -5258 May 09 j 07:48 | 6° <u>♂</u> 10'35  | 1°48'54     | max. Earth dist. | -5252 Nov 20 j 03:02 | 20° <u>♂</u> 27'05 | 31.14061 AU |
| min. Earth dist. | -5258 May 08 j 22:30 | 6° <u>♂</u> 11'12  | 29.19375 AU | morning rise     | -5252 Dec 04 j 19:52 | 21° <u>♂</u> 00'15 |             |
| direct           | -5258 Jul 27 j 19:20 | 4° <u>♂</u> 47'36  |             | retrograde       | -5251 Mar 05 j 02:43 | 22° <u>♂</u> 57'35 |             |
| evening set      | -5258 Oct 22 j 22:15 | 6° <u>♂</u> 40'42  |             | min. Earth dist. | -5251 May 24 j 11:35 | 21° <u>♂</u> 34'33 | 29.13621 AU |
|                  |                      |                    |             | opposition       | -5251 May 25 j 02:48 | 21° <u>♂</u> 33'31 | 1°18'16     |
| conjunction      | -5258 Nov 07 j 01:45 | 7° <u>♂</u> 14'49  | 1°40'07     | direct           | -5251 Aug 12 j 02:47 | 20° <u>♂</u> 10'54 |             |
| minimum elong    | -5258 Nov 07 j 01:45 | 7° <u>♂</u> 14'49  | 1°40'06     | evening set      | -5251 Nov 06 j 15:14 | 22° <u>♂</u> 03'36 |             |
| max. Earth dist. | -5258 Nov 07 j 11:47 | 7° <u>♂</u> 15'46  | 31.18827 AU |                  |                      |                    |             |
| morning rise     | -5258 Nov 22 j 07:00 | 7° <u>♂</u> 49'08  |             | conjunction      | -5251 Nov 21 j 21:29 | 22° <u>♂</u> 38'00 | 1°11'01     |
| retrograde       | -5257 Feb 20 j 01:42 | 9° <u>♂</u> 45'41  |             | minimum elong    | -5251 Nov 21 j 21:29 | 22° <u>♂</u> 38'00 | 1°10'56     |
| opposition       | -5257 May 11 j 20:42 | 8° <u>♂</u> 21'53  | 1°44'58     | max. Earth dist. | -5251 Nov 22 j 12:34 | 22° <u>♂</u> 39'26 | 31.13029 AU |
| min. Earth dist. | -5257 May 11 j 09:16 | 8° <u>♂</u> 22'39  | 29.18492 AU | morning rise     | -5251 Dec 07 j 06:25 | 23° <u>♂</u> 12'41 |             |
| direct           | -5257 Jul 30 j 06:55 | 6° <u>♂</u> 58'56  |             | retrograde       | -5250 Mar 07 j 15:51 | 25° <u>♂</u> 10'08 |             |
| evening set      | -5257 Oct 25 j 07:14 | 8° <u>♂</u> 51'58  |             | opposition       | -5250 May 27 j 15:54 | 23° <u>♂</u> 45'58 | 1°13'22     |
|                  |                      |                    |             | min. Earth dist. | -5250 May 26 j 23:41 | 23° <u>♂</u> 47'05 | 29.12518 AU |
| conjunction      | -5257 Nov 09 j 11:05 | 9° <u>♂</u> 26'08  | 1°36'22     | direct           | -5250 Aug 14 j 12:31 | 22° <u>♂</u> 23'21 |             |
| minimum elong    | -5257 Nov 09 j 11:05 | 9° <u>♂</u> 26'08  | 1°36'21     | evening set      | -5250 Nov 09 j 00:52 | 24° <u>♂</u> 15'58 |             |
| max. Earth dist. | -5257 Nov 09 j 22:05 | 9° <u>♂</u> 27'11  | 31.17988 AU |                  |                      |                    |             |
| morning rise     | -5257 Nov 24 j 16:52 | 10° <u>♂</u> 00'30 |             | conjunction      | -5250 Nov 24 j 07:38 | 24° <u>♂</u> 50'25 | 1°06'23     |
| retrograde       | -5256 Feb 22 j 14:55 | 11° <u>♂</u> 57'11 |             | minimum elong    | -5250 Nov 24 j 07:39 | 24° <u>♂</u> 50'25 | 1°06'16     |
| opposition       | -5256 May 13 j 09:46 | 10° <u>♂</u> 33'19 | 1°40'53     | max. Earth dist. | -5250 Nov 24 j 23:48 | 24° <u>♂</u> 51'56 | 31.11861 AU |
| min. Earth dist. | -5256 May 12 j 22:19 | 10° <u>♂</u> 34'05 | 29.17691 AU | morning rise     | -5250 Dec 09 j 17:06 | 25° <u>♂</u> 25'08 |             |
| direct           | -5256 Jul 31 j 17:56 | 9° <u>♂</u> 10'27  |             | retrograde       | -5249 Mar 10 j 03:09 | 27° <u>♂</u> 22'40 |             |
| evening set      | -5256 Oct 26 j 16:17 | 11° <u>♂</u> 03'25 |             | opposition       | -5249 May 30 j 04:58 | 25° <u>♂</u> 58'24 | 1°08'22     |
|                  |                      |                    |             | min. Earth dist. | -5249 May 29 j 13:04 | 25° <u>♂</u> 59'29 | 29.11290 AU |
| conjunction      | -5256 Nov 10 j 20:35 | 11° <u>♂</u> 37'37 | 1°32'28     | direct           | -5249 Aug 16 j 22:57 | 24° <u>♂</u> 35'45 |             |
| minimum elong    | -5256 Nov 10 j 20:35 | 11° <u>♂</u> 37'37 | 1°32'25     | evening set      | -5249 Nov 11 j 10:28 | 26° <u>♂</u> 28'17 |             |
| max. Earth dist. | -5256 Nov 11 j 08:59 | 11° <u>♂</u> 38'48 | 31.17228 AU |                  |                      |                    |             |
| morning rise     | -5256 Nov 26 j 02:46 | 12° <u>♂</u> 12'02 |             | conjunction      | -5249 Nov 26 j 17:45 | 27° <u>♂</u> 02'46 | 1°01'39     |
| retrograde       | -5255 Feb 24 j 03:23 | 14° <u>♂</u> 08'51 |             | minimum elong    | -5249 Nov 26 j 17:45 | 27° <u>♂</u> 02'46 | 1°01'32     |
| opposition       | -5255 May 15 j 22:32 | 12° <u>♂</u> 44'57 | 1°36'38     | max. Earth dist. | -5249 Nov 27 j 10:19 | 27° <u>♂</u> 04'20 | 31.10607 AU |
| min. Earth dist. | -5255 May 15 j 09:09 | 12° <u>♂</u> 45'51 | 29.16939 AU | morning rise     | -5249 Dec 12 j 03:50 | 27° <u>♂</u> 37'32 |             |
| direct           | -5255 Aug 03 j 05:54 | 11° <u>♂</u> 22'08 |             | retrograde       | -5248 Mar 11 j 16:40 | 29° <u>♂</u> 35'08 |             |
| evening set      | -5255 Oct 29 j 01:31 | 13° <u>♂</u> 15'04 |             | opposition       | -5248 May 31 j 17:50 | 28° <u>♂</u> 10'45 | 1°03'15     |
|                  |                      |                    |             | min. Earth dist. | -5248 May 31 j 00:26 | 28° <u>♂</u> 11'56 | 29.09999 AU |
| conjunction      | -5255 Nov 13 j 06:03 | 13° <u>♂</u> 49'19 | 1°28'26     | direct           | -5248 Aug 18 j 10:46 | 26° <u>♂</u> 48'03 |             |
| minimum elong    | -5255 Nov 13 j 06:04 | 13° <u>♂</u> 49'19 | 1°28'24     | evening set      | -5248 Nov 12 j 20:10 | 28° <u>♂</u> 40'30 |             |
| max. Earth dist. | -5255 Nov 13 j 18:40 | 13° <u>♂</u> 50'30 | 31.16496 AU |                  |                      |                    |             |
| morning rise     | -5255 Nov 28 j 12:53 | 14° <u>♂</u> 23'47 |             | conjunction      | -5248 Nov 28 j 03:51 | 29° <u>♂</u> 15'01 | 0°56'50     |
| retrograde       | -5254 Feb 26 j 15:35 | 16° <u>♂</u> 20'44 |             | minimum elong    | -5248 Nov 28 j 03:51 | 29° <u>♂</u> 15'01 | 0°56'41     |
| opposition       | -5254 May 18 j 11:41 | 14° <u>♂</u> 56'48 | 1°32'15     | max. Earth dist. | -5248 Nov 28 j 20:53 | 29° <u>♂</u> 16'38 | 31.09299 AU |
| min. Earth dist. | -5254 May 17 j 22:19 | 14° <u>♂</u> 57'43 | 29.16210 AU | morning rise     | -5248 Dec 13 j 14:32 | 29° <u>♂</u> 49'50 |             |
| direct           | -5254 Aug 05 j 16:17 | 13° <u>♂</u> 34'04 |             |                  | -5248 Dec 18 j 05:45 | 0° <u>♂</u>        |             |
| evening set      | -5254 Oct 31 j 10:37 | 15° <u>♂</u> 26'56 |             | retrograde       | -5247 Mar 14 j 05:22 | 1° <u>♂</u> 47'30  |             |
|                  |                      |                    |             | opposition       | -5247 Jun 03 j 06:40 | 0° <u>♂</u> 23'00  | 0°58'04     |
| conjunction      | -5254 Nov 15 j 15:43 | 16° <u>♂</u> 01'13 | 1°24'16     | min. Earth dist. | -5247 Jun 02 j 13:36 | 0° <u>♂</u> 24'09  | 29.08700 AU |
| minimum elong    | -5254 Nov 15 j 15:44 | 16° <u>♂</u> 01'13 | 1°24'11     |                  | -5247 Jun 17 j 12:02 | 30° <u>♂</u>       |             |
| max. Earth dist. | -5254 Nov 16 j 06:10 | 16° <u>♂</u> 02'36 | 31.15761 AU | direct           | -5247 Aug 20 j 21:21 | 29° <u>♂</u> 00'16 |             |
| morning rise     | -5254 Nov 30 j 22:55 | 16° <u>♂</u> 35'45 |             |                  | -5247 Oct 20 j 13:26 | 0° <u>♂</u>        |             |
| retrograde       | -5253 Mar 01 j 03:06 | 18° <u>♂</u> 32'50 |             | evening set      | -5247 Nov 15 j 05:48 | 0° <u>♂</u> 52'37  |             |
| min. Earth dist. | -5253 May 20 j 10:10 | 17° <u>♂</u> 09'52 | 29.15439 AU |                  |                      |                    |             |
| opposition       | -5253 May 21 j 00:44 | 17° <u>♂</u> 08'52 | 1°27'43     | conjunction      | -5247 Nov 30 j 14:04 | 1° <u>♂</u> 27'11  | 0°51'56     |
| direct           | -5253 Aug 08 j 05:03 | 15° <u>♂</u> 46'12 |             | minimum elong    | -5247 Nov 30 j 14:04 | 1° <u>♂</u> 27'11  | 0°51'48     |
| evening set      | -5253 Nov 02 j 20:09 | 17° <u>♂</u> 39'00 |             | max. Earth dist. | -5247 Dec 01 j 08:30 | 1° <u>♂</u> 28'55  | 31.08036 AU |
|                  |                      |                    |             | morning rise     | -5247 Dec 16 j 01:13 | 2° <u>♂</u> 02'02  |             |
| conjunction      | -5253 Nov 18 j 01:30 | 18° <u>♂</u> 13'20 | 1°19'58     | retrograde       | -5246 Mar 16 j 17:59 | 3° <u>♂</u> 59'46  |             |
| minimum elong    | -5253 Nov 18 j 01:31 | 18° <u>♂</u> 13'20 | 1°19'54     | opposition       | -5246 Jun 05 j 19:26 | 2° <u>♂</u> 35'10  | 0°52'47     |

Attention, astronomical year style is used: The year -5246 in astronomical counting style is the year 5247 BCE in historical counting style.

|                  |                      |            |             |                  |                      |            |             |
|------------------|----------------------|------------|-------------|------------------|----------------------|------------|-------------|
| min. Earth dist. | -5246 Jun 05 j 00:27 | 2°M.36'28  | 29.07469 AU | evening set      | -5240 Nov 30 j 04:07 | 16°M.19'39 |             |
| direct           | -5246 Aug 23 j 09:24 | 1°M.12'24  |             |                  |                      |            |             |
| evening set      | -5246 Nov 17 j 15:32 | 3°M.04'42  |             | conjunction      | -5240 Dec 15 j 15:49 | 16°M.54'31 | 0°15'49     |
|                  |                      |            |             | minimum elong    | -5240 Dec 15 j 15:50 | 16°M.54'31 | 0°15'36     |
| conjunction      | -5246 Dec 03 j 00:08 | 3°M.39'17  | 0°46'57     | behind sun begin | -5240 Dec 15 j 14:08 | 16°M.54'22 |             |
| minimum elong    | -5246 Dec 03 j 00:08 | 3°M.39'17  | 0°46'48     | behind sun end   | -5240 Dec 15 j 17:32 | 16°M.54'40 |             |
| max. Earth dist. | -5246 Dec 03 j 18:41 | 3°M.41'03  | 31.06854 AU | max. Earth dist. | -5240 Dec 16 j 14:49 | 16°M.56'41 | 31.01640 AU |
| morning rise     | -5246 Dec 18 j 12:02 | 4°M.14'12  |             | morning rise     | -5240 Dec 31 j 07:07 | 17°M.29'44 |             |
| retrograde       | -5245 Mar 19 j 07:05 | 6°M.12'01  |             | retrograde       | -5239 Apr 01 j 10:59 | 19°M.28'10 |             |
| opposition       | -5245 Jun 08 j 08:18 | 4°M.47'19  | 0°47'25     | opposition       | -5239 Jun 21 j 12:07 | 18°M.03'17 | 0°13'56     |
| min. Earth dist. | -5245 Jun 07 j 13:19 | 4°M.48'37  | 29.06349 AU | min. Earth dist. | -5239 Jun 20 j 13:11 | 18°M.04'52 | 29.01233 AU |
| direct           | -5245 Aug 25 j 20:14 | 3°M.24'33  |             | direct           | -5239 Sep 07 j 13:22 | 16°M.40'40 |             |
| evening set      | -5245 Nov 20 j 01:18 | 5°M.16'47  |             | evening set      | -5239 Dec 02 j 14:50 | 18°M.32'53 |             |
|                  |                      |            |             |                  |                      |            |             |
| conjunction      | -5245 Dec 05 j 10:35 | 5°M.51'26  | 0°41'54     | conjunction      | -5239 Dec 18 j 02:58 | 19°M.07'47 | 0°10'29     |
| minimum elong    | -5245 Dec 05 j 10:35 | 5°M.51'26  | 0°41'46     | minimum elong    | -5239 Dec 18 j 02:58 | 19°M.07'47 | 0°10'17     |
| max. Earth dist. | -5245 Dec 06 j 07:03 | 5°M.53'22  | 31.05794 AU | behind sun begin | -5239 Dec 17 j 21:49 | 19°M.07'19 |             |
| morning rise     | -5245 Dec 20 j 22:55 | 6°M.26'23  |             | behind sun end   | -5239 Dec 18 j 08:06 | 19°M.08'15 |             |
| retrograde       | -5244 Mar 20 j 19:29 | 8°M.24'16  |             | max. Earth dist. | -5239 Dec 19 j 01:52 | 19°M.09'57 | 31.00741 AU |
| opposition       | -5244 Jun 09 j 20:48 | 6°M.59'31  | 0°41'59     | morning rise     | -5238 Jan 02 j 18:53 | 19°M.43'03 |             |
| min. Earth dist. | -5244 Jun 09 j 00:30 | 7°M.00'54  | 29.05340 AU | retrograde       | -5238 Apr 04 j 00:08 | 21°M.41'35 |             |
| direct           | -5244 Aug 27 j 09:03 | 5°M.36'45  |             | min. Earth dist. | -5238 Jun 23 j 02:51 | 20°M.18'10 | 29.00288 AU |
| evening set      | -5244 Nov 21 j 11:17 | 7°M.28'58  |             | opposition       | -5238 Jun 24 j 00:56 | 20°M.16'39 | 0°08'13     |
|                  |                      |            |             | direct           | -5238 Sep 09 j 23:15 | 18°M.54'02 |             |
| conjunction      | -5244 Dec 06 j 20:54 | 8°M.03'39  | 0°36'48     | evening set      | -5238 Dec 05 j 01:28 | 20°M.46'15 |             |
| minimum elong    | -5244 Dec 06 j 20:54 | 8°M.03'39  | 0°36'37     |                  |                      |            |             |
| max. Earth dist. | -5244 Dec 07 j 17:06 | 8°M.05'33  | 31.04849 AU | conjunction      | -5238 Dec 20 j 14:16 | 21°M.21'12 | 0°05'09     |
| morning rise     | -5244 Dec 22 j 09:59 | 8°M.38'40  |             | minimum elong    | -5238 Dec 20 j 14:16 | 21°M.21'12 | 0°04'56     |
| retrograde       | -5243 Mar 23 j 08:50 | 10°M.36'39 |             | behind sun begin | -5238 Dec 20 j 07:58 | 21°M.20'38 |             |
| opposition       | -5243 Jun 12 j 09:31 | 9°M.11'51  | 0°36'29     | behind sun end   | -5238 Dec 20 j 20:33 | 21°M.21'46 |             |
| min. Earth dist. | -5243 Jun 11 j 12:42 | 9°M.13'16  | 29.04450 AU | max. Earth dist. | -5238 Dec 21 j 13:53 | 21°M.23'25 | 30.99750 AU |
| direct           | -5243 Aug 29 j 18:58 | 7°M.49'07  |             | morning rise     | -5237 Jan 05 j 06:40 | 21°M.56'30 |             |
| evening set      | -5243 Nov 23 j 21:06 | 9°M.41'18  |             | retrograde       | -5237 Apr 06 j 13:42 | 23°M.55'06 |             |
|                  |                      |            |             | opposition       | -5237 Jun 26 j 13:32 | 22°M.30'07 | 0°02'29     |
| conjunction      | -5243 Dec 09 j 07:20 | 10°M.16'01 | 0°31'37     | min. Earth dist. | -5237 Jun 25 j 14:20 | 22°M.31'43 | 28.99235 AU |
| minimum elong    | -5243 Dec 09 j 07:20 | 10°M.16'01 | 0°31'27     | direct           | -5237 Sep 12 j 11:10 | 21°M.07'28 |             |
| max. Earth dist. | -5243 Dec 10 j 05:18 | 10°M.18'06 | 31.03999 AU | desc. node       | -5237 Dec 03 j 22:28 | 22°M.51'49 |             |
| morning rise     | -5243 Dec 24 j 20:51 | 10°M.51'06 |             | evening set      | -5237 Dec 07 j 12:26 | 22°M.59'40 |             |
| retrograde       | -5242 Mar 25 j 19:37 | 12°M.49'11 |             |                  |                      |            |             |
| opposition       | -5242 Jun 14 j 22:14 | 11°M.24'22 | 0°30'55     | conjunction      | -5237 Dec 23 j 01:38 | 23°M.34'39 | -0°00'18    |
| min. Earth dist. | -5242 Jun 14 j 00:50 | 11°M.25'50 | 29.03631 AU | minimum elong    | -5237 Dec 23 j 01:36 | 23°M.34'39 | 0°00'31     |
| direct           | -5242 Sep 01 j 06:40 | 10°M.01'40 |             | behind sun begin | -5237 Dec 22 j 19:09 | 23°M.34'05 |             |
| evening set      | -5242 Nov 26 j 07:19 | 11°M.53'51 |             | behind sun end   | -5237 Dec 23 j 08:02 | 23°M.35'14 |             |
|                  |                      |            |             | max. Earth dist. | -5237 Dec 24 j 00:30 | 23°M.36'49 | 30.98651 AU |
| conjunction      | -5242 Dec 11 j 17:58 | 12°M.28'37 | 0°26'23     | morning rise     | -5236 Jan 07 j 18:44 | 24°M.10'01 |             |
| minimum elong    | -5242 Dec 11 j 17:58 | 12°M.28'37 | 0°26'12     | retrograde       | -5236 Apr 08 j 03:42 | 26°M.08'39 |             |
| max. Earth dist. | -5242 Dec 12 j 15:47 | 12°M.30'41 | 31.03220 AU | min. Earth dist. | -5236 Jun 27 j 03:37 | 24°M.45'09 | 28.98108 AU |
| morning rise     | -5242 Dec 27 j 08:11 | 13°M.03'44 |             | opposition       | -5236 Jun 28 j 02:03 | 24°M.43'36 | -0°03'15    |
|                  | -5241 Mar 17 j 10:36 | 15°M.      |             | direct           | -5236 Sep 13 j 22:18 | 23°M.20'55 |             |
| retrograde       | -5241 Mar 28 j 09:23 | 15°M.01'57 |             | evening set      | -5236 Dec 08 j 23:14 | 25°M.13'05 |             |
|                  | -5241 Apr 08 j 10:31 | 15°R.M.    |             |                  |                      |            |             |
| opposition       | -5241 Jun 17 j 10:51 | 13°M.37'06 | 0°25'18     | conjunction      | -5236 Dec 24 j 13:04 | 25°M.48'07 | -0°05'42    |
| min. Earth dist. | -5241 Jun 16 j 12:31 | 13°M.38'38 | 29.02867 AU | minimum elong    | -5236 Dec 24 j 13:04 | 25°M.48'07 | 0°05'57     |
| direct           | -5241 Sep 03 j 16:12 | 12°M.14'26 |             | behind sun begin | -5236 Dec 24 j 06:54 | 25°M.47'34 |             |
| evening set      | -5241 Nov 28 j 17:37 | 14°M.06'38 |             | behind sun end   | -5236 Dec 24 j 19:14 | 25°M.48'41 |             |
|                  |                      |            |             | max. Earth dist. | -5236 Dec 25 j 13:20 | 25°M.50'24 | 30.97505 AU |
| conjunction      | -5241 Dec 14 j 04:49 | 14°M.41'27 | 0°21'07     | morning rise     | -5235 Jan 09 j 06:35 | 26°M.23'31 |             |
| minimum elong    | -5241 Dec 14 j 04:49 | 14°M.41'27 | 0°20'56     | retrograde       | -5235 Apr 10 j 17:16 | 28°M.22'11 |             |
| max. Earth dist. | -5241 Dec 15 j 03:39 | 14°M.43'36 | 31.02447 AU | opposition       | -5235 Jun 30 j 14:28 | 26°M.57'04 | -0°08'58    |
|                  | -5241 Dec 22 j 09:12 | 15°M.      |             | min. Earth dist. | -5235 Jun 29 j 15:13 | 26°M.58'40 | 28.96955 AU |
| morning rise     | -5241 Dec 29 j 19:35 | 15°M.16'37 |             | direct           | -5235 Sep 16 j 11:44 | 25°M.34'19 |             |
| retrograde       | -5240 Mar 29 j 21:11 | 17°M.14'57 |             | evening set      | -5235 Dec 11 j 10:06 | 27°M.26'29 |             |
| opposition       | -5240 Jun 18 j 23:33 | 15°M.50'05 | 0°19'38     |                  |                      |            |             |
| min. Earth dist. | -5240 Jun 18 j 01:43 | 15°M.51'35 | 29.02079 AU | conjunction      | -5235 Dec 27 j 00:16 | 28°M.01'33 | -0°11'02    |
|                  | -5240 Jul 21 j 13:55 | 15°R.M.    |             | minimum elong    | -5235 Dec 27 j 00:16 | 28°M.01'33 | 0°11'16     |
| direct           | -5240 Sep 05 j 02:14 | 14°M.27'27 |             | behind sun begin | -5235 Dec 26 j 19:29 | 28°M.01'07 |             |
|                  | -5240 Oct 19 j 00:11 | 15°M.      |             | behind sun end   | -5235 Dec 27 j 05:02 | 28°M.01'59 |             |

Attention, astronomical year style is used: The year -5235 in astronomical counting style is the year 5236 BCE in historical counting style.

|                  |                      |   |             |                  |                      |                                 |             |
|------------------|----------------------|---|-------------|------------------|----------------------|---------------------------------|-------------|
| max. Earth dist. | -5235 Dec 27 j 23:55 | 28° $\overline{\text{M}}$ 03'46                 | 30.96370 AU | opposition       | -5228 Jul 16 j 04:09 | 12° $\overline{\text{A}}$ 32'27 | -0°48'20    |
| morning rise     | -5234 Jan 11 j 18:30 | 28° $\overline{\text{M}}$ 36'59                 |             | direct           | -5228 Oct 01 j 15:07 | 11° $\overline{\text{A}}$ 09'34 |             |
|                  | -5234 Feb 24 j 14:56 | 0° $\overline{\text{A}}$                        |             | evening set      | -5228 Dec 26 j 17:47 | 13° $\overline{\text{A}}$ 01'56 |             |
| retrograde       | -5234 Apr 13 j 06:28 | 0° $\overline{\text{A}}$ 35'42                  |             |                  |                      |                                 |             |
|                  | -5234 Jun 01 j 05:17 | 30° $\overline{\text{R}}$ $\overline{\text{M}}$ |             | conjunction      | -5227 Jan 11 j 11:16 | 13° $\overline{\text{A}}$ 37'15 | -0°47'40    |
| min. Earth dist. | -5234 Jul 02 j 03:37 | 29° $\overline{\text{M}}$ 12'06                 | 28.95859 AU | minimum elong    | -5227 Jan 11 j 11:16 | 13° $\overline{\text{A}}$ 37'15 | 0°47'58     |
| opposition       | -5234 Jul 03 j 02:58 | 29° $\overline{\text{M}}$ 10'29                 | -0°14'42    | max. Earth dist. | -5227 Jan 12 j 13:09 | 13° $\overline{\text{A}}$ 39'41 | 30.91216 AU |
| direct           | -5234 Sep 18 j 22:11 | 27° $\overline{\text{M}}$ 47'42                 |             | morning rise     | -5227 Jan 27 j 08:59 | 14° $\overline{\text{A}}$ 12'57 |             |
| evening set      | -5234 Dec 13 j 21:04 | 29° $\overline{\text{M}}$ 39'51                 |             | retrograde       | -5227 Apr 29 j 00:45 | 16° $\overline{\text{A}}$ 12'01 |             |
|                  | -5234 Dec 22 j 21:28 | 0° $\overline{\text{A}}$                        |             | opposition       | -5227 Jul 18 j 16:27 | 14° $\overline{\text{A}}$ 46'41 | -0°53'45    |
|                  |                      |   |             | min. Earth dist. | -5227 Jul 17 j 16:03 | 14° $\overline{\text{A}}$ 48'22 | 28.91000 AU |
| conjunction      | -5234 Dec 29 j 11:52 | 0° $\overline{\text{A}}$ 14'57                  | -0°16'21    | direct           | -5227 Oct 04 j 01:42 | 13° $\overline{\text{A}}$ 23'48 |             |
| minimum elong    | -5234 Dec 29 j 11:51 | 0° $\overline{\text{A}}$ 14'57                  | 0°16'37     | evening set      | -5227 Dec 29 j 05:38 | 15° $\overline{\text{A}}$ 16'13 |             |
| max. Earth dist. | -5234 Dec 30 j 12:57 | 0° $\overline{\text{A}}$ 17'19                  | 30.95306 AU |                  |                      |                                 |             |
| morning rise     | -5233 Jan 14 j 06:29 | 0° $\overline{\text{A}}$ 50'26                  |             | conjunction      | -5226 Jan 13 j 23:44 | 15° $\overline{\text{A}}$ 51'34 | -0°52'42    |
| retrograde       | -5233 Apr 15 j 17:58 | 2° $\overline{\text{A}}$ 49'10                  |             | minimum elong    | -5226 Jan 13 j 23:44 | 15° $\overline{\text{A}}$ 51'34 | 0°52'59     |
| opposition       | -5233 Jul 05 j 15:12 | 1° $\overline{\text{A}}$ 23'54                  | -0°20'23    | max. Earth dist. | -5226 Jan 15 j 02:32 | 15° $\overline{\text{A}}$ 54'05 | 30.90649 AU |
| min. Earth dist. | -5233 Jul 04 j 15:31 | 1° $\overline{\text{A}}$ 25'33                  | 28.94849 AU | morning rise     | -5226 Jan 29 j 21:43 | 16° $\overline{\text{A}}$ 27'18 |             |
| direct           | -5233 Sep 21 j 10:38 | 0° $\overline{\text{A}}$ 01'05                  |             | retrograde       | -5226 May 01 j 14:34 | 18° $\overline{\text{A}}$ 26'24 |             |
| evening set      | -5233 Dec 16 j 08:14 | 1° $\overline{\text{A}}$ 53'14                  |             | min. Earth dist. | -5226 Jul 20 j 03:55 | 17° $\overline{\text{A}}$ 02'47 | 28.90391 AU |
|                  |                      |   |             | opposition       | -5226 Jul 21 j 04:36 | 17° $\overline{\text{A}}$ 01'03 | -0°59'05    |
| conjunction      | -5233 Dec 31 j 23:27 | 2° $\overline{\text{A}}$ 28'22                  | -0°21'40    | direct           | -5226 Oct 06 j 14:37 | 15° $\overline{\text{A}}$ 38'09 |             |
| minimum elong    | -5233 Dec 31 j 23:26 | 2° $\overline{\text{A}}$ 28'22                  | 0°21'55     | evening set      | -5226 Dec 31 j 17:57 | 17° $\overline{\text{A}}$ 30'38 |             |
| max. Earth dist. | -5232 Jan 02 j 00:10 | 2° $\overline{\text{A}}$ 30'42                  | 30.94362 AU |                  |                      |                                 |             |
| morning rise     | -5232 Jan 16 j 18:42 | 3° $\overline{\text{A}}$ 03'53                  |             | conjunction      | -5225 Jan 16 j 12:22 | 18° $\overline{\text{A}}$ 06'01 | -0°57'40    |
| retrograde       | -5232 Apr 17 j 08:17 | 5° $\overline{\text{A}}$ 02'40                  |             | minimum elong    | -5225 Jan 16 j 12:22 | 18° $\overline{\text{A}}$ 06'00 | 0°57'57     |
| min. Earth dist. | -5232 Jul 06 j 02:54 | 3° $\overline{\text{A}}$ 39'03                  | 28.93974 AU | max. Earth dist. | -5225 Jan 17 j 13:43 | 18° $\overline{\text{A}}$ 08'24 | 30.89990 AU |
| opposition       | -5232 Jul 07 j 03:27 | 3° $\overline{\text{A}}$ 37'21                  | -0°26'04    | morning rise     | -5225 Feb 01 j 10:58 | 18° $\overline{\text{A}}$ 41'47 |             |
| direct           | -5232 Sep 22 j 21:12 | 2° $\overline{\text{A}}$ 14'30                  |             | retrograde       | -5225 May 04 j 04:52 | 20° $\overline{\text{A}}$ 40'54 |             |
| evening set      | -5232 Dec 17 j 19:23 | 4° $\overline{\text{A}}$ 06'40                  |             | opposition       | -5225 Jul 23 j 16:43 | 19° $\overline{\text{A}}$ 15'32 | -1°04'20    |
|                  |                      |   |             | min. Earth dist. | -5225 Jul 22 j 16:47 | 19° $\overline{\text{A}}$ 17'12 | 28.89689 AU |
| conjunction      | -5231 Jan 02 j 11:05 | 4° $\overline{\text{A}}$ 41'50                  | -0°26'57    | direct           | -5225 Oct 09 j 01:08 | 17° $\overline{\text{A}}$ 52'34 |             |
| minimum elong    | -5231 Jan 02 j 11:05 | 4° $\overline{\text{A}}$ 41'50                  | 0°27'13     | evening set      | -5224 Jan 03 j 06:17 | 19° $\overline{\text{A}}$ 45'06 |             |
| max. Earth dist. | -5231 Jan 03 j 12:49 | 4° $\overline{\text{A}}$ 44'16                  | 30.93535 AU |                  |                      |                                 |             |
| morning rise     | -5231 Jan 18 j 06:46 | 5° $\overline{\text{A}}$ 17'24                  |             | conjunction      | -5224 Jan 19 j 01:16 | 20° $\overline{\text{A}}$ 20'31 | -1°02'32    |
| retrograde       | -5231 Apr 19 j 19:24 | 7° $\overline{\text{A}}$ 16'14                  |             | minimum elong    | -5224 Jan 19 j 01:16 | 20° $\overline{\text{A}}$ 20'31 | 1°02'48     |
| opposition       | -5231 Jul 09 j 15:42 | 5° $\overline{\text{A}}$ 50'54                  | -0°31'42    | max. Earth dist. | -5224 Jan 20 j 03:11 | 20° $\overline{\text{A}}$ 22'57 | 30.89224 AU |
| min. Earth dist. | -5231 Jul 08 j 15:31 | 5° $\overline{\text{A}}$ 52'34                  | 28.93217 AU | morning rise     | -5224 Feb 04 j 00:09 | 20° $\overline{\text{A}}$ 56'19 |             |
| direct           | -5231 Sep 25 j 07:49 | 4° $\overline{\text{A}}$ 28'02                  |             | retrograde       | -5224 May 05 j 17:55 | 22° $\overline{\text{A}}$ 55'26 |             |
| evening set      | -5231 Dec 20 j 06:40 | 6° $\overline{\text{A}}$ 20'14                  |             | min. Earth dist. | -5224 Jul 24 j 05:16 | 21° $\overline{\text{A}}$ 31'40 | 28.88875 AU |
|                  |                      |   |             | opposition       | -5224 Jul 25 j 04:48 | 21° $\overline{\text{A}}$ 30'02 | -1°09'30    |
| conjunction      | -5230 Jan 04 j 22:53 | 6° $\overline{\text{A}}$ 55'26                  | -0°32'12    | direct           | -5224 Oct 10 j 14:14 | 20° $\overline{\text{A}}$ 07'01 |             |
| minimum elong    | -5230 Jan 04 j 22:53 | 6° $\overline{\text{A}}$ 55'26                  | 0°32'27     | evening set      | -5223 Jan 04 j 18:36 | 21° $\overline{\text{A}}$ 59'35 |             |
| max. Earth dist. | -5230 Jan 06 j 00:56 | 6° $\overline{\text{A}}$ 57'53                  | 30.92851 AU |                  |                      |                                 |             |
| morning rise     | -5230 Jan 20 j 19:05 | 7° $\overline{\text{A}}$ 31'02                  |             | conjunction      | -5223 Jan 20 j 13:56 | 22° $\overline{\text{A}}$ 35'01 | -1°07'18    |
| retrograde       | -5230 Apr 22 j 08:21 | 9° $\overline{\text{A}}$ 29'55                  |             | minimum elong    | -5223 Jan 20 j 13:55 | 22° $\overline{\text{A}}$ 35'01 | 1°07'36     |
| min. Earth dist. | -5230 Jul 11 j 02:29 | 8° $\overline{\text{A}}$ 06'20                  | 28.92590 AU | max. Earth dist. | -5223 Jan 21 j 14:44 | 22° $\overline{\text{A}}$ 37'21 | 30.88381 AU |
| opposition       | -5230 Jul 12 j 03:52 | 8° $\overline{\text{A}}$ 04'34                  | -0°37'18    | morning rise     | -5223 Feb 05 j 13:19 | 23° $\overline{\text{A}}$ 10'50 |             |
| direct           | -5230 Sep 27 j 18:33 | 6° $\overline{\text{A}}$ 41'42                  |             | retrograde       | -5223 May 08 j 08:43 | 25° $\overline{\text{A}}$ 09'57 |             |
| evening set      | -5230 Dec 22 j 18:09 | 8° $\overline{\text{A}}$ 33'56                  |             | opposition       | -5223 Jul 27 j 16:47 | 23° $\overline{\text{A}}$ 44'30 | -1°14'33    |
|                  |                      |   |             | min. Earth dist. | -5223 Jul 26 j 17:06 | 23° $\overline{\text{A}}$ 46'09 | 28.88018 AU |
| conjunction      | -5229 Jan 07 j 10:47 | 9° $\overline{\text{A}}$ 09'11                  | -0°37'25    | direct           | -5223 Oct 13 j 01:48 | 22° $\overline{\text{A}}$ 21'25 |             |
| minimum elong    | -5229 Jan 07 j 10:47 | 9° $\overline{\text{A}}$ 09'11                  | 0°37'41     | evening set      | -5222 Jan 07 j 07:02 | 24° $\overline{\text{A}}$ 14'01 |             |
| max. Earth dist. | -5229 Jan 08 j 12:53 | 9° $\overline{\text{A}}$ 11'38                  | 30.92262 AU |                  |                      |                                 |             |
| morning rise     | -5229 Jan 23 j 07:33 | 9° $\overline{\text{A}}$ 44'49                  |             | conjunction      | -5222 Jan 23 j 02:49 | 24° $\overline{\text{A}}$ 49'29 | -1°11'59    |
| retrograde       | -5229 Apr 24 j 20:54 | 11° $\overline{\text{A}}$ 43'46                 |             | minimum elong    | -5222 Jan 23 j 02:49 | 24° $\overline{\text{A}}$ 49'29 | 1°12'16     |
| opposition       | -5229 Jul 14 j 16:11 | 10° $\overline{\text{A}}$ 18'25                 | -0°42'50    | max. Earth dist. | -5222 Jan 24 j 04:02 | 24° $\overline{\text{A}}$ 51'51 | 30.87506 AU |
| min. Earth dist. | -5229 Jul 13 j 15:42 | 10° $\overline{\text{A}}$ 20'07                 | 28.92044 AU | morning rise     | -5222 Feb 08 j 02:33 | 25° $\overline{\text{A}}$ 25'20 |             |
| direct           | -5229 Sep 30 j 03:42 | 8° $\overline{\text{A}}$ 55'33                  |             | retrograde       | -5222 May 10 j 20:03 | 27° $\overline{\text{A}}$ 24'25 |             |
| evening set      | -5229 Dec 25 j 05:49 | 10° $\overline{\text{A}}$ 47'50                 |             | min. Earth dist. | -5222 Jul 29 j 05:56 | 26° $\overline{\text{A}}$ 00'32 | 28.87160 AU |
|                  |                      |   |             | opposition       | -5222 Jul 30 j 04:42 | 25° $\overline{\text{A}}$ 58'56 | -1°19'29    |
| conjunction      | -5228 Jan 09 j 23:02 | 11° $\overline{\text{A}}$ 23'07                 | -0°42'34    | direct           | -5222 Oct 15 j 13:12 | 24° $\overline{\text{A}}$ 35'47 |             |
| minimum elong    | -5228 Jan 09 j 23:01 | 11° $\overline{\text{A}}$ 23'07                 | 0°42'50     | evening set      | -5221 Jan 09 j 19:30 | 26° $\overline{\text{A}}$ 28'25 |             |
| max. Earth dist. | -5228 Jan 11 j 01:48 | 11° $\overline{\text{A}}$ 25'38                 | 30.91740 AU |                  |                      |                                 |             |
| morning rise     | -5228 Jan 25 j 20:09 | 11° $\overline{\text{A}}$ 58'47                 |             | conjunction      | -5221 Jan 25 j 15:46 | 27° $\overline{\text{A}}$ 03'55 | -1°16'32    |
| retrograde       | -5228 Apr 26 j 10:37 | 13° $\overline{\text{A}}$ 57'47                 |             | minimum elong    | -5221 Jan 25 j 15:45 | 27° $\overline{\text{A}}$ 03'54 | 1°16'51     |
| min. Earth dist. | -5228 Jul 15 j 02:44 | 12° $\overline{\text{A}}$ 34'13                 | 28.91530 AU | max. Earth dist. | -5221 Jan 26 j 16:43 | 27° $\overline{\text{A}}$ 06'16 | 30.86677 AU |

Attention, astronomical year style is used: The year -5221 in astronomical counting style is the year 5222 BCE in historical counting style.

|                  |                      |                                       |                |                  |                      |                         |             |
|------------------|----------------------|---------------------------------------|----------------|------------------|----------------------|-------------------------|-------------|
| morning rise     | -5221 Feb 10 j 15:54 | 27° $\overline{39}$ '47               |                | direct           | -5215 Oct 30 j 19:28 | 10° $\overline{31}$ '05 |             |
| retrograde       | -5221 May 13 j 09:15 | 29° $\overline{38}$ '51               |                | evening set      | -5214 Jan 25 j 13:53 | 12° $\overline{31}$ '23 |             |
| opposition       | -5221 Aug 01 j 16:28 | 28° $\overline{31}$ '20               | -1°24'18       |                  |                      |                         |             |
| min. Earth dist. | -5221 Jul 31 j 16:59 | 28° $\overline{31}$ '45               | 28.86369 AU    | conjunction      | -5214 Feb 10 j 12:45 | 12° $\overline{34}$ '03 | -1°44'54    |
| direct           | -5221 Oct 18 j 00:37 | 26° $\overline{31}$ '50               | 06             | minimum elong    | -5214 Feb 10 j 12:44 | 12° $\overline{34}$ '03 | 1°45'12     |
| evening set      | -5220 Jan 12 j 08:12 | 28° $\overline{31}$ '42               | 49             | max. Earth dist. | -5214 Feb 11 j 11:46 | 12° $\overline{34}$ '13 | 30.83670 AU |
|                  |                      |                                       |                | morning rise     | -5214 Feb 26 j 15:13 | 13° $\overline{32}$ '03 |             |
| conjunction      | -5220 Jan 28 j 04:45 | 29° $\overline{31}$ '18               | 20 -1°20'59    | retrograde       | -5214 May 29 j 08:28 | 15° $\overline{32}$ '07 |             |
| minimum elong    | -5220 Jan 28 j 04:45 | 29° $\overline{31}$ '18               | 20 1°21'17     | min. Earth dist. | -5214 Aug 16 j 04:36 | 13° $\overline{35}$ '14 | 28.83669 AU |
| max. Earth dist. | -5220 Jan 29 j 05:25 | 29° $\overline{31}$ '20               | 39 30.85913 AU | opposition       | -5214 Aug 17 j 01:50 | 13° $\overline{35}$ '44 | -1°54'06    |
| morning rise     | -5220 Feb 13 j 05:17 | 29° $\overline{31}$ '54               | 13             | direct           | -5214 Nov 02 j 07:26 | 12° $\overline{33}$ '17 |             |
|                  | -5220 Feb 15 j 20:40 | 0° $\overline{30}$                    |                | evening set      | -5213 Jan 28 j 03:26 | 14° $\overline{32}$ '41 |             |
| retrograde       | -5220 May 14 j 21:22 | 1° $\overline{35}$ '17                |                |                  |                      |                         |             |
| min. Earth dist. | -5220 Aug 02 j 05:49 | 0° $\overline{32}$ '19                | 28.85674 AU    | conjunction      | -5213 Feb 13 j 02:43 | 15° $\overline{30}$ '23 | -1°48'22    |
| opposition       | -5220 Aug 03 j 04:11 | 0° $\overline{32}$ '45                | -1°29'00       | minimum elong    | -5213 Feb 13 j 02:43 | 15° $\overline{30}$ '23 | 1°48'40     |
|                  | -5220 Aug 19 j 22:54 | 30° $\overline{38}$ ' $\overline{31}$ |                | max. Earth dist. | -5213 Feb 14 j 01:35 | 15° $\overline{30}$ '43 | 30.83383 AU |
| direct           | -5220 Oct 19 j 09:56 | 29° $\overline{31}$ '04               | 28             | morning rise     | -5213 Mar 01 j 05:23 | 15° $\overline{33}$ '24 |             |
|                  | -5220 Dec 16 j 12:10 | 0° $\overline{30}$                    |                | retrograde       | -5213 May 31 j 20:44 | 17° $\overline{33}$ '26 |             |
| evening set      | -5219 Jan 13 j 20:47 | 0° $\overline{35}$ '15                |                | opposition       | -5213 Aug 19 j 13:28 | 16° $\overline{31}$ '20 | -1°57'43    |
|                  |                      |                                       |                | min. Earth dist. | -5213 Aug 18 j 17:41 | 16° $\overline{31}$ '28 | 28.83344 AU |
| conjunction      | -5219 Jan 29 j 17:52 | 1° $\overline{33}$ '24                | 47 -1°25'19    | direct           | -5213 Nov 04 j 19:17 | 14° $\overline{34}$ '34 |             |
| minimum elong    | -5219 Jan 29 j 17:51 | 1° $\overline{33}$ '24                | 47 1°25'37     | evening set      | -5212 Jan 30 j 17:05 | 16° $\overline{34}$ '20 |             |
| max. Earth dist. | -5219 Jan 30 j 19:01 | 1° $\overline{33}$ '50                | 9 30.85280 AU  |                  |                      |                         |             |
| morning rise     | -5219 Feb 14 j 18:38 | 2° $\overline{30}$ '41                |                | conjunction      | -5212 Feb 15 j 16:43 | 17° $\overline{31}$ '46 | -1°51'40    |
| retrograde       | -5219 May 17 j 10:23 | 4° $\overline{30}$ '45                |                | minimum elong    | -5212 Feb 15 j 16:42 | 17° $\overline{31}$ '46 | 1°51'57     |
| opposition       | -5219 Aug 05 j 15:49 | 2° $\overline{34}$ '13                | -1°33'33       | max. Earth dist. | -5212 Feb 16 j 14:26 | 17° $\overline{31}$ '48 | 30.83014 AU |
| min. Earth dist. | -5219 Aug 04 j 16:27 | 2° $\overline{34}$ '51                | 28.85109 AU    | morning rise     | -5212 Mar 02 j 19:39 | 17° $\overline{35}$ '47 |             |
| direct           | -5219 Oct 21 j 21:31 | 1° $\overline{31}$ '18                | 53             | retrograde       | -5212 Jun 02 j 11:08 | 19° $\overline{35}$ '24 |             |
| evening set      | -5218 Jan 16 j 09:28 | 3° $\overline{31}$ '14                | 5              | min. Earth dist. | -5212 Aug 20 j 05:01 | 18° $\overline{32}$ '49 | 28.82932 AU |
|                  |                      |                                       |                | opposition       | -5212 Aug 21 j 00:52 | 18° $\overline{32}$ '25 | -2°01'09    |
| conjunction      | -5218 Feb 01 j 06:48 | 3° $\overline{34}$ '19                | -1°29'31       | direct           | -5212 Nov 06 j 07:29 | 17° $\overline{30}$ '49 |             |
| minimum elong    | -5218 Feb 01 j 06:48 | 3° $\overline{34}$ '19                | 1°29'48        | evening set      | -5211 Feb 01 j 06:46 | 18° $\overline{35}$ '23 |             |
| max. Earth dist. | -5218 Feb 02 j 07:06 | 3° $\overline{34}$ '36                | 30.84774 AU    |                  |                      |                         |             |
| morning rise     | -5218 Feb 17 j 08:06 | 4° $\overline{32}$ '14                |                | conjunction      | -5211 Feb 17 j 06:41 | 19° $\overline{33}$ '07 | -1°54'48    |
| retrograde       | -5218 May 19 j 23:29 | 6° $\overline{32}$ '19                |                | minimum elong    | -5211 Feb 17 j 06:40 | 19° $\overline{33}$ '07 | 1°55'05     |
| min. Earth dist. | -5218 Aug 07 j 05:11 | 4° $\overline{35}$ '22                | 28.84680 AU    | max. Earth dist. | -5211 Feb 18 j 03:32 | 19° $\overline{35}$ '04 | 30.82554 AU |
| opposition       | -5218 Aug 08 j 03:36 | 4° $\overline{35}$ '47                | -1°37'58       | morning rise     | -5211 Mar 05 j 09:54 | 20° $\overline{30}$ '09 |             |
| direct           | -5218 Oct 24 j 07:53 | 3° $\overline{33}$ '25                |                | retrograde       | -5211 Jun 04 j 23:41 | 22° $\overline{30}$ '08 |             |
| evening set      | -5217 Jan 18 j 22:18 | 5° $\overline{32}$ '26                | 23             | opposition       | -5211 Aug 23 j 12:22 | 20° $\overline{34}$ '41 | -2°04'24    |
|                  |                      |                                       |                | min. Earth dist. | -5211 Aug 22 j 18:13 | 20° $\overline{34}$ '58 | 28.82454 AU |
| conjunction      | -5217 Feb 03 j 20:13 | 6° $\overline{30}$ '15                | -1°33'35       | direct           | -5211 Nov 08 j 17:49 | 19° $\overline{31}$ '00 |             |
| minimum elong    | -5217 Feb 03 j 20:12 | 6° $\overline{30}$ '15                | 1°33'52        | evening set      | -5210 Feb 03 j 20:15 | 21° $\overline{31}$ '23 |             |
| max. Earth dist. | -5217 Feb 04 j 21:26 | 6° $\overline{30}$ '42                | 1 30.84400 AU  |                  |                      |                         |             |
| morning rise     | -5217 Feb 19 j 21:40 | 6° $\overline{33}$ '55                |                | conjunction      | -5210 Feb 19 j 20:39 | 21° $\overline{34}$ '21 | -1°57'45    |
| retrograde       | -5217 May 22 j 12:46 | 8° $\overline{33}$ '00                |                | minimum elong    | -5210 Feb 19 j 20:39 | 21° $\overline{34}$ '21 | 1°58'02     |
| opposition       | -5217 Aug 10 j 15:04 | 7° $\overline{31}$ '13                | -1°42'15       | max. Earth dist. | -5210 Feb 20 j 17:14 | 21° $\overline{35}$ '01 | 30.82065 AU |
| min. Earth dist. | -5217 Aug 09 j 16:19 | 7° $\overline{31}$ '30                | 6 28.84357 AU  | morning rise     | -5210 Mar 08 j 00:05 | 22° $\overline{32}$ '24 |             |
| direct           | -5217 Oct 26 j 20:10 | 5° $\overline{34}$ '08                | 07             | retrograde       | -5210 Jun 07 j 11:48 | 24° $\overline{32}$ '12 |             |
| evening set      | -5216 Jan 21 j 11:27 | 7° $\overline{34}$ '11                | 12             | opposition       | -5210 Aug 25 j 23:38 | 22° $\overline{35}$ '49 | -2°07'28    |
|                  |                      |                                       |                | min. Earth dist. | -5210 Aug 25 j 05:08 | 22° $\overline{35}$ '08 | 28.81959 AU |
| conjunction      | -5216 Feb 06 j 09:34 | 8° $\overline{31}$ '64                | -1°37'30       | direct           | -5210 Nov 11 j 06:26 | 21° $\overline{33}$ '40 |             |
| minimum elong    | -5216 Feb 06 j 09:33 | 8° $\overline{31}$ '64                | 1°37'47        | evening set      | -5209 Feb 06 j 10:07 | 23° $\overline{32}$ '74 |             |
| max. Earth dist. | -5216 Feb 07 j 09:26 | 8° $\overline{31}$ '03                | 30.84121 AU    |                  |                      |                         |             |
| morning rise     | -5216 Feb 22 j 11:31 | 8° $\overline{35}$ '24                | 47             | conjunction      | -5209 Feb 22 j 10:42 | 24° $\overline{30}$ '28 | -2°00'31    |
| retrograde       | -5216 May 24 j 03:16 | 10° $\overline{35}$ '15               | 52             | minimum elong    | -5209 Feb 22 j 10:42 | 24° $\overline{30}$ '28 | 2°00'48     |
| min. Earth dist. | -5216 Aug 11 j 04:42 | 9° $\overline{32}$ '75                | 8 28.84123 AU  | max. Earth dist. | -5209 Feb 23 j 05:52 | 24° $\overline{30}$ '16 | 30.81574 AU |
| opposition       | -5216 Aug 12 j 02:43 | 9° $\overline{32}$ '25                | -1°46'22       | morning rise     | -5209 Mar 10 j 14:29 | 24° $\overline{33}$ '31 |             |
| direct           | -5216 Oct 28 j 06:09 | 8° $\overline{30}$ '03                | 00             | retrograde       | -5209 Jun 09 j 23:33 | 26° $\overline{33}$ '13 |             |
| evening set      | -5215 Jan 23 j 00:28 | 9° $\overline{35}$ '12                |                | opposition       | -5209 Aug 28 j 10:49 | 25° $\overline{31}$ '24 | -2°10'20    |
|                  |                      |                                       |                | min. Earth dist. | -5209 Aug 27 j 17:45 | 25° $\overline{31}$ '40 | 28.81506 AU |
| conjunction      | -5215 Feb 07 j 23:04 | 10° $\overline{33}$ '15               | -1°41'17       | direct           | -5209 Nov 13 j 16:47 | 23° $\overline{34}$ '55 |             |
| minimum elong    | -5215 Feb 07 j 23:03 | 10° $\overline{33}$ '15               | 1°41'35        | evening set      | -5208 Feb 08 j 23:48 | 25° $\overline{34}$ '21 |             |
| max. Earth dist. | -5215 Feb 08 j 23:37 | 10° $\overline{33}$ '40               | 9 30.83893 AU  |                  |                      |                         |             |
| morning rise     | -5215 Feb 24 j 01:07 | 11° $\overline{30}$ '74               | 49             | conjunction      | -5208 Feb 25 j 00:52 | 26° $\overline{31}$ '27 | -2°03'07    |
| retrograde       | -5215 May 26 j 17:12 | 13° $\overline{30}$ '64               | 54             | minimum elong    | -5208 Feb 25 j 00:52 | 26° $\overline{31}$ '26 | 2°03'23     |
| opposition       | -5215 Aug 14 j 14:18 | 11° $\overline{34}$ '13               | -1°50'19       | max. Earth dist. | -5208 Feb 25 j 20:31 | 26° $\overline{32}$ '01 | 30.81155 AU |
| min. Earth dist. | -5215 Aug 13 j 16:48 | 11° $\overline{34}$ '30               | 1 28.83904 AU  | morning rise     | -5208 Mar 12 j 04:42 | 26° $\overline{35}$ '29 |             |

Attention, astronomical year style is used: The year -5208 in astronomical counting style is the year 5209 BCE in historical counting style.

|                  |                      |                          |             |                  |                      |                              |             |
|------------------|----------------------|--------------------------|-------------|------------------|----------------------|------------------------------|-------------|
| retrograde       | -5208 Jun 11 j 11:48 | 28° $\overline{3}$ 53'06 |             | evening set      | -5201 Feb 25 j 01:48 | 11° $\approx$ 27'44          |             |
| opposition       | -5208 Aug 29 j 21:54 | 27° $\overline{3}$ 27'41 | -2°13'00    |                  |                      |                              |             |
| min. Earth dist. | -5208 Aug 29 j 04:42 | 27° $\overline{3}$ 28'54 | 28.81138 AU | conjunction      | -5201 Mar 13 j 04:59 | 12° $\approx$ 03'37          | -2°15'46    |
| direct           | -5208 Nov 15 j 04:56 | 26° $\overline{3}$ 03'42 |             | minimum elong    | -5201 Mar 13 j 04:59 | 12° $\approx$ 03'37          | 2°16'00     |
| evening set      | -5207 Feb 10 j 13:31 | 27° $\overline{3}$ 57'32 |             | max. Earth dist. | -5201 Mar 13 j 19:48 | 12° $\approx$ 05'01          | 30.81655 AU |
|                  |                      |                          |             | morning rise     | -5201 Mar 29 j 10:06 | 12° $\approx$ 39'43          |             |
| conjunction      | -5207 Feb 26 j 14:43 | 28° $\overline{3}$ 33'19 | -2°05'31    | retrograde       | -5201 Jun 28 j 09:22 | 14° $\approx$ 37'49          |             |
| minimum elong    | -5207 Feb 26 j 14:43 | 28° $\overline{3}$ 33'19 | 2°05'47     | opposition       | -5201 Sep 15 j 02:51 | 13° $\approx$ 12'49          | -2°25'46    |
| max. Earth dist. | -5207 Feb 27 j 08:54 | 28° $\overline{3}$ 35'01 | 30.80846 AU | min. Earth dist. | -5201 Sep 14 j 13:54 | 13° $\approx$ 13'44          | 28.81953 AU |
| morning rise     | -5207 Mar 14 j 18:56 | 29° $\overline{3}$ 09'22 |             | direct           | -5201 Dec 01 j 15:19 | 11° $\approx$ 48'36          |             |
|                  | -5207 Apr 08 j 11:54 | 0° $\approx$             |             | evening set      | -5200 Feb 27 j 16:21 | 13° $\approx$ 43'15          |             |
| retrograde       | -5207 Jun 14 j 01:02 | 1° $\approx$ 07'54       |             |                  |                      |                              |             |
|                  | -5207 Aug 22 j 00:21 | 30° $\overline{R}$ 3     |             | conjunction      | -5200 Mar 14 j 19:39 | 14° $\approx$ 19'09          | -2°16'46    |
| opposition       | -5207 Sep 01 j 09:05 | 29° $\overline{3}$ 42'29 | -2°15'28    | minimum elong    | -5200 Mar 14 j 19:39 | 14° $\approx$ 19'09          | 2°16'59     |
| min. Earth dist. | -5207 Aug 31 j 16:36 | 29° $\overline{3}$ 43'39 | 28.80911 AU | max. Earth dist. | -5200 Mar 15 j 08:37 | 14° $\approx$ 20'21          | 30.81876 AU |
| direct           | -5207 Nov 17 j 15:24 | 28° $\overline{3}$ 18'25 |             | morning rise     | -5200 Mar 31 j 01:01 | 14° $\approx$ 55'14          |             |
|                  | -5206 Feb 07 j 10:17 | 0° $\approx$             |             |                  | -5200 Apr 02 j 05:33 | 15° $\approx$                |             |
| evening set      | -5206 Feb 13 j 03:16 | 0° $\approx$ 12'21       |             | retrograde       | -5200 Jun 29 j 21:39 | 16° $\approx$ 53'15          |             |
|                  |                      |                          |             | opposition       | -5200 Sep 16 j 13:57 | 15° $\approx$ 28'18          | -2°26'43    |
| conjunction      | -5206 Mar 01 j 04:57 | 0° $\approx$ 48'08       | -2°07'43    | min. Earth dist. | -5200 Sep 16 j 02:50 | 15° $\approx$ 29'06          | 28.82144 AU |
| minimum elong    | -5206 Mar 01 j 04:57 | 0° $\approx$ 48'08       | 2°07'59     |                  | -5200 Oct 03 j 11:21 | 15° $\overline{R}$ $\approx$ |             |
| max. Earth dist. | -5206 Mar 01 j 23:47 | 0° $\approx$ 49'54       | 30.80683 AU | direct           | -5200 Dec 03 j 01:29 | 14° $\approx$ 04'02          |             |
| morning rise     | -5206 Mar 17 j 09:12 | 1° $\approx$ 24'11       |             |                  | -5199 Jan 30 j 22:23 | 15° $\approx$                |             |
| retrograde       | -5206 Jun 16 j 13:38 | 3° $\approx$ 22'38       |             | evening set      | -5199 Mar 01 j 06:34 | 15° $\approx$ 58'47          |             |
| opposition       | -5206 Sep 03 j 20:03 | 1° $\approx$ 57'15       | -2°17'43    |                  |                      |                              |             |
| min. Earth dist. | -5206 Sep 03 j 04:00 | 1° $\approx$ 58'24       | 28.80827 AU | conjunction      | -5199 Mar 17 j 10:19 | 16° $\approx$ 34'42          | -2°17'33    |
| direct           | -5206 Nov 20 j 04:30 | 0° $\approx$ 33'08       |             | minimum elong    | -5199 Mar 17 j 10:20 | 16° $\approx$ 34'42          | 2°17'45     |
| evening set      | -5205 Feb 15 j 17:15 | 2° $\approx$ 27'10       |             | max. Earth dist. | -5199 Mar 17 j 23:04 | 16° $\approx$ 35'53          | 30.82027 AU |
|                  |                      |                          |             | morning rise     | -5199 Apr 02 j 15:41 | 17° $\approx$ 10'47          |             |
| conjunction      | -5205 Mar 03 j 19:09 | 3° $\approx$ 02'59       | -2°09'44    | retrograde       | -5199 Jul 02 j 09:58 | 19° $\approx$ 08'42          |             |
| minimum elong    | -5205 Mar 03 j 19:09 | 3° $\approx$ 02'59       | 2°09'59     | opposition       | -5199 Sep 19 j 00:53 | 17° $\approx$ 43'47          | -2°27'26    |
| max. Earth dist. | -5205 Mar 04 j 12:25 | 3° $\approx$ 04'36       | 30.80681 AU | min. Earth dist. | -5199 Sep 18 j 14:08 | 17° $\approx$ 44'33          | 28.82249 AU |
| morning rise     | -5205 Mar 19 j 23:45 | 3° $\approx$ 39'02       |             | direct           | -5199 Dec 05 j 13:28 | 16° $\approx$ 19'27          |             |
| retrograde       | -5205 Jun 19 j 04:05 | 5° $\approx$ 37'25       |             | evening set      | -5198 Mar 03 j 21:07 | 18° $\approx$ 14'17          |             |
| opposition       | -5205 Sep 06 j 07:04 | 4° $\approx$ 12'05       | -2°19'46    |                  |                      |                              |             |
| min. Earth dist. | -5205 Sep 05 j 15:05 | 4° $\approx$ 13'13       | 28.80903 AU | conjunction      | -5198 Mar 20 j 01:00 | 18° $\approx$ 50'12          | -2°18'07    |
| direct           | -5205 Nov 22 j 16:22 | 2° $\approx$ 47'55       |             | minimum elong    | -5198 Mar 20 j 01:00 | 18° $\approx$ 50'12          | 2°18'20     |
| evening set      | -5204 Feb 18 j 07:12 | 4° $\approx$ 42'04       |             | max. Earth dist. | -5198 Mar 20 j 11:34 | 18° $\approx$ 51'11          | 30.82108 AU |
|                  |                      |                          |             | morning rise     | -5198 Apr 05 j 06:41 | 19° $\approx$ 26'18          |             |
| conjunction      | -5204 Mar 05 j 09:27 | 5° $\approx$ 17'54       | -2°11'33    | retrograde       | -5198 Jul 04 j 22:06 | 21° $\approx$ 24'04          |             |
| minimum elong    | -5204 Mar 05 j 09:27 | 5° $\approx$ 17'54       | 2°11'48     | opposition       | -5198 Sep 21 j 11:41 | 19° $\approx$ 59'12          | -2°27'56    |
| max. Earth dist. | -5204 Mar 06 j 02:56 | 5° $\approx$ 19'32       | 30.80811 AU | min. Earth dist. | -5198 Sep 21 j 02:19 | 19° $\approx$ 59'52          | 28.82317 AU |
| morning rise     | -5204 Mar 21 j 14:05 | 5° $\approx$ 53'58       |             | direct           | -5198 Dec 08 j 00:15 | 18° $\approx$ 34'46          |             |
| retrograde       | -5204 Jun 20 j 16:31 | 7° $\approx$ 52'17       |             | evening set      | -5197 Mar 06 j 11:33 | 20° $\approx$ 29'40          |             |
| opposition       | -5204 Sep 07 j 18:04 | 6° $\approx$ 27'01       | -2°21'36    |                  |                      |                              |             |
| min. Earth dist. | -5204 Sep 07 j 03:19 | 6° $\approx$ 28'04       | 28.81096 AU | conjunction      | -5197 Mar 22 j 15:53 | 21° $\approx$ 05'36          | -2°18'29    |
| direct           | -5204 Nov 24 j 04:02 | 5° $\approx$ 02'51       |             | minimum elong    | -5197 Mar 22 j 15:53 | 21° $\approx$ 05'36          | 2°18'41     |
| evening set      | -5203 Feb 19 j 21:15 | 6° $\approx$ 57'08       |             | max. Earth dist. | -5197 Mar 23 j 02:31 | 21° $\approx$ 06'36          | 30.82164 AU |
|                  |                      |                          |             | morning rise     | -5197 Apr 07 j 21:30 | 21° $\approx$ 41'41          |             |
| conjunction      | -5203 Mar 07 j 23:47 | 7° $\approx$ 32'58       | -2°13'10    | retrograde       | -5197 Jul 07 j 09:30 | 23° $\approx$ 39'19          |             |
| minimum elong    | -5203 Mar 07 j 23:47 | 7° $\approx$ 32'58       | 2°13'25     | opposition       | -5197 Sep 23 j 22:28 | 22° $\approx$ 14'28          | -2°28'13    |
| max. Earth dist. | -5203 Mar 08 j 16:11 | 7° $\approx$ 34'30       | 30.81065 AU | min. Earth dist. | -5197 Sep 23 j 14:00 | 22° $\approx$ 15'04          | 28.82373 AU |
| morning rise     | -5203 Mar 24 j 04:39 | 8° $\approx$ 09'02       |             | direct           | -5197 Dec 10 j 13:45 | 20° $\approx$ 49'57          |             |
| retrograde       | -5203 Jun 23 j 07:39 | 10° $\approx$ 07'18      |             | evening set      | -5196 Mar 08 j 01:58 | 22° $\approx$ 44'56          |             |
| opposition       | -5203 Sep 10 j 04:57 | 8° $\approx$ 42'07       | -2°23'12    |                  |                      |                              |             |
| min. Earth dist. | -5203 Sep 09 j 14:04 | 8° $\approx$ 43'10       | 28.81385 AU | conjunction      | -5196 Mar 24 j 06:23 | 23° $\approx$ 20'52          | -2°18'39    |
| direct           | -5203 Nov 26 j 16:15 | 7° $\approx$ 17'56       |             | minimum elong    | -5196 Mar 24 j 06:23 | 23° $\approx$ 20'52          | 2°18'51     |
| evening set      | -5202 Feb 22 j 11:26 | 9° $\approx$ 12'21       |             | max. Earth dist. | -5196 Mar 24 j 15:01 | 23° $\approx$ 21'40          | 30.82245 AU |
|                  |                      |                          |             | morning rise     | -5196 Apr 09 j 12:16 | 23° $\approx$ 56'56          |             |
| conjunction      | -5202 Mar 10 j 14:14 | 9° $\approx$ 48'13       | -2°14'34    | retrograde       | -5196 Jul 08 j 22:50 | 25° $\approx$ 54'26          |             |
| minimum elong    | -5202 Mar 10 j 14:14 | 9° $\approx$ 48'13       | 2°14'49     | opposition       | -5196 Sep 25 j 09:07 | 24° $\approx$ 29'36          | -2°28'16    |
| max. Earth dist. | -5202 Mar 11 j 05:54 | 9° $\approx$ 49'41       | 30.81362 AU | min. Earth dist. | -5196 Sep 25 j 01:00 | 24° $\approx$ 30'10          | 28.82490 AU |
| morning rise     | -5202 Mar 26 j 19:17 | 10° $\approx$ 24'18      |             | direct           | -5196 Dec 12 j 01:47 | 23° $\approx$ 04'59          |             |
| retrograde       | -5202 Jun 25 j 20:29 | 12° $\approx$ 22'29      |             | evening set      | -5195 Mar 10 j 16:17 | 25° $\approx$ 00'03          |             |
| opposition       | -5202 Sep 12 j 16:01 | 10° $\approx$ 57'24      | -2°24'36    |                  |                      |                              |             |
| min. Earth dist. | -5202 Sep 12 j 03:03 | 10° $\approx$ 58'19      | 28.81691 AU | conjunction      | -5195 Mar 26 j 21:03 | 25° $\approx$ 35'59          | -2°18'35    |
| direct           | -5202 Nov 29 j 02:44 | 9° $\approx$ 33'12       |             | minimum elong    | -5195 Mar 26 j 21:03 | 25° $\approx$ 35'59          | 2°18'46     |



Attention, astronomical year style is used: The year -5195 in astronomical counting style is the year 5196 BCE in historical counting style.

|                  |                      |                            |             |                  |                      |                        |             |
|------------------|----------------------|----------------------------|-------------|------------------|----------------------|------------------------|-------------|
| max. Earth dist. | -5195 Mar 27 j 05:46 | 25° $\approx$ 36'48        | 30.82399 AU | retrograde       | -5189 Jul 25 j 14:24 | 11° $\mathbb{H}$ 38'16 |             |
| morning rise     | -5195 Apr 12 j 02:53 | 26° $\approx$ 12'03        |             | opposition       | -5189 Oct 11 j 11:13 | 10° $\mathbb{H}$ 13'56 | -2°22'19    |
| retrograde       | -5195 Jul 11 j 10:34 | 28° $\approx$ 09'24        |             | min. Earth dist. | -5189 Oct 11 j 08:56 | 10° $\mathbb{H}$ 14'06 | 28.86490 AU |
| opposition       | -5195 Sep 27 j 19:47 | 26° $\approx$ 44'35        | -2°28'06    | direct           | -5189 Dec 28 j 13:14 | 8° $\mathbb{H}$ 49'07  |             |
| min. Earth dist. | -5195 Sep 27 j 12:59 | 26° $\approx$ 45'04        | 28.82701 AU | evening set      | -5188 Mar 26 j 21:29 | 10° $\mathbb{H}$ 44'46 |             |
| direct           | -5195 Dec 14 j 13:57 | 25° $\approx$ 19'55        |             |                  |                      |                        |             |
| evening set      | -5194 Mar 13 j 06:36 | 27° $\approx$ 15'02        |             | conjunction      | -5188 Apr 12 j 03:48 | 11° $\mathbb{H}$ 20'47 | -2°12'18    |
|                  |                      |                            |             | minimum elong    | -5188 Apr 12 j 03:48 | 11° $\mathbb{H}$ 20'47 | 2°12'25     |
| conjunction      | -5194 Mar 29 j 11:35 | 27° $\approx$ 50'59        | -2°18'19    | max. Earth dist. | -5188 Apr 12 j 06:15 | 11° $\mathbb{H}$ 21'01 | 30.86686 AU |
| minimum elong    | -5194 Mar 29 j 11:36 | 27° $\approx$ 50'59        | 2°18'30     | morning rise     | -5188 Apr 28 j 10:00 | 11° $\mathbb{H}$ 56'49 |             |
| max. Earth dist. | -5194 Mar 29 j 18:57 | 27° $\approx$ 51'40        | 30.82684 AU | retrograde       | -5188 Jul 27 j 01:15 | 13° $\mathbb{H}$ 53'13 |             |
| morning rise     | -5194 Apr 14 j 17:39 | 28° $\approx$ 27'03        |             | opposition       | -5188 Oct 12 j 21:53 | 12° $\mathbb{H}$ 28'59 | -2°20'34    |
|                  | -5194 Jun 05 j 15:08 | 0° $\mathbb{H}$            |             | min. Earth dist. | -5188 Oct 12 j 20:47 | 12° $\mathbb{H}$ 29'04 | 28.87181 AU |
| retrograde       | -5194 Jul 14 j 01:03 | 0° $\mathbb{H}$ 24'14      |             | direct           | -5188 Dec 30 j 01:52 | 11° $\mathbb{H}$ 04'08 |             |
|                  | -5194 Aug 21 j 18:53 | 30° $\mathbb{R}$ $\approx$ |             | evening set      | -5187 Mar 29 j 12:12 | 12° $\mathbb{H}$ 59'52 |             |
| opposition       | -5194 Sep 30 j 06:19 | 28° $\approx$ 59'28        | -2°27'42    |                  |                      |                        |             |
| min. Earth dist. | -5194 Sep 29 j 23:20 | 28° $\approx$ 59'58        | 28.83050 AU | conjunction      | -5187 Apr 14 j 18:33 | 13° $\mathbb{H}$ 35'53 | -2°10'34    |
| direct           | -5194 Dec 17 j 03:33 | 27° $\approx$ 34'44        |             | minimum elong    | -5187 Apr 14 j 18:33 | 13° $\mathbb{H}$ 35'53 | 2°10'40     |
| evening set      | -5193 Mar 15 j 21:02 | 29° $\approx$ 29'56        |             | max. Earth dist. | -5187 Apr 14 j 18:29 | 13° $\mathbb{H}$ 35'53 | 30.87341 AU |
|                  | -5193 Mar 29 j 10:58 | 0° $\mathbb{H}$            |             | morning rise     | -5187 May 01 j 00:56 | 14° $\mathbb{H}$ 11'55 |             |
|                  |                      |                            |             | retrograde       | -5187 Jul 29 j 14:21 | 16° $\mathbb{H}$ 08'10 |             |
| conjunction      | -5193 Apr 01 j 02:15 | 0° $\mathbb{H}$ 05'54      | -2°17'51    | opposition       | -5187 Oct 15 j 08:25 | 14° $\mathbb{H}$ 44'00 | -2°18'37    |
| minimum elong    | -5193 Apr 01 j 02:15 | 0° $\mathbb{H}$ 05'54      | 2°18'00     | min. Earth dist. | -5187 Oct 15 j 08:03 | 14° $\mathbb{H}$ 44'01 | 28.87788 AU |
| max. Earth dist. | -5193 Apr 01 j 09:08 | 0° $\mathbb{H}$ 06'32      | 30.83096 AU | direct           | -5186 Jan 01 j 13:25 | 13° $\mathbb{H}$ 19'05 |             |
| morning rise     | -5193 Apr 17 j 08:18 | 0° $\mathbb{H}$ 41'57      |             | evening set      | -5186 Apr 01 j 02:46 | 15° $\mathbb{H}$ 14'53 |             |
| retrograde       | -5193 Jul 16 j 12:39 | 2° $\mathbb{H}$ 39'00      |             |                  |                      |                        |             |
| opposition       | -5193 Oct 02 j 16:55 | 1° $\mathbb{H}$ 14'17      | -2°27'04    | conjunction      | -5186 Apr 17 j 09:27 | 15° $\mathbb{H}$ 50'55 | -2°08'39    |
| min. Earth dist. | -5193 Oct 02 j 11:34 | 1° $\mathbb{H}$ 14'40      | 28.83540 AU | minimum elong    | -5186 Apr 17 j 09:28 | 15° $\mathbb{H}$ 50'55 | 2°08'45     |
|                  | -5193 Nov 24 j 15:03 | 30° $\mathbb{R}$ $\approx$ |             | max. Earth dist. | -5186 Apr 17 j 08:57 | 15° $\mathbb{H}$ 50'52 | 30.87896 AU |
| direct           | -5193 Dec 19 j 15:14 | 29° $\approx$ 49'31        |             | morning rise     | -5186 May 03 j 15:43 | 16° $\mathbb{H}$ 26'56 |             |
|                  | -5192 Jan 13 j 10:14 | 0° $\mathbb{H}$            |             | retrograde       | -5186 Aug 01 j 01:17 | 18° $\mathbb{H}$ 23'01 |             |
| evening set      | -5192 Mar 17 j 11:24 | 1° $\mathbb{H}$ 44'48      |             | opposition       | -5186 Oct 17 j 19:04 | 16° $\mathbb{H}$ 58'54 | -2°16'27    |
|                  |                      |                            |             | min. Earth dist. | -5186 Oct 17 j 20:31 | 16° $\mathbb{H}$ 58'48 | 28.88291 AU |
| conjunction      | -5192 Apr 02 j 16:54 | 2° $\mathbb{H}$ 20'46      | -2°17'09    | direct           | -5185 Jan 04 j 02:03 | 15° $\mathbb{H}$ 33'56 |             |
| minimum elong    | -5192 Apr 02 j 16:54 | 2° $\mathbb{H}$ 20'46      | 2°17'19     | evening set      | -5185 Apr 03 j 17:26 | 17° $\mathbb{H}$ 29'48 |             |
| max. Earth dist. | -5192 Apr 02 j 23:08 | 2° $\mathbb{H}$ 21'21      | 30.83671 AU |                  |                      |                        |             |
| morning rise     | -5192 Apr 18 j 23:01 | 2° $\mathbb{H}$ 56'49      |             | conjunction      | -5185 Apr 20 j 00:09 | 18° $\mathbb{H}$ 05'49 | -2°06'32    |
| retrograde       | -5192 Jul 18 j 01:52 | 4° $\mathbb{H}$ 53'44      |             | minimum elong    | -5185 Apr 20 j 00:10 | 18° $\mathbb{H}$ 05'49 | 2°06'37     |
| opposition       | -5192 Oct 04 j 03:27 | 3° $\mathbb{H}$ 29'06      | -2°26'13    | max. Earth dist. | -5185 Apr 19 j 21:37 | 18° $\mathbb{H}$ 05'35 | 30.88378 AU |
| min. Earth dist. | -5192 Oct 03 j 21:44 | 3° $\mathbb{H}$ 29'31      | 28.84175 AU | morning rise     | -5185 May 06 j 06:31 | 18° $\mathbb{H}$ 41'50 |             |
| direct           | -5192 Dec 21 j 04:03 | 2° $\mathbb{H}$ 04'19      |             | retrograde       | -5185 Aug 03 j 14:45 | 20° $\mathbb{H}$ 37'45 |             |
| evening set      | -5191 Mar 20 j 01:44 | 3° $\mathbb{H}$ 59'41      |             | opposition       | -5185 Oct 20 j 05:28 | 19° $\mathbb{H}$ 13'40 | -2°14'06    |
|                  |                      |                            |             | min. Earth dist. | -5185 Oct 20 j 07:07 | 19° $\mathbb{H}$ 13'33 | 28.88741 AU |
| conjunction      | -5191 Apr 05 j 07:21 | 4° $\mathbb{H}$ 35'40      | -2°16'15    | direct           | -5184 Jan 06 j 16:05 | 17° $\mathbb{H}$ 48'38 |             |
| minimum elong    | -5191 Apr 05 j 07:21 | 4° $\mathbb{H}$ 35'40      | 2°16'24     | evening set      | -5184 Apr 05 j 07:55 | 19° $\mathbb{H}$ 44'32 |             |
| max. Earth dist. | -5191 Apr 05 j 12:18 | 4° $\mathbb{H}$ 36'08      | 30.84367 AU |                  |                      |                        |             |
| morning rise     | -5191 Apr 21 j 13:36 | 5° $\mathbb{H}$ 11'43      |             | conjunction      | -5184 Apr 21 j 14:49 | 20° $\mathbb{H}$ 20'34 | -2°04'14    |
| retrograde       | -5191 Jul 20 j 14:32 | 7° $\mathbb{H}$ 08'30      |             | minimum elong    | -5184 Apr 21 j 14:50 | 20° $\mathbb{H}$ 20'34 | 2°04'19     |
| opposition       | -5191 Oct 06 j 14:07 | 5° $\mathbb{H}$ 43'58      | -2°25'08    | max. Earth dist. | -5184 Apr 21 j 11:38 | 20° $\mathbb{H}$ 20'16 | 30.88816 AU |
| min. Earth dist. | -5191 Oct 06 j 09:59 | 5° $\mathbb{H}$ 44'16      | 28.84923 AU | morning rise     | -5184 May 07 j 21:04 | 20° $\mathbb{H}$ 56'34 |             |
| direct           | -5191 Dec 23 j 14:26 | 4° $\mathbb{H}$ 19'10      |             | retrograde       | -5184 Aug 05 j 01:43 | 22° $\mathbb{H}$ 52'19 |             |
| evening set      | -5190 Mar 22 j 16:12 | 6° $\mathbb{H}$ 14'38      |             | opposition       | -5184 Oct 21 j 16:01 | 21° $\mathbb{H}$ 28'16 | -2°11'32    |
|                  |                      |                            |             | min. Earth dist. | -5184 Oct 21 j 19:35 | 21° $\mathbb{H}$ 28'01 | 28.89183 AU |
| conjunction      | -5190 Apr 07 j 22:11 | 6° $\mathbb{H}$ 50'38      | -2°15'09    | direct           | -5183 Jan 08 j 04:23 | 20° $\mathbb{H}$ 03'10 |             |
| minimum elong    | -5190 Apr 07 j 22:11 | 6° $\mathbb{H}$ 50'38      | 2°15'17     | evening set      | -5183 Apr 07 j 22:08 | 21° $\mathbb{H}$ 59'06 |             |
| max. Earth dist. | -5190 Apr 08 j 02:56 | 6° $\mathbb{H}$ 51'05      | 30.85154 AU |                  |                      |                        |             |
| morning rise     | -5190 Apr 24 j 04:23 | 7° $\mathbb{H}$ 26'41      |             | conjunction      | -5183 Apr 24 j 05:12 | 22° $\mathbb{H}$ 35'08 | -2°01'45    |
| retrograde       | -5190 Jul 23 j 02:36 | 9° $\mathbb{H}$ 23'20      |             | minimum elong    | -5183 Apr 24 j 05:12 | 22° $\mathbb{H}$ 35'09 | 2°01'48     |
| opposition       | -5190 Oct 09 j 00:33 | 7° $\mathbb{H}$ 58'55      | -2°23'50    | max. Earth dist. | -5183 Apr 24 j 01:02 | 22° $\mathbb{H}$ 34'45 | 30.89284 AU |
| min. Earth dist. | -5190 Oct 08 j 20:51 | 7° $\mathbb{H}$ 59'11      | 28.85711 AU | morning rise     | -5183 May 10 j 11:29 | 23° $\mathbb{H}$ 11'08 |             |
| direct           | -5190 Dec 26 j 02:27 | 6° $\mathbb{H}$ 34'06      |             | retrograde       | -5183 Aug 07 j 14:35 | 25° $\mathbb{H}$ 06'41 |             |
| evening set      | -5189 Mar 25 j 06:59 | 8° $\mathbb{H}$ 29'40      |             | opposition       | -5183 Oct 24 j 02:21 | 23° $\mathbb{H}$ 42'41 | -2°08'47    |
|                  |                      |                            |             | min. Earth dist. | -5183 Oct 24 j 05:46 | 23° $\mathbb{H}$ 42'27 | 28.89663 AU |
| conjunction      | -5189 Apr 10 j 12:58 | 9° $\mathbb{H}$ 05'41      | -2°13'49    | direct           | -5182 Jan 10 j 18:00 | 22° $\mathbb{H}$ 17'31 |             |
| minimum elong    | -5189 Apr 10 j 12:59 | 9° $\mathbb{H}$ 05'41      | 2°13'56     | evening set      | -5182 Apr 10 j 12:32 | 24° $\mathbb{H}$ 13'31 |             |
| max. Earth dist. | -5189 Apr 10 j 15:33 | 9° $\mathbb{H}$ 05'55      | 30.85945 AU |                  |                      |                        |             |
| morning rise     | -5189 Apr 26 j 19:21 | 9° $\mathbb{H}$ 41'44      |             | conjunction      | -5182 Apr 26 j 19:38 | 24° $\mathbb{H}$ 49'33 | -1°59'05    |

Attention, astronomical year style is used: The year -5182 in astronomical counting style is the year 5183 BCE in historical counting style.

|                  |                      |                        |             |                  |                      |                        |             |
|------------------|----------------------|------------------------|-------------|------------------|----------------------|------------------------|-------------|
| minimum elong    | -5182 Apr 26 j 19:39 | 24° $\mathbf{H}$ 49'33 | 1°59'08     | opposition       | -5176 Nov 08 j 02:49 | 9° $\mathbf{V}$ 21'48  | -1°44'20    |
| max. Earth dist. | -5182 Apr 26 j 14:12 | 24° $\mathbf{H}$ 49'03 | 30.89802 AU | min. Earth dist. | -5176 Nov 08 j 11:35 | 9° $\mathbf{V}$ 21'11  | 28.95787 AU |
| morning rise     | -5182 May 13 j 01:53 | 25° $\mathbf{H}$ 25'32 |             | direct           | -5175 Jan 26 j 04:53 | 7° $\mathbf{V}$ 56'33  |             |
| retrograde       | -5182 Aug 10 j 02:49 | 27° $\mathbf{H}$ 20'55 |             | evening set      | -5175 Apr 26 j 15:36 | 9° $\mathbf{V}$ 52'57  |             |
| opposition       | -5182 Oct 26 j 12:42 | 25° $\mathbf{H}$ 56'58 | -2°05'50    |                  |                      |                        |             |
| min. Earth dist. | -5182 Oct 26 j 17:39 | 25° $\mathbf{H}$ 56'37 | 28.90233 AU | conjunction      | -5175 May 12 j 22:59 | 10° $\mathbf{V}$ 28'59 | -1°35'39    |
| direct           | -5181 Jan 13 j 05:20 | 24° $\mathbf{H}$ 31'45 |             | minimum elong    | -5175 May 12 j 23:00 | 10° $\mathbf{V}$ 28'59 | 1°35'36     |
| evening set      | -5181 Apr 13 j 02:45 | 26° $\mathbf{H}$ 27'46 |             | max. Earth dist. | -5175 May 12 j 11:44 | 10° $\mathbf{V}$ 27'56 | 30.96165 AU |
|                  |                      |                        |             | morning rise     | -5175 May 29 j 04:19 | 11° $\mathbf{V}$ 04'52 |             |
| conjunction      | -5181 Apr 29 j 10:04 | 27° $\mathbf{H}$ 03'49 | -1°56'15    | retrograde       | -5175 Aug 25 j 08:14 | 12° $\mathbf{V}$ 59'16 |             |
| minimum elong    | -5181 Apr 29 j 10:04 | 27° $\mathbf{H}$ 03'49 | 1°56'16     | opposition       | -5175 Nov 10 j 13:24 | 11° $\mathbf{V}$ 35'56 | -1°40'10    |
| max. Earth dist. | -5181 Apr 29 j 04:30 | 27° $\mathbf{H}$ 03'18 | 30.90435 AU | min. Earth dist. | -5175 Nov 11 j 00:13 | 11° $\mathbf{V}$ 35'10 | 28.96705 AU |
| morning rise     | -5181 May 15 j 16:10 | 27° $\mathbf{H}$ 39'47 |             | direct           | -5174 Jan 28 j 16:52 | 10° $\mathbf{V}$ 10'39 |             |
| retrograde       | -5181 Aug 12 j 14:00 | 29° $\mathbf{H}$ 35'00 |             | evening set      | -5174 Apr 29 j 05:48 | 12° $\mathbf{V}$ 07'06 |             |
| opposition       | -5181 Oct 28 j 23:04 | 28° $\mathbf{H}$ 11'07 | -2°02'42    |                  |                      |                        |             |
| min. Earth dist. | -5181 Oct 29 j 04:03 | 28° $\mathbf{H}$ 10'46 | 28.90915 AU | conjunction      | -5174 May 15 j 13:07 | 12° $\mathbf{V}$ 43'07 | -1°31'41    |
| direct           | -5180 Jan 15 j 18:03 | 26° $\mathbf{H}$ 45'52 |             | minimum elong    | -5174 May 15 j 13:07 | 12° $\mathbf{V}$ 43'07 | 1°31'39     |
| evening set      | -5180 Apr 14 j 16:54 | 28° $\mathbf{H}$ 41'57 |             | max. Earth dist. | -5174 May 15 j 00:27 | 12° $\mathbf{V}$ 41'56 | 30.97044 AU |
|                  |                      |                        |             | morning rise     | -5174 May 31 j 18:19 | 13° $\mathbf{V}$ 18'59 |             |
| conjunction      | -5180 May 01 j 00:06 | 29° $\mathbf{H}$ 18'00 | -1°53'13    | retrograde       | -5174 Aug 27 j 20:52 | 15° $\mathbf{V}$ 13'12 |             |
| minimum elong    | -5180 May 01 j 00:07 | 29° $\mathbf{H}$ 18'00 | 1°53'16     | opposition       | -5174 Nov 12 j 23:43 | 13° $\mathbf{V}$ 49'56 | -1°35'52    |
| max. Earth dist. | -5180 Apr 30 j 16:57 | 29° $\mathbf{H}$ 17'20 | 30.91192 AU | min. Earth dist. | -5174 Nov 13 j 10:38 | 13° $\mathbf{V}$ 49'10 | 28.97520 AU |
| morning rise     | -5180 May 17 j 06:13 | 29° $\mathbf{H}$ 53'57 |             | direct           | -5173 Jan 31 j 07:02 | 12° $\mathbf{V}$ 24'37 |             |
|                  | -5180 May 20 j 01:27 | 0° $\mathbf{V}$        |             | evening set      | -5173 May 01 j 19:57 | 14° $\mathbf{V}$ 21'04 |             |
| retrograde       | -5180 Aug 14 j 00:51 | 1° $\mathbf{V}$ 49'01  |             |                  |                      |                        |             |
| opposition       | -5180 Oct 30 j 09:28 | 0° $\mathbf{V}$ 25'13  | -1°59'23    | conjunction      | -5173 May 18 j 03:09 | 14° $\mathbf{V}$ 57'05 | -1°27'35    |
| min. Earth dist. | -5180 Oct 30 j 15:19 | 0° $\mathbf{V}$ 24'48  | 28.91747 AU | minimum elong    | -5173 May 18 j 03:10 | 14° $\mathbf{V}$ 57'05 | 1°27'32     |
|                  | -5180 Nov 14 j 09:20 | 30° $\mathbf{H}$       |             | max. Earth dist. | -5173 May 17 j 13:07 | 14° $\mathbf{V}$ 55'47 | 30.97817 AU |
| direct           | -5179 Jan 17 j 04:58 | 28° $\mathbf{H}$ 59'57 |             | morning rise     | -5173 Jun 03 j 08:07 | 15° $\mathbf{V}$ 32'56 |             |
|                  | -5179 Mar 20 j 07:15 | 0° $\mathbf{V}$        |             | retrograde       | -5173 Aug 30 j 08:47 | 17° $\mathbf{V}$ 26'59 |             |
| evening set      | -5179 Apr 17 j 06:56 | 0° $\mathbf{V}$ 56'05  |             | opposition       | -5173 Nov 15 j 10:16 | 16° $\mathbf{V}$ 03'45 | -1°31'25    |
|                  |                      |                        |             | min. Earth dist. | -5173 Nov 15 j 22:53 | 16° $\mathbf{V}$ 02'52 | 28.98259 AU |
| conjunction      | -5179 May 03 j 14:23 | 1° $\mathbf{V}$ 32'08  | -1°50'02    | direct           | -5172 Feb 02 j 19:35 | 14° $\mathbf{V}$ 38'23 |             |
| minimum elong    | -5179 May 03 j 14:23 | 1° $\mathbf{V}$ 32'08  | 1°50'03     | evening set      | -5172 May 03 j 09:42 | 16° $\mathbf{V}$ 34'50 |             |
| max. Earth dist. | -5179 May 03 j 07:37 | 1° $\mathbf{V}$ 31'31  | 30.92096 AU |                  |                      |                        |             |
| morning rise     | -5179 May 19 j 20:15 | 2° $\mathbf{V}$ 08'05  |             | conjunction      | -5172 May 19 j 16:53 | 17° $\mathbf{V}$ 10'50 | -1°23'22    |
| retrograde       | -5179 Aug 16 j 10:53 | 4° $\mathbf{V}$ 03'00  |             | minimum elong    | -5172 May 19 j 16:54 | 17° $\mathbf{V}$ 10'50 | 1°23'19     |
| opposition       | -5179 Nov 01 j 19:43 | 2° $\mathbf{V}$ 39'19  | -1°55'53    | max. Earth dist. | -5172 May 19 j 02:26 | 17° $\mathbf{V}$ 09'30 | 30.98535 AU |
| min. Earth dist. | -5179 Nov 02 j 02:21 | 2° $\mathbf{V}$ 38'50  | 28.92695 AU | morning rise     | -5172 Jun 04 j 21:35 | 17° $\mathbf{V}$ 46'39 |             |
| direct           | -5178 Jan 19 j 16:42 | 1° $\mathbf{V}$ 14'03  |             | retrograde       | -5172 Aug 31 j 19:23 | 19° $\mathbf{V}$ 40'32 |             |
| evening set      | -5178 Apr 19 j 21:11 | 3° $\mathbf{V}$ 10'15  |             | opposition       | -5172 Nov 16 j 20:38 | 18° $\mathbf{V}$ 17'20 | -1°26'50    |
|                  |                      |                        |             | min. Earth dist. | -5172 Nov 17 j 09:33 | 18° $\mathbf{V}$ 16'25 | 28.98944 AU |
| conjunction      | -5178 May 06 j 04:31 | 3° $\mathbf{V}$ 46'18  | -1°46'40    | direct           | -5171 Feb 04 j 09:37 | 16° $\mathbf{V}$ 51'54 |             |
| minimum elong    | -5178 May 06 j 04:31 | 3° $\mathbf{V}$ 46'18  | 1°46'42     | evening set      | -5171 May 05 j 23:35 | 18° $\mathbf{V}$ 48'21 |             |
| max. Earth dist. | -5178 May 05 j 19:45 | 3° $\mathbf{V}$ 45'29  | 30.93105 AU |                  |                      |                        |             |
| morning rise     | -5178 May 22 j 10:28 | 4° $\mathbf{V}$ 22'14  |             | conjunction      | -5171 May 22 j 06:32 | 19° $\mathbf{V}$ 24'21 | -1°19'02    |
| retrograde       | -5178 Aug 18 j 23:21 | 6° $\mathbf{V}$ 17'02  |             | minimum elong    | -5171 May 22 j 06:33 | 19° $\mathbf{V}$ 24'21 | 1°18'57     |
| opposition       | -5178 Nov 04 j 06:02 | 4° $\mathbf{V}$ 53'26  | -1°52'12    | max. Earth dist. | -5171 May 21 j 14:21 | 19° $\mathbf{V}$ 22'50 | 30.99221 AU |
| min. Earth dist. | -5178 Nov 04 j 13:02 | 4° $\mathbf{V}$ 52'57  | 28.93733 AU | morning rise     | -5171 Jun 07 j 11:05 | 20° $\mathbf{V}$ 00'08 |             |
| direct           | -5177 Jan 22 j 03:10 | 3° $\mathbf{V}$ 28'11  |             | retrograde       | -5171 Sep 03 j 06:12 | 21° $\mathbf{V}$ 53'49 |             |
| evening set      | -5177 Apr 22 j 11:19 | 5° $\mathbf{V}$ 24'28  |             | opposition       | -5171 Nov 19 j 06:51 | 20° $\mathbf{V}$ 30'39 | -1°22'09    |
|                  |                      |                        |             | min. Earth dist. | -5171 Nov 19 j 20:49 | 20° $\mathbf{V}$ 29'40 | 28.99640 AU |
| conjunction      | -5177 May 08 j 18:46 | 6° $\mathbf{V}$ 00'31  | -1°43'09    | direct           | -5170 Feb 06 j 21:02 | 19° $\mathbf{V}$ 05'10 |             |
| minimum elong    | -5177 May 08 j 18:47 | 6° $\mathbf{V}$ 00'31  | 1°43'08     | evening set      | -5170 May 08 j 13:14 | 21° $\mathbf{V}$ 01'37 |             |
| max. Earth dist. | -5177 May 08 j 10:04 | 5° $\mathbf{V}$ 59'42  | 30.94156 AU |                  |                      |                        |             |
| morning rise     | -5177 May 25 j 00:23 | 6° $\mathbf{V}$ 36'26  |             | conjunction      | -5170 May 24 j 20:13 | 21° $\mathbf{V}$ 37'35 | -1°14'35    |
| retrograde       | -5177 Aug 21 j 09:01 | 8° $\mathbf{V}$ 31'06  |             | minimum elong    | -5170 May 24 j 20:14 | 21° $\mathbf{V}$ 37'36 | 1°14'30     |
| opposition       | -5177 Nov 06 j 16:28 | 7° $\mathbf{V}$ 07'37  | -1°48'21    | max. Earth dist. | -5170 May 24 j 04:23 | 21° $\mathbf{V}$ 36'07 | 30.99936 AU |
| min. Earth dist. | -5177 Nov 07 j 01:06 | 7° $\mathbf{V}$ 07'00  | 28.94777 AU | morning rise     | -5170 Jun 10 j 00:22 | 22° $\mathbf{V}$ 13'21 |             |
| direct           | -5176 Jan 24 j 15:26 | 5° $\mathbf{V}$ 42'22  |             | retrograde       | -5170 Sep 05 j 15:47 | 24° $\mathbf{V}$ 06'52 |             |
| evening set      | -5176 Apr 24 j 01:33 | 7° $\mathbf{V}$ 38'43  |             | opposition       | -5170 Nov 21 j 17:14 | 22° $\mathbf{V}$ 43'44 | -1°17'20    |
|                  |                      |                        |             | min. Earth dist. | -5170 Nov 22 j 07:57 | 22° $\mathbf{V}$ 42'42 | 29.00371 AU |
| conjunction      | -5176 May 10 j 08:52 | 8° $\mathbf{V}$ 14'46  | -1°39'28    | direct           | -5169 Feb 09 j 09:43 | 21° $\mathbf{V}$ 18'12 |             |
| minimum elong    | -5176 May 10 j 08:53 | 8° $\mathbf{V}$ 14'46  | 1°39'28     | evening set      | -5169 May 11 j 02:52 | 23° $\mathbf{V}$ 14'39 |             |
| max. Earth dist. | -5176 May 09 j 22:13 | 8° $\mathbf{V}$ 13'46  | 30.95198 AU |                  |                      |                        |             |
| morning rise     | -5176 May 26 j 14:28 | 8° $\mathbf{V}$ 50'40  |             | conjunction      | -5169 May 27 j 09:29 | 23° $\mathbf{V}$ 50'36 | -1°10'02    |
| retrograde       | -5176 Aug 22 j 21:40 | 10° $\mathbf{V}$ 45'12 |             | minimum elong    | -5169 May 27 j 09:29 | 23° $\mathbf{V}$ 50'36 | 1°09'55     |

Attention, astronomical year style is used: The year -5169 in astronomical counting style is the year 5170 BCE in historical counting style.

|                  |                      |                           |             |                  |                      |                           |             |
|------------------|----------------------|---------------------------|-------------|------------------|----------------------|---------------------------|-------------|
| max. Earth dist. | -5169 May 26 j 15:58 | 23° $\Upsilon$ 48'59      | 31.00716 AU | min. Earth dist. | -5163 Dec 07 j 12:10 | 8° $\text{8}$ 11'54       | 29.08145 AU |
| morning rise     | -5169 Jun 12 j 13:29 | 24° $\Upsilon$ 26'20      |             | direct           | -5162 Feb 24 j 23:37 | 6° $\text{8}$ 47'47       |             |
| retrograde       | -5169 Sep 08 j 02:53 | 26° $\Upsilon$ 19'42      |             | evening set      | -5162 May 27 j 00:09 | 8° $\text{8}$ 44'29       |             |
| opposition       | -5169 Nov 24 j 03:31 | 24° $\Upsilon$ 56'37      | -1°12'25    | max. Earth dist. | -5162 Jun 11 j 07:12 | 9° $\text{8}$ 18'17       | 31.08662 AU |
| min. Earth dist. | -5169 Nov 24 j 18:10 | 24° $\Upsilon$ 55'35      | 29.01208 AU |                  |                      |                           |             |
| direct           | -5168 Feb 11 j 20:42 | 23° $\Upsilon$ 31'03      |             | conjunction      | -5162 Jun 12 j 04:52 | 9° $\text{8}$ 20'18       | -0°35'41    |
| evening set      | -5168 May 12 j 16:15 | 25° $\Upsilon$ 27'30      |             | minimum elong    | -5162 Jun 12 j 04:53 | 9° $\text{8}$ 20'18       | 0°35'32     |
|                  |                      |                           |             | morning rise     | -5162 Jun 28 j 06:13 | 9° $\text{8}$ 55'50       |             |
| conjunction      | -5168 May 28 j 22:49 | 26° $\Upsilon$ 03'26      | -1°05'23    | retrograde       | -5162 Sep 23 j 06:59 | 11° $\text{8}$ 48'30      |             |
| minimum elong    | -5168 May 28 j 22:50 | 26° $\Upsilon$ 03'26      | 1°05'17     | opposition       | -5162 Dec 09 j 04:38 | 10° $\text{8}$ 26'02      | -0°35'24    |
| max. Earth dist. | -5168 May 28 j 05:54 | 26° $\Upsilon$ 01'52      | 31.01614 AU | min. Earth dist. | -5162 Dec 09 j 23:46 | 10° $\text{8}$ 24'42      | 29.09219 AU |
| morning rise     | -5168 Jun 14 j 02:20 | 26° $\Upsilon$ 39'08      |             | direct           | -5161 Feb 27 j 11:09 | 9° $\text{8}$ 00'39       |             |
| retrograde       | -5168 Sep 09 j 11:26 | 28° $\Upsilon$ 32'22      |             | evening set      | -5161 May 29 j 13:11 | 10° $\text{8}$ 57'22      |             |
| opposition       | -5168 Nov 25 j 13:54 | 27° $\Upsilon$ 09'21      | -1°07'23    |                  |                      |                           |             |
| min. Earth dist. | -5168 Nov 26 j 05:40 | 27° $\Upsilon$ 08'14      | 29.02170 AU | conjunction      | -5161 Jun 14 j 17:40 | 11° $\text{8}$ 33'09      | -0°30'31    |
| direct           | -5167 Feb 13 j 08:42 | 25° $\Upsilon$ 43'46      |             | minimum elong    | -5161 Jun 14 j 17:40 | 11° $\text{8}$ 33'09      | 0°30'20     |
| evening set      | -5167 May 15 j 05:38 | 27° $\Upsilon$ 40'15      |             | max. Earth dist. | -5161 Jun 13 j 20:16 | 11° $\text{8}$ 31'10      | 31.09677 AU |
|                  |                      |                           |             | morning rise     | -5161 Jun 30 j 18:25 | 12° $\text{8}$ 08'39      |             |
| conjunction      | -5167 May 31 j 11:52 | 28° $\Upsilon$ 16'10      | -1°00'38    | retrograde       | -5161 Sep 25 j 16:52 | 14° $\text{8}$ 01'12      |             |
| minimum elong    | -5167 May 31 j 11:53 | 28° $\Upsilon$ 16'10      | 1°00'30     | opposition       | -5161 Dec 11 j 15:20 | 12° $\text{8}$ 38'49      | -0°29'51    |
| max. Earth dist. | -5167 May 30 j 17:34 | 28° $\Upsilon$ 14'28      | 31.02659 AU | min. Earth dist. | -5161 Dec 12 j 11:22 | 12° $\text{8}$ 37'25      | 29.10172 AU |
| morning rise     | -5167 Jun 16 j 15:15 | 28° $\Upsilon$ 51'51      |             | direct           | -5160 Mar 01 j 00:25 | 11° $\text{8}$ 13'25      |             |
|                  | -5167 Jul 21 j 17:48 | 0° $\text{8}$             |             | evening set      | -5160 May 31 j 02:21 | 13° $\text{8}$ 10'08      |             |
| retrograde       | -5167 Sep 11 j 22:58 | 0° $\text{8}$ 44'57       |             | max. Earth dist. | -5160 Jun 15 j 07:03 | 13° $\text{8}$ 43'44      | 31.10590 AU |
|                  | -5167 Nov 04 j 15:57 | 30° $\text{8}$ $\Upsilon$ |             |                  |                      |                           |             |
| opposition       | -5167 Nov 28 j 00:10 | 29° $\Upsilon$ 22'01      | -1°02'15    | conjunction      | -5160 Jun 16 j 06:16 | 13° $\text{8}$ 45'53      | -0°25'18    |
| min. Earth dist. | -5167 Nov 28 j 15:26 | 29° $\Upsilon$ 20'56      | 29.03270 AU | minimum elong    | -5160 Jun 16 j 06:16 | 13° $\text{8}$ 45'53      | 0°25'08     |
| direct           | -5166 Feb 15 j 21:03 | 27° $\Upsilon$ 56'27      |             | morning rise     | -5160 Jul 02 j 06:42 | 14° $\text{8}$ 21'21      |             |
| evening set      | -5166 May 17 j 18:59 | 29° $\Upsilon$ 52'59      |             |                  | -5160 Jul 20 j 21:52 | 15° $\text{8}$            |             |
|                  | -5166 May 21 j 00:19 | 0° $\text{8}$             |             | retrograde       | -5160 Sep 27 j 03:43 | 16° $\text{8}$ 13'48      |             |
| max. Earth dist. | -5166 Jun 02 j 06:56 | 0° $\text{8}$ 27'12       | 31.03816 AU |                  | -5160 Dec 07 j 23:01 | 15° $\text{8}$ $\text{R}$ |             |
|                  |                      |                           |             | opposition       | -5160 Dec 13 j 01:50 | 14° $\text{8}$ 51'26      | -0°24'16    |
| conjunction      | -5166 Jun 03 j 01:05 | 0° $\text{8}$ 28'53       | -0°55'47    | min. Earth dist. | -5160 Dec 13 j 21:57 | 14° $\text{8}$ 50'02      | 29.11049 AU |
| minimum elong    | -5166 Jun 03 j 01:05 | 0° $\text{8}$ 28'53       | 0°55'40     | direct           | -5159 Mar 03 j 11:52 | 13° $\text{8}$ 26'02      |             |
| morning rise     | -5166 Jun 19 j 03:57 | 1° $\text{8}$ 04'32       |             |                  | -5159 May 22 j 21:48 | 15° $\text{8}$            |             |
| retrograde       | -5166 Sep 14 j 08:53 | 2° $\text{8}$ 57'33       |             | evening set      | -5159 Jun 02 j 15:10 | 15° $\text{8}$ 22'44      |             |
| opposition       | -5166 Nov 30 j 10:34 | 1° $\text{8}$ 34'42       | -0°57'02    |                  |                      |                           |             |
| min. Earth dist. | -5166 Dec 01 j 03:23 | 1° $\text{8}$ 33'32       | 29.04473 AU | conjunction      | -5159 Jun 18 j 18:52 | 15° $\text{8}$ 58'27      | -0°20'04    |
| direct           | -5165 Feb 18 j 07:58 | 0° $\text{8}$ 09'11       |             | minimum elong    | -5159 Jun 18 j 18:52 | 15° $\text{8}$ 58'27      | 0°19'52     |
| evening set      | -5165 May 20 j 08:22 | 2° $\text{8}$ 05'46       |             | max. Earth dist. | -5159 Jun 17 j 20:04 | 15° $\text{8}$ 56'20      | 31.11429 AU |
|                  |                      |                           |             | morning rise     | -5159 Jul 04 j 18:40 | 16° $\text{8}$ 33'52      |             |
| conjunction      | -5165 Jun 05 j 14:08 | 2° $\text{8}$ 41'39       | -0°50'52    | retrograde       | -5159 Sep 29 j 11:26 | 18° $\text{8}$ 26'12      |             |
| minimum elong    | -5165 Jun 05 j 14:08 | 2° $\text{8}$ 41'39       | 0°50'43     | opposition       | -5159 Dec 15 j 12:31 | 17° $\text{8}$ 03'52      | -0°18'40    |
| max. Earth dist. | -5165 Jun 04 j 19:14 | 2° $\text{8}$ 39'53       | 31.05066 AU | min. Earth dist. | -5159 Dec 16 j 10:00 | 17° $\text{8}$ 02'22      | 29.11857 AU |
| morning rise     | -5165 Jun 21 j 16:43 | 3° $\text{8}$ 17'16       |             | direct           | -5158 Mar 06 j 00:13 | 15° $\text{8}$ 38'26      |             |
| retrograde       | -5165 Sep 16 j 21:04 | 5° $\text{8}$ 10'12       |             | evening set      | -5158 Jun 05 j 04:04 | 17° $\text{8}$ 35'06      |             |
| opposition       | -5165 Dec 02 j 20:59 | 3° $\text{8}$ 47'28       | -0°51'44    | max. Earth dist. | -5158 Jun 20 j 06:57 | 18° $\text{8}$ 08'33      | 31.12230 AU |
| min. Earth dist. | -5165 Dec 03 j 13:24 | 3° $\text{8}$ 46'19       | 29.05730 AU |                  |                      |                           |             |
| direct           | -5164 Feb 20 j 21:37 | 2° $\text{8}$ 22'00       |             | conjunction      | -5158 Jun 21 j 07:10 | 18° $\text{8}$ 10'48      | -0°14'49    |
| evening set      | -5164 May 21 j 21:31 | 4° $\text{8}$ 18'37       |             | minimum elong    | -5158 Jun 21 j 07:10 | 18° $\text{8}$ 10'48      | 0°14'37     |
| max. Earth dist. | -5164 Jun 06 j 07:20 | 4° $\text{8}$ 52'40       | 31.06322 AU | behind sun begin | -5158 Jun 21 j 04:30 | 18° $\text{8}$ 10'34      |             |
|                  |                      |                           |             | behind sun end   | -5158 Jun 21 j 09:49 | 18° $\text{8}$ 11'02      |             |
| conjunction      | -5164 Jun 07 j 02:59 | 4° $\text{8}$ 54'29       | -0°45'52    | morning rise     | -5158 Jul 07 j 06:37 | 18° $\text{8}$ 46'10      |             |
| minimum elong    | -5164 Jun 07 j 02:59 | 4° $\text{8}$ 54'29       | 0°45'43     | retrograde       | -5158 Oct 01 j 22:01 | 20° $\text{8}$ 38'23      |             |
| morning rise     | -5164 Jun 23 j 05:08 | 5° $\text{8}$ 30'05       |             | opposition       | -5158 Dec 17 j 23:02 | 19° $\text{8}$ 16'05      | -0°13'02    |
| retrograde       | -5164 Sep 18 j 08:58 | 7° $\text{8}$ 22'56       |             | min. Earth dist. | -5158 Dec 18 j 20:01 | 19° $\text{8}$ 14'37      | 29.12655 AU |
| opposition       | -5164 Dec 04 j 07:32 | 6° $\text{8}$ 00'18       | -0°46'21    | direct           | -5157 Mar 08 j 12:05 | 17° $\text{8}$ 50'37      |             |
| min. Earth dist. | -5164 Dec 05 j 01:23 | 5° $\text{8}$ 59'03       | 29.06978 AU | evening set      | -5157 Jun 07 j 16:43 | 19° $\text{8}$ 47'16      |             |
| direct           | -5163 Feb 22 j 09:47 | 4° $\text{8}$ 34'53       |             |                  |                      |                           |             |
| evening set      | -5163 May 24 j 10:46 | 6° $\text{8}$ 31'33       |             | conjunction      | -5157 Jun 23 j 19:25 | 20° $\text{8}$ 22'55      | -0°09'33    |
|                  |                      |                           |             | minimum elong    | -5157 Jun 23 j 19:26 | 20° $\text{8}$ 22'55      | 0°09'20     |
| conjunction      | -5163 Jun 09 j 15:58 | 7° $\text{8}$ 07'23       | -0°40'48    | behind sun begin | -5157 Jun 23 j 13:57 | 20° $\text{8}$ 22'25      |             |
| minimum elong    | -5163 Jun 09 j 15:58 | 7° $\text{8}$ 07'23       | 0°40'38     | behind sun end   | -5157 Jun 24 j 00:54 | 20° $\text{8}$ 23'24      |             |
| max. Earth dist. | -5163 Jun 08 j 19:59 | 7° $\text{8}$ 05'32       | 31.07542 AU | max. Earth dist. | -5157 Jun 22 j 19:38 | 20° $\text{8}$ 20'42      | 31.13037 AU |
| morning rise     | -5163 Jun 25 j 17:42 | 7° $\text{8}$ 42'57       |             | morning rise     | -5157 Jul 09 j 18:12 | 20° $\text{8}$ 58'15      |             |
| retrograde       | -5163 Sep 20 j 19:34 | 9° $\text{8}$ 35'43       |             | retrograde       | -5157 Oct 04 j 06:59 | 22° $\text{8}$ 50'22      |             |
| opposition       | -5163 Dec 06 j 17:59 | 8° $\text{8}$ 13'11       | -0°40'54    | opposition       | -5157 Dec 20 j 09:49 | 21° $\text{8}$ 28'04      | -0°07'23    |

Attention, astronomical year style is used: The year -5157 in astronomical counting style is the year 5158 BCE in historical counting style.

|                  |                      |                    |             |                  |                      |                     |             |
|------------------|----------------------|--------------------|-------------|------------------|----------------------|---------------------|-------------|
| min. Earth dist. | -5157 Dec 21 j 08:01 | 21° <b>8</b> 26'32 | 29.13495 AU | minimum elong    | -5151 Jul 06 j 18:03 | 3° <b>II</b> 33'10  | 0°22'25     |
| direct           | -5156 Mar 09 j 22:34 | 20° <b>8</b> 02'35 |             | max. Earth dist. | -5151 Jul 05 j 16:42 | 3° <b>II</b> 30'48  | 31.19460 AU |
| evening set      | -5156 Jun 09 j 05:07 | 21° <b>8</b> 59'13 |             | morning rise     | -5151 Jul 22 j 13:31 | 4° <b>II</b> 08'14  |             |
| max. Earth dist. | -5156 Jun 24 j 07:09 | 22° <b>8</b> 32'34 | 31.13918 AU | retrograde       | -5151 Oct 16 j 23:19 | 6° <b>II</b> 00'02  |             |
|                  |                      |                    |             | opposition       | -5150 Jan 02 j 02:21 | 4° <b>II</b> 38'06  | 0°26'23     |
| conjunction      | -5156 Jun 25 j 07:17 | 22° <b>8</b> 34'49 | -0°04'18    | min. Earth dist. | -5150 Jan 03 j 00:54 | 4° <b>II</b> 36'33  | 29.20035 AU |
| minimum elong    | -5156 Jun 25 j 07:17 | 22° <b>8</b> 34'49 | 0°04'05     | direct           | -5150 Mar 24 j 02:33 | 3° <b>II</b> 12'50  |             |
| behind sun begin | -5156 Jun 25 j 00:50 | 22° <b>8</b> 34'14 |             | evening set      | -5150 Jun 23 j 06:52 | 5° <b>II</b> 09'31  |             |
| behind sun end   | -5156 Jun 25 j 13:43 | 22° <b>8</b> 35'23 |             | max. Earth dist. | -5150 Jul 08 j 05:01 | 5° <b>II</b> 42'34  | 31.20504 AU |
| morning rise     | -5156 Jul 11 j 05:38 | 23° <b>8</b> 10'06 |             |                  |                      |                     |             |
| retrograde       | -5156 Oct 05 j 17:37 | 25° <b>8</b> 02'07 |             | conjunction      | -5150 Jul 09 j 05:43 | 5° <b>II</b> 44'52  | 0°27'21     |
| opposition       | -5156 Dec 21 j 20:25 | 23° <b>8</b> 39'52 | -0°01'44    | minimum elong    | -5150 Jul 09 j 05:43 | 5° <b>II</b> 44'52  | 0°27'36     |
| min. Earth dist. | -5156 Dec 22 j 17:48 | 23° <b>8</b> 38'23 | 29.14415 AU | morning rise     | -5150 Jul 25 j 00:21 | 6° <b>II</b> 19'53  |             |
| direct           | -5155 Mar 12 j 12:43 | 22° <b>8</b> 14'23 |             | retrograde       | -5150 Oct 19 j 07:37 | 8° <b>II</b> 11'40  |             |
| asc. node        | -5155 Apr 13 j 17:39 | 22° <b>8</b> 30'55 |             | opposition       | -5149 Jan 04 j 13:30 | 6° <b>II</b> 49'48  | 0°31'55     |
| evening set      | -5155 Jun 11 j 17:35 | 24° <b>8</b> 10'59 |             | min. Earth dist. | -5149 Jan 05 j 13:17 | 6° <b>II</b> 48'10  | 29.21021 AU |
|                  |                      |                    |             | direct           | -5149 Mar 26 j 14:45 | 5° <b>II</b> 24'34  |             |
| conjunction      | -5155 Jun 27 j 19:14 | 24° <b>8</b> 46'33 | 0°01'07     | evening set      | -5149 Jun 25 j 19:06 | 7° <b>II</b> 21'15  |             |
| minimum elong    | -5155 Jun 27 j 19:14 | 24° <b>8</b> 46'33 | 0°01'20     |                  |                      |                     |             |
| behind sun begin | -5155 Jun 27 j 12:42 | 24° <b>8</b> 45'58 |             | conjunction      | -5149 Jul 11 j 17:09 | 7° <b>II</b> 56'33  | 0°32'31     |
| behind sun end   | -5155 Jun 28 j 01:46 | 24° <b>8</b> 47'08 |             | minimum elong    | -5149 Jul 11 j 17:09 | 7° <b>II</b> 56'33  | 0°32'46     |
| max. Earth dist. | -5155 Jun 26 j 18:54 | 24° <b>8</b> 44'18 | 31.14885 AU | max. Earth dist. | -5149 Jul 10 j 15:08 | 7° <b>II</b> 54'08  | 31.21427 AU |
| morning rise     | -5155 Jul 13 j 16:59 | 25° <b>8</b> 21'48 |             | morning rise     | -5149 Jul 27 j 11:19 | 8° <b>II</b> 31'32  |             |
| retrograde       | -5155 Oct 08 j 04:27 | 27° <b>8</b> 13'45 |             | retrograde       | -5149 Oct 21 j 18:28 | 10° <b>II</b> 23'17 |             |
| opposition       | -5155 Dec 24 j 07:03 | 25° <b>8</b> 51'32 | 0°03'55     | opposition       | -5148 Jan 07 j 00:34 | 9° <b>II</b> 01'28  | 0°37'25     |
| min. Earth dist. | -5155 Dec 25 j 05:13 | 25° <b>8</b> 49'59 | 29.15446 AU | min. Earth dist. | -5148 Jan 07 j 23:45 | 8° <b>II</b> 59'52  | 29.21880 AU |
| direct           | -5154 Mar 15 j 00:20 | 24° <b>8</b> 26'03 |             | direct           | -5148 Mar 28 j 02:20 | 7° <b>II</b> 36'15  |             |
| evening set      | -5154 Jun 14 j 05:58 | 26° <b>8</b> 22'41 |             | evening set      | -5148 Jun 27 j 06:57 | 9° <b>II</b> 32'54  |             |
| max. Earth dist. | -5154 Jun 29 j 07:10 | 26° <b>8</b> 55'58 | 31.15970 AU | max. Earth dist. | -5148 Jul 12 j 02:47 | 10° <b>II</b> 05'47 | 31.22207 AU |
|                  |                      |                    |             |                  |                      |                     |             |
| conjunction      | -5154 Jun 30 j 07:09 | 26° <b>8</b> 58'12 | 0°06'25     | conjunction      | -5148 Jul 13 j 04:31 | 10° <b>II</b> 08'10 | 0°37'37     |
| minimum elong    | -5154 Jun 30 j 07:08 | 26° <b>8</b> 58'12 | 0°06'38     | minimum elong    | -5148 Jul 13 j 04:31 | 10° <b>II</b> 08'10 | 0°37'52     |
| behind sun begin | -5154 Jun 30 j 01:02 | 26° <b>8</b> 57'39 |             | morning rise     | -5148 Jul 28 j 21:56 | 10° <b>II</b> 43'06 |             |
| behind sun end   | -5154 Jun 30 j 13:14 | 26° <b>8</b> 58'45 |             | retrograde       | -5148 Oct 23 j 03:26 | 12° <b>II</b> 34'50 |             |
| morning rise     | -5154 Jul 16 j 04:17 | 27° <b>8</b> 33'24 |             | opposition       | -5147 Jan 08 j 11:46 | 11° <b>II</b> 13'02 | 0°42'50     |
| retrograde       | -5154 Oct 10 j 14:34 | 29° <b>8</b> 25'17 |             | min. Earth dist. | -5147 Jan 09 j 12:21 | 11° <b>II</b> 11'20 | 29.22600 AU |
| opposition       | -5154 Dec 26 j 17:48 | 28° <b>8</b> 03'08 | 0°09'34     | direct           | -5147 Mar 30 j 12:55 | 9° <b>II</b> 47'50  |             |
| min. Earth dist. | -5154 Dec 27 j 15:39 | 28° <b>8</b> 01'38 | 29.16564 AU | evening set      | -5147 Jun 29 j 18:55 | 11° <b>II</b> 44'28 |             |
| direct           | -5153 Mar 17 j 13:48 | 26° <b>8</b> 37'43 |             |                  |                      |                     |             |
| evening set      | -5153 Jun 16 j 18:14 | 28° <b>8</b> 34'21 |             | conjunction      | -5147 Jul 15 j 15:46 | 12° <b>II</b> 19'41 | 0°42'40     |
|                  |                      |                    |             | minimum elong    | -5147 Jul 15 j 15:45 | 12° <b>II</b> 19'41 | 0°42'56     |
| conjunction      | -5153 Jul 02 j 18:44 | 29° <b>8</b> 09'49 | 0°11'40     | max. Earth dist. | -5147 Jul 14 j 13:31 | 12° <b>II</b> 17'14 | 31.22866 AU |
| minimum elong    | -5153 Jul 02 j 18:44 | 29° <b>8</b> 09'49 | 0°11'55     | morning rise     | -5147 Jul 31 j 08:37 | 12° <b>II</b> 54'34 |             |
| behind sun begin | -5153 Jul 02 j 14:15 | 29° <b>8</b> 09'25 |             | retrograde       | -5147 Oct 25 j 13:38 | 14° <b>II</b> 46'15 |             |
| behind sun end   | -5153 Jul 02 j 23:13 | 29° <b>8</b> 10'13 |             | opposition       | -5146 Jan 10 j 22:43 | 13° <b>II</b> 24'28 | 0°48'12     |
| max. Earth dist. | -5153 Jul 01 j 17:56 | 29° <b>8</b> 07'31 | 31.17126 AU | min. Earth dist. | -5146 Jan 11 j 22:41 | 13° <b>II</b> 22'49 | 29.23199 AU |
| morning rise     | -5153 Jul 18 j 15:22 | 29° <b>8</b> 44'59 |             | direct           | -5146 Apr 02 j 02:38 | 11° <b>II</b> 59'15 |             |
|                  | -5153 Jul 25 j 15:17 | 0° <b>II</b>       |             | evening set      | -5146 Jul 02 j 06:42 | 13° <b>II</b> 55'52 |             |
| retrograde       | -5153 Oct 13 j 02:12 | 1° <b>II</b> 36'50 |             | max. Earth dist. | -5146 Jul 17 j 00:23 | 14° <b>II</b> 28'34 | 31.23416 AU |
| opposition       | -5153 Dec 29 j 04:38 | 0° <b>II</b> 14'46 | 0°15'12     |                  |                      |                     |             |
| min. Earth dist. | -5153 Dec 30 j 02:46 | 0° <b>II</b> 13'14 | 29.17752 AU | conjunction      | -5146 Jul 18 j 02:54 | 14° <b>II</b> 31'02 | 0°47'39     |
|                  | -5152 Jan 07 j 02:39 | 30° <b>8</b>       |             | minimum elong    | -5146 Jul 18 j 02:54 | 14° <b>II</b> 31'02 | 0°47'55     |
| direct           | -5152 Mar 19 j 01:23 | 28° <b>8</b> 49'23 |             | morning rise     | -5146 Aug 02 j 19:04 | 15° <b>II</b> 05'52 |             |
|                  | -5152 May 26 j 18:34 | 0° <b>II</b>       |             | retrograde       | -5146 Oct 28 j 00:22 | 16° <b>II</b> 57'32 |             |
| evening set      | -5152 Jun 18 j 06:25 | 0° <b>II</b> 46'02 |             | opposition       | -5145 Jan 13 j 09:59 | 15° <b>II</b> 35'44 | 0°53'29     |
| max. Earth dist. | -5152 Jul 03 j 06:33 | 1° <b>II</b> 19'15 | 31.18314 AU | min. Earth dist. | -5145 Jan 14 j 10:43 | 15° <b>II</b> 34'02 | 29.23733 AU |
|                  |                      |                    |             | direct           | -5145 Apr 04 j 13:49 | 14° <b>II</b> 10'31 |             |
| conjunction      | -5152 Jul 04 j 06:29 | 1° <b>II</b> 21'28 | 0°16'56     | evening set      | -5145 Jul 04 j 18:09 | 16° <b>II</b> 07'06 |             |
| minimum elong    | -5152 Jul 04 j 06:29 | 1° <b>II</b> 21'28 | 0°17'10     | max. Earth dist. | -5145 Jul 19 j 11:49 | 16° <b>II</b> 39'47 | 31.23930 AU |
| morning rise     | -5152 Jul 20 j 02:24 | 1° <b>II</b> 56'35 |             |                  |                      |                     |             |
| retrograde       | -5152 Oct 14 j 12:11 | 3° <b>II</b> 48'24 |             | conjunction      | -5145 Jul 20 j 13:43 | 16° <b>II</b> 42'12 | 0°52'33     |
| opposition       | -5152 Dec 30 j 15:26 | 2° <b>II</b> 26'25 | 0°20'49     | minimum elong    | -5145 Jul 20 j 13:43 | 16° <b>II</b> 42'12 | 0°52'50     |
| min. Earth dist. | -5152 Dec 31 j 14:12 | 2° <b>II</b> 24'50 | 29.18924 AU | morning rise     | -5145 Aug 05 j 05:13 | 17° <b>II</b> 16'59 |             |
| direct           | -5151 Mar 21 j 14:53 | 1° <b>II</b> 01'06 |             | retrograde       | -5145 Oct 30 j 09:54 | 19° <b>II</b> 08'38 |             |
| evening set      | -5151 Jun 20 j 18:44 | 2° <b>II</b> 57'46 |             | opposition       | -5144 Jan 15 j 21:10 | 17° <b>II</b> 46'50 | 0°58'41     |
|                  |                      |                    |             | min. Earth dist. | -5144 Jan 16 j 21:24 | 17° <b>II</b> 45'10 | 29.24238 AU |
| conjunction      | -5151 Jul 06 j 18:03 | 3° <b>II</b> 33'10 | 0°22'09     | direct           | -5144 Apr 06 j 03:09 | 16° <b>II</b> 21'37 |             |

Attention, astronomical year style is used: The year -5144 in astronomical counting style is the year 5145 BCE in historical counting style.

|                  |                      |                          |             |                  |                      |                          |             |
|------------------|----------------------|--------------------------|-------------|------------------|----------------------|--------------------------|-------------|
| evening set      | -5144 Jul 06 j 05:37 | 18° $\Pi$ 18'09          |             | conjunction      | -5138 Aug 04 j 15:00 | 1° $\mathfrak{D}$ 58'13  | 1°24'19     |
| max. Earth dist. | -5144 Jul 20 j 21:55 | 18° $\Pi$ 50'44          | 31.24443 AU | minimum elong    | -5138 Aug 04 j 14:59 | 1° $\mathfrak{D}$ 58'13  | 1°24'36     |
|                  |                      |                          |             | max. Earth dist. | -5138 Aug 03 j 15:02 | 1° $\mathfrak{D}$ 55'58  | 31.28850 AU |
| conjunction      | -5144 Jul 22 j 00:24 | 18° $\Pi$ 53'13          | 0°57'22     | morning rise     | -5138 Aug 20 j 01:58 | 2° $\mathfrak{D}$ 32'40  |             |
| minimum elong    | -5144 Jul 22 j 00:24 | 18° $\Pi$ 53'12          | 0°57'39     | retrograde       | -5138 Nov 14 j 07:50 | 4° $\mathfrak{D}$ 24'29  |             |
| morning rise     | -5144 Aug 06 j 15:21 | 19° $\Pi$ 27'57          |             | opposition       | -5137 Jan 31 j 04:35 | 3° $\mathfrak{D}$ 02'52  | 1°32'15     |
| retrograde       | -5144 Oct 31 j 21:22 | 21° $\Pi$ 19'34          |             | min. Earth dist. | -5137 Feb 01 j 02:57 | 3° $\mathfrak{D}$ 01'21  | 29.29279 AU |
| opposition       | -5143 Jan 17 j 08:13 | 19° $\Pi$ 57'46          | 1°03'47     | direct           | -5137 Apr 22 j 15:36 | 1° $\mathfrak{D}$ 38'00  |             |
| min. Earth dist. | -5143 Jan 18 j 08:21 | 19° $\Pi$ 56'06          | 29.24794 AU | evening set      | -5137 Jul 22 j 11:13 | 3° $\mathfrak{D}$ 34'25  |             |
| direct           | -5143 Apr 08 j 15:05 | 18° $\Pi$ 32'33          |             | max. Earth dist. | -5137 Aug 06 j 01:06 | 4° $\mathfrak{D}$ 06'53  | 31.29489 AU |
| evening set      | -5143 Jul 08 j 16:53 | 20° $\Pi$ 29'04          |             |                  |                      |                          |             |
| max. Earth dist. | -5143 Jul 23 j 10:02 | 21° $\Pi$ 01'44          | 31.25025 AU | conjunction      | -5137 Aug 07 j 01:08 | 4° $\mathfrak{D}$ 09'08  | 1°28'25     |
|                  |                      |                          |             | minimum elong    | -5137 Aug 07 j 01:08 | 4° $\mathfrak{D}$ 09'08  | 1°28'42     |
| conjunction      | -5143 Jul 24 j 11:08 | 21° $\Pi$ 04'04          | 1°02'07     | morning rise     | -5137 Aug 22 j 11:27 | 4° $\mathfrak{D}$ 43'33  |             |
| minimum elong    | -5143 Jul 24 j 11:08 | 21° $\Pi$ 04'04          | 1°02'24     | retrograde       | -5137 Nov 16 j 18:31 | 6° $\mathfrak{D}$ 35'26  |             |
| morning rise     | -5143 Aug 09 j 01:17 | 21° $\Pi$ 38'45          |             | opposition       | -5136 Feb 02 j 16:20 | 5° $\mathfrak{D}$ 13'49  | 1°36'34     |
| retrograde       | -5143 Nov 03 j 07:11 | 23° $\Pi$ 30'23          |             | min. Earth dist. | -5136 Feb 03 j 15:16 | 5° $\mathfrak{D}$ 12'15  | 29.29873 AU |
| opposition       | -5142 Jan 19 j 19:31 | 22° $\Pi$ 08'35          | 1°08'48     | direct           | -5136 Apr 24 j 01:25 | 3° $\mathfrak{D}$ 48'58  |             |
| min. Earth dist. | -5142 Jan 20 j 19:38 | 22° $\Pi$ 06'55          | 29.25416 AU | evening set      | -5136 Jul 23 j 22:05 | 5° $\mathfrak{D}$ 45'22  |             |
| direct           | -5142 Apr 11 j 05:10 | 20° $\Pi$ 43'24          |             | max. Earth dist. | -5136 Aug 07 j 11:58 | 6° $\mathfrak{D}$ 17'50  | 31.30008 AU |
| evening set      | -5142 Jul 11 j 04:11 | 22° $\Pi$ 39'54          |             |                  |                      |                          |             |
|                  |                      |                          |             | conjunction      | -5136 Aug 08 j 11:23 | 6° $\mathfrak{D}$ 20'02  | 1°32'24     |
| conjunction      | -5142 Jul 26 j 21:33 | 23° $\Pi$ 14'51          | 1°06'46     | minimum elong    | -5136 Aug 08 j 11:22 | 6° $\mathfrak{D}$ 20'02  | 1°32'40     |
| minimum elong    | -5142 Jul 26 j 21:32 | 23° $\Pi$ 14'51          | 1°07'02     | morning rise     | -5136 Aug 23 j 21:02 | 6° $\mathfrak{D}$ 54'24  |             |
| max. Earth dist. | -5142 Jul 25 j 19:49 | 23° $\Pi$ 12'27          | 31.25696 AU | retrograde       | -5136 Nov 18 j 04:14 | 8° $\mathfrak{D}$ 46'18  |             |
| morning rise     | -5142 Aug 11 j 11:10 | 23° $\Pi$ 49'29          |             | opposition       | -5135 Feb 04 j 03:54 | 7° $\mathfrak{D}$ 24'41  | 1°40'44     |
| retrograde       | -5142 Nov 05 j 17:58 | 25° $\Pi$ 41'08          |             | min. Earth dist. | -5135 Feb 05 j 02:27 | 7° $\mathfrak{D}$ 23'09  | 29.30317 AU |
| opposition       | -5141 Jan 22 j 06:46 | 24° $\Pi$ 19'21          | 1°13'43     | direct           | -5135 Apr 26 j 14:22 | 5° $\mathfrak{D}$ 59'52  |             |
| min. Earth dist. | -5141 Jan 23 j 05:48 | 24° $\Pi$ 17'46          | 29.26144 AU | evening set      | -5135 Jul 26 j 08:59 | 7° $\mathfrak{D}$ 56'13  |             |
| direct           | -5141 Apr 13 j 16:43 | 22° $\Pi$ 54'13          |             |                  |                      |                          |             |
| evening set      | -5141 Jul 13 j 15:15 | 24° $\Pi$ 50'42          |             | conjunction      | -5135 Aug 10 j 21:30 | 8° $\mathfrak{D}$ 30'49  | 1°36'14     |
| max. Earth dist. | -5141 Jul 28 j 07:48 | 25° $\Pi$ 23'21          | 31.26460 AU | minimum elong    | -5135 Aug 10 j 21:29 | 8° $\mathfrak{D}$ 30'49  | 1°36'31     |
|                  |                      |                          |             | max. Earth dist. | -5135 Aug 09 j 21:16 | 8° $\mathfrak{D}$ 28'33  | 31.30379 AU |
| conjunction      | -5141 Jul 29 j 08:06 | 25° $\Pi$ 25'37          | 1°11'19     | morning rise     | -5135 Aug 26 j 06:37 | 9° $\mathfrak{D}$ 05'09  |             |
| minimum elong    | -5141 Jul 29 j 08:05 | 25° $\Pi$ 25'37          | 1°11'36     | retrograde       | -5135 Nov 20 j 16:06 | 10° $\mathfrak{D}$ 57'05 |             |
| morning rise     | -5141 Aug 13 j 20:54 | 26° $\Pi$ 00'12          |             | opposition       | -5134 Feb 06 j 15:39 | 9° $\mathfrak{D}$ 35'26  | 1°44'46     |
| retrograde       | -5141 Nov 08 j 02:11 | 27° $\Pi$ 51'53          |             | min. Earth dist. | -5134 Feb 07 j 14:08 | 9° $\mathfrak{D}$ 33'54  | 29.30637 AU |
| opposition       | -5140 Jan 24 j 18:10 | 26° $\Pi$ 30'09          | 1°18'32     | direct           | -5134 Apr 29 j 02:09 | 8° $\mathfrak{D}$ 10'38  |             |
| min. Earth dist. | -5140 Jan 25 j 17:44 | 26° $\Pi$ 28'32          | 29.26946 AU | evening set      | -5134 Jul 28 j 19:31 | 10° $\mathfrak{D}$ 06'55 |             |
| direct           | -5140 Apr 15 j 04:58 | 25° $\Pi$ 05'05          |             | max. Earth dist. | -5134 Aug 12 j 08:36 | 10° $\mathfrak{D}$ 39'20 | 31.30631 AU |
| evening set      | -5140 Jul 15 j 02:17 | 27° $\Pi$ 01'33          |             |                  |                      |                          |             |
|                  |                      |                          |             | conjunction      | -5134 Aug 13 j 07:29 | 10° $\mathfrak{D}$ 41'28 | 1°39'56     |
| conjunction      | -5140 Jul 30 j 18:18 | 27° $\Pi$ 36'25          | 1°15'46     | minimum elong    | -5134 Aug 13 j 07:29 | 10° $\mathfrak{D}$ 41'28 | 1°40'13     |
| minimum elong    | -5140 Jul 30 j 18:18 | 27° $\Pi$ 36'25          | 1°16'03     | morning rise     | -5134 Aug 28 j 15:52 | 11° $\mathfrak{D}$ 15'45 |             |
| max. Earth dist. | -5140 Jul 29 j 17:31 | 27° $\Pi$ 34'06          | 31.27286 AU | retrograde       | -5134 Nov 23 j 01:52 | 13° $\mathfrak{D}$ 07'43 |             |
| morning rise     | -5140 Aug 15 j 06:39 | 28° $\Pi$ 10'58          |             | opposition       | -5133 Feb 09 j 03:32 | 11° $\mathfrak{D}$ 46'01 | 1°48'38     |
|                  | -5140 Oct 28 j 00:49 | 0° $\mathfrak{D}$        |             | min. Earth dist. | -5133 Feb 10 j 02:06 | 11° $\mathfrak{D}$ 44'29 | 29.30839 AU |
| retrograde       | -5140 Nov 09 j 13:08 | 0° $\mathfrak{D}$ 02'41  |             | direct           | -5133 May 01 j 16:00 | 10° $\mathfrak{D}$ 21'13 |             |
|                  | -5140 Nov 22 j 03:01 | 30° $\mathfrak{K}$ $\Pi$ |             | evening set      | -5133 Jul 31 j 06:07 | 12° $\mathfrak{D}$ 17'26 |             |
| opposition       | -5139 Jan 26 j 05:28 | 28° $\Pi$ 41'00          | 1°23'13     |                  |                      |                          |             |
| min. Earth dist. | -5139 Jan 27 j 03:52 | 28° $\Pi$ 39'28          | 29.27777 AU | conjunction      | -5133 Aug 15 j 17:16 | 12° $\mathfrak{D}$ 51'57 | 1°43'29     |
| direct           | -5139 Apr 17 j 16:30 | 27° $\Pi$ 16'00          |             | minimum elong    | -5133 Aug 15 j 17:15 | 12° $\mathfrak{D}$ 51'56 | 1°43'46     |
| evening set      | -5139 Jul 17 j 13:18 | 29° $\Pi$ 12'28          |             | max. Earth dist. | -5133 Aug 14 j 17:46 | 12° $\mathfrak{D}$ 49'44 | 31.30801 AU |
| max. Earth dist. | -5139 Aug 01 j 04:41 | 29° $\Pi$ 45'03          | 31.28093 AU | morning rise     | -5133 Aug 31 j 01:14 | 13° $\mathfrak{D}$ 26'10 |             |
|                  |                      |                          |             | retrograde       | -5133 Nov 25 j 12:50 | 15° $\mathfrak{D}$ 18'11 |             |
| conjunction      | -5139 Aug 02 j 04:42 | 29° $\Pi$ 47'18          | 1°20'06     | opposition       | -5132 Feb 11 j 15:12 | 13° $\mathfrak{D}$ 56'26 | 1°52'21     |
| minimum elong    | -5139 Aug 02 j 04:42 | 29° $\Pi$ 47'18          | 1°20'23     | min. Earth dist. | -5132 Feb 12 j 12:41 | 13° $\mathfrak{D}$ 54'58 | 29.31001 AU |
|                  | -5139 Aug 07 j 20:37 | 0° $\mathfrak{D}$        |             | direct           | -5132 May 03 j 03:33 | 12° $\mathfrak{D}$ 31'37 |             |
| morning rise     | -5139 Aug 17 j 16:15 | 0° $\mathfrak{D}$ 21'48  |             | evening set      | -5132 Aug 01 j 16:16 | 14° $\mathfrak{D}$ 27'46 |             |
| retrograde       | -5139 Nov 11 j 21:59 | 2° $\mathfrak{D}$ 13'34  |             | max. Earth dist. | -5132 Aug 16 j 04:58 | 15° $\mathfrak{D}$ 00'10 | 31.30942 AU |
| opposition       | -5138 Jan 28 j 16:58 | 0° $\mathfrak{D}$ 51'55  | 1°27'48     |                  |                      |                          |             |
| min. Earth dist. | -5138 Jan 29 j 16:21 | 0° $\mathfrak{D}$ 50'19  | 29.28571 AU | conjunction      | -5132 Aug 17 j 02:57 | 15° $\mathfrak{D}$ 02'13 | 1°46'53     |
|                  | -5138 Mar 03 j 19:09 | 30° $\mathfrak{K}$ $\Pi$ |             | minimum elong    | -5132 Aug 17 j 02:57 | 15° $\mathfrak{D}$ 02'13 | 1°47'10     |
| direct           | -5138 Apr 20 j 02:58 | 29° $\Pi$ 27'00          |             | morning rise     | -5132 Sep 01 j 10:13 | 15° $\mathfrak{D}$ 36'25 |             |
|                  | -5138 Jun 05 j 01:23 | 0° $\mathfrak{D}$        |             | retrograde       | -5132 Nov 26 j 21:21 | 17° $\mathfrak{D}$ 28'27 |             |
| evening set      | -5138 Jul 20 j 00:22 | 1° $\mathfrak{D}$ 23'27  |             | opposition       | -5131 Feb 13 j 03:03 | 16° $\mathfrak{D}$ 06'39 | 1°55'55     |
|                  |                      |                          |             | min. Earth dist. | -5131 Feb 14 j 00:51 | 16° $\mathfrak{D}$ 05'10 | 29.31154 AU |

Attention, astronomical year style is used: The year -5131 in astronomical counting style is the year 5132 BCE in historical counting style.

|                  |                      |           |             |                  |                      |           |             |
|------------------|----------------------|-----------|-------------|------------------|----------------------|-----------|-------------|
| direct           | -5131 May 05 j 16:42 | 14°☾41'52 |             | minimum elong    | -5125 Sep 01 j 20:42 | 0°♈13'39  | 2°06'27     |
| evening set      | -5131 Aug 04 j 02:33 | 16°☾37'56 |             | max. Earth dist. | -5125 Sep 01 j 03:57 | 0°♈12'04  | 31.33466 AU |
|                  |                      |           |             | morning rise     | -5125 Sep 17 j 00:27 | 0°♈47'37  |             |
| conjunction      | -5131 Aug 19 j 12:26 | 17°☾12'21 | 1°50'08     | retrograde       | -5125 Dec 12 j 22:49 | 2°♈40'22  |             |
| minimum elong    | -5131 Aug 19 j 12:25 | 17°☾12'21 | 1°50'25     | opposition       | -5124 Feb 29 j 15:14 | 1°♈18'35  | 2°15'54     |
| max. Earth dist. | -5131 Aug 18 j 14:24 | 17°☾10'17 | 31.31118 AU | min. Earth dist. | -5124 Mar 01 j 08:14 | 1°♈17'26  | 29.33772 AU |
| morning rise     | -5131 Sep 03 j 19:15 | 17°☾46'29 |             |                  | -5124 May 01 j 23:31 | 30°♈☾     |             |
| retrograde       | -5131 Nov 29 j 08:01 | 19°☾38'35 |             | direct           | -5124 May 20 j 23:46 | 29°☾54'18 |             |
| opposition       | -5130 Feb 15 j 14:47 | 18°☾16'45 | 1°59'18     |                  | -5124 Jun 08 j 18:34 | 0°♈       |             |
| min. Earth dist. | -5130 Feb 16 j 10:50 | 18°☾15'23 | 29.31368 AU | evening set      | -5124 Aug 19 j 00:09 | 1°♈50'08  |             |
| direct           | -5130 May 08 j 04:58 | 16°☾51'59 |             |                  |                      |           |             |
| evening set      | -5130 Aug 06 j 12:39 | 18°☾48'00 |             | conjunction      | -5124 Sep 03 j 05:57 | 2°♈24'17  | 2°08'15     |
|                  |                      |           |             | minimum elong    | -5124 Sep 03 j 05:57 | 2°♈24'17  | 2°08'30     |
| conjunction      | -5130 Aug 21 j 21:58 | 19°☾22'22 | 1°53'14     | max. Earth dist. | -5124 Sep 02 j 12:38 | 2°♈22'39  | 31.33721 AU |
| minimum elong    | -5130 Aug 21 j 21:58 | 19°☾22'22 | 1°53'30     | morning rise     | -5124 Sep 18 j 09:29 | 2°♈58'14  |             |
| max. Earth dist. | -5130 Aug 21 j 01:12 | 19°☾20'25 | 31.31368 AU | retrograde       | -5124 Dec 14 j 10:42 | 4°♈51'06  |             |
| morning rise     | -5130 Sep 06 j 04:09 | 19°☾56'29 |             | opposition       | -5123 Mar 03 j 03:31 | 3°♈29'18  | 2°18'01     |
| retrograde       | -5130 Dec 01 j 16:55 | 21°☾48'39 |             | min. Earth dist. | -5123 Mar 03 j 19:22 | 3°♈28'14  | 29.33961 AU |
| opposition       | -5129 Feb 18 j 02:48 | 20°☾26'48 | 2°02'31     | direct           | -5123 May 23 j 10:42 | 2°♈05'05  |             |
| min. Earth dist. | -5129 Feb 18 j 23:02 | 20°☾25'26 | 29.31682 AU | evening set      | -5123 Aug 21 j 09:54 | 4°♈00'52  |             |
| direct           | -5129 May 10 j 15:43 | 19°☾02'05 |             |                  |                      |           |             |
| evening set      | -5129 Aug 08 j 22:33 | 20°☾58'04 |             | conjunction      | -5123 Sep 05 j 15:21 | 4°♈34'58  | 2°10'08     |
| max. Earth dist. | -5129 Aug 23 j 11:23 | 21°☾30'31 | 31.31735 AU | minimum elong    | -5123 Sep 05 j 15:21 | 4°♈34'58  | 2°10'23     |
|                  |                      |           |             | max. Earth dist. | -5123 Sep 04 j 23:18 | 4°♈33'28  | 31.33821 AU |
| conjunction      | -5129 Aug 24 j 07:15 | 21°☾32'23 | 1°56'09     | morning rise     | -5123 Sep 20 j 18:19 | 5°♈08'54  |             |
| minimum elong    | -5129 Aug 24 j 07:15 | 21°☾32'23 | 1°56'26     | retrograde       | -5123 Dec 16 j 20:23 | 7°♈01'51  |             |
| morning rise     | -5129 Sep 08 j 12:58 | 22°☾06'28 |             | opposition       | -5122 Mar 05 j 16:02 | 5°♈40'02  | 2°19'56     |
| retrograde       | -5129 Dec 04 j 02:31 | 23°☾58'43 |             | min. Earth dist. | -5122 Mar 06 j 08:20 | 5°♈38'56  | 29.33988 AU |
| opposition       | -5128 Feb 20 j 14:41 | 22°☾36'53 | 2°05'34     | direct           | -5122 May 26 j 00:18 | 4°♈15'52  |             |
| min. Earth dist. | -5128 Feb 21 j 09:13 | 22°☾35'38 | 29.32088 AU | evening set      | -5122 Aug 23 j 19:44 | 6°♈11'34  |             |
| direct           | -5128 May 12 j 03:38 | 21°☾12'15 |             | max. Earth dist. | -5122 Sep 07 j 08:24 | 6°♈44'07  | 31.33783 AU |
| evening set      | -5128 Aug 10 j 08:33 | 23°☾08'11 |             |                  |                      |           |             |
|                  |                      |           |             | conjunction      | -5122 Sep 08 j 00:36 | 6°♈45'39  | 2°11'50     |
| conjunction      | -5128 Aug 25 j 16:38 | 23°☾42'29 | 1°58'55     | minimum elong    | -5122 Sep 08 j 00:35 | 6°♈45'39  | 2°12'04     |
| minimum elong    | -5128 Aug 25 j 16:38 | 23°☾42'29 | 1°59'11     | morning rise     | -5122 Sep 23 j 03:20 | 7°♈19'33  |             |
| max. Earth dist. | -5128 Aug 24 j 21:11 | 23°☾40'39 | 31.32170 AU | retrograde       | -5122 Dec 19 j 08:14 | 9°♈12'35  |             |
| morning rise     | -5128 Sep 09 j 21:53 | 24°☾16'32 |             | opposition       | -5121 Mar 08 j 04:27 | 7°♈50'43  | 2°21'39     |
| retrograde       | -5128 Dec 05 j 13:24 | 26°☾08'54 |             | min. Earth dist. | -5121 Mar 08 j 19:10 | 7°♈49'43  | 29.33881 AU |
| opposition       | -5127 Feb 22 j 02:34 | 24°☾47'05 | 2°08'26     | direct           | -5121 May 28 j 13:11 | 6°♈26'34  |             |
| min. Earth dist. | -5127 Feb 22 j 21:04 | 24°☾45'50 | 29.32559 AU | evening set      | -5121 Aug 26 j 05:15 | 8°♈22'11  |             |
| direct           | -5127 May 14 j 12:25 | 23°☾22'32 |             |                  |                      |           |             |
| evening set      | -5127 Aug 12 j 18:28 | 25°☾18'28 |             | conjunction      | -5121 Sep 10 j 09:45 | 8°♈56'14  | 2°13'21     |
| max. Earth dist. | -5127 Aug 27 j 07:58 | 25°☾51'01 | 31.32648 AU | minimum elong    | -5121 Sep 10 j 09:45 | 8°♈56'14  | 2°13'35     |
|                  |                      |           |             | max. Earth dist. | -5121 Sep 09 j 18:26 | 8°♈54'47  | 31.33608 AU |
| conjunction      | -5127 Aug 28 j 02:03 | 25°☾52'43 | 2°01'31     | morning rise     | -5121 Sep 25 j 12:07 | 9°♈30'07  |             |
| minimum elong    | -5127 Aug 28 j 02:03 | 25°☾52'43 | 2°01'47     | retrograde       | -5121 Dec 21 j 17:09 | 11°♈23'15 |             |
| morning rise     | -5127 Sep 12 j 06:45 | 26°☾26'44 |             | opposition       | -5120 Mar 09 j 16:59 | 10°♈01'17 | 2°23'10     |
| retrograde       | -5127 Dec 07 j 23:27 | 28°☾19'14 |             | min. Earth dist. | -5120 Mar 10 j 08:12 | 10°♈00'16 | 29.33664 AU |
| opposition       | -5126 Feb 24 j 14:42 | 26°☾57'27 | 2°11'07     | direct           | -5120 May 30 j 00:39 | 8°♈37'10  |             |
| min. Earth dist. | -5126 Feb 25 j 08:15 | 26°☾56'15 | 29.33025 AU | evening set      | -5120 Aug 27 j 14:46 | 10°♈32'40 |             |
| direct           | -5126 May 17 j 00:34 | 25°☾33'00 |             |                  |                      |           |             |
| evening set      | -5126 Aug 15 j 04:23 | 27°☾28'54 |             | conjunction      | -5120 Sep 11 j 18:51 | 11°♈06'41 | 2°14'40     |
|                  |                      |           |             | minimum elong    | -5120 Sep 11 j 18:51 | 11°♈06'41 | 2°14'53     |
| conjunction      | -5126 Aug 30 j 11:15 | 28°☾03'06 | 2°03'56     | max. Earth dist. | -5120 Sep 11 j 04:25 | 11°♈05'19 | 31.33357 AU |
| minimum elong    | -5126 Aug 30 j 11:14 | 28°☾03'06 | 2°04'12     | morning rise     | -5120 Sep 26 j 20:56 | 11°♈40'32 |             |
| max. Earth dist. | -5126 Aug 29 j 16:53 | 28°☾01'23 | 31.33093 AU | retrograde       | -5120 Dec 23 j 02:05 | 13°♈33'44 |             |
| morning rise     | -5126 Sep 14 j 15:36 | 28°☾37'06 |             | opposition       | -5119 Mar 12 j 05:14 | 12°♈11'43 | 2°24'29     |
|                  | -5126 Oct 29 j 05:52 | 0°♈       |             | min. Earth dist. | -5119 Mar 12 j 18:49 | 12°♈10'48 | 29.33386 AU |
| retrograde       | -5126 Dec 10 j 12:09 | 0°♈29'44  |             | direct           | -5119 Jun 01 j 13:14 | 10°♈47'35 |             |
|                  | -5125 Jan 23 j 08:52 | 30°♈☾     |             | evening set      | -5119 Aug 30 j 00:12 | 12°♈42'59 |             |
| opposition       | -5125 Feb 27 j 02:58 | 29°☾07'57 | 2°13'36     |                  |                      |           |             |
| min. Earth dist. | -5125 Feb 27 j 19:58 | 29°☾06'48 | 29.33452 AU | conjunction      | -5119 Sep 14 j 03:50 | 13°♈16'59 | 2°15'48     |
| direct           | -5125 May 19 j 11:12 | 27°☾43'36 |             | minimum elong    | -5119 Sep 14 j 03:50 | 13°♈16'59 | 2°16'01     |
| evening set      | -5125 Aug 17 j 14:13 | 29°☾39'28 |             | max. Earth dist. | -5119 Sep 13 j 13:48 | 13°♈15'40 | 31.33072 AU |
|                  | -5125 Aug 26 j 19:27 | 0°♈       |             | morning rise     | -5119 Sep 29 j 05:42 | 13°♈50'49 |             |
|                  |                      |           |             |                  | -5119 Nov 03 j 12:43 | 15°♈      |             |
| conjunction      | -5125 Sep 01 j 20:42 | 0°♈13'39  | 2°06'11     | retrograde       | -5119 Dec 25 j 12:35 | 15°♈44'07 |             |

Attention, astronomical year style is used: The year -5118 in astronomical counting style is the year 5119 BCE in historical counting style.

|                  |                      |                            |             |                  |                      |                            |             |
|------------------|----------------------|----------------------------|-------------|------------------|----------------------|----------------------------|-------------|
|                  | -5118 Feb 18 j 07:52 | 15° $\mathbb{R}\mathbb{Q}$ |             | conjunction      | -5112 Sep 28 j 18:03 | 28° $\mathbb{Q}29'00$      | 2°18'14     |
| opposition       | -5118 Mar 14 j 17:48 | 14° $\mathbb{Q}22'00$      | 2°25'35     | minimum elong    | -5112 Sep 28 j 18:03 | 28° $\mathbb{Q}29'00$      | 2°18'23     |
| min. Earth dist. | -5118 Mar 15 j 07:03 | 14° $\mathbb{Q}21'07$      | 29.33126 AU | max. Earth dist. | -5112 Sep 28 j 10:51 | 28° $\mathbb{Q}28'20$      | 31.32234 AU |
| direct           | -5118 Jun 03 j 22:53 | 12° $\mathbb{Q}57'54$      |             | morning rise     | -5112 Oct 13 j 18:51 | 29° $\mathbb{Q}02'49$      |             |
| evening set      | -5118 Sep 01 j 09:22 | 14° $\mathbb{Q}53'11$      |             |                  | -5112 Nov 10 j 22:34 | 0° $\mathbb{N}$            |             |
|                  | -5118 Sep 04 j 11:08 | 15° $\mathbb{Q}$           |             | retrograde       | -5111 Jan 09 j 18:47 | 0° $\mathbb{N}57'01$       |             |
|                  |                      |                            |             |                  | -5111 Mar 14 j 11:05 | 30° $\mathbb{R}\mathbb{Q}$ |             |
| conjunction      | -5118 Sep 16 j 12:43 | 15° $\mathbb{Q}27'09$      | 2°16'44     | opposition       | -5111 Mar 30 j 10:20 | 29° $\mathbb{Q}34'39$      | 2°27'27     |
| minimum elong    | -5118 Sep 16 j 12:43 | 15° $\mathbb{Q}27'09$      | 2°16'57     | min. Earth dist. | -5111 Mar 30 j 17:29 | 29° $\mathbb{Q}34'10$      | 29.32270 AU |
| max. Earth dist. | -5118 Sep 16 j 00:32 | 15° $\mathbb{Q}26'00$      | 31.32835 AU | direct           | -5111 Jun 19 j 06:45 | 28° $\mathbb{Q}11'02$      |             |
| morning rise     | -5118 Oct 01 j 14:14 | 16° $\mathbb{Q}00'59$      |             |                  | -5111 Sep 13 j 09:38 | 0° $\mathbb{N}$            |             |
| retrograde       | -5118 Dec 27 j 22:13 | 17° $\mathbb{Q}54'22$      |             | evening set      | -5111 Sep 16 j 01:33 | 0° $\mathbb{N}05'51$       |             |
| opposition       | -5117 Mar 17 j 06:21 | 16° $\mathbb{Q}32'12$      | 2°26'30     |                  |                      |                            |             |
| min. Earth dist. | -5117 Mar 17 j 18:07 | 16° $\mathbb{Q}31'24$      | 29.32918 AU | conjunction      | -5111 Oct 01 j 03:08 | 0° $\mathbb{N}39'44$       | 2°17'47     |
| direct           | -5117 Jun 06 j 11:28 | 15° $\mathbb{Q}08'07$      |             | minimum elong    | -5111 Oct 01 j 03:08 | 0° $\mathbb{N}39'44$       | 2°17'56     |
| evening set      | -5117 Sep 03 j 18:42 | 17° $\mathbb{Q}03'20$      |             | max. Earth dist. | -5111 Sep 30 j 20:54 | 0° $\mathbb{N}39'08$       | 31.31915 AU |
|                  |                      |                            |             | morning rise     | -5111 Oct 16 j 03:52 | 1° $\mathbb{N}13'33$       |             |
| conjunction      | -5117 Sep 18 j 21:34 | 17° $\mathbb{Q}37'16$      | 2°17'29     | retrograde       | -5110 Jan 12 j 04:57 | 3° $\mathbb{N}07'53$       |             |
| minimum elong    | -5117 Sep 18 j 21:34 | 17° $\mathbb{Q}37'16$      | 2°17'41     | opposition       | -5110 Apr 01 j 23:15 | 1° $\mathbb{N}45'28$       | 2°26'53     |
| max. Earth dist. | -5117 Sep 18 j 09:27 | 17° $\mathbb{Q}36'07$      | 31.32670 AU | min. Earth dist. | -5110 Apr 02 j 04:50 | 1° $\mathbb{N}45'06$       | 29.31865 AU |
| morning rise     | -5117 Oct 03 j 23:01 | 18° $\mathbb{Q}11'05$      |             | direct           | -5110 Jun 21 j 19:25 | 0° $\mathbb{N}21'55$       |             |
| retrograde       | -5117 Dec 30 j 10:21 | 20° $\mathbb{Q}04'35$      |             | evening set      | -5110 Sep 18 j 10:41 | 2° $\mathbb{N}16'38$       |             |
| opposition       | -5116 Mar 18 j 18:44 | 18° $\mathbb{Q}42'21$      | 2°27'11     |                  |                      |                            |             |
| min. Earth dist. | -5116 Mar 19 j 05:26 | 18° $\mathbb{Q}41'38$      | 29.32805 AU | conjunction      | -5110 Oct 03 j 12:03 | 2° $\mathbb{N}50'31$       | 2°17'09     |
| direct           | -5116 Jun 07 j 21:03 | 17° $\mathbb{Q}18'20$      |             | minimum elong    | -5110 Oct 03 j 12:03 | 2° $\mathbb{N}50'31$       | 2°17'17     |
| evening set      | -5116 Sep 05 j 03:47 | 19° $\mathbb{Q}13'28$      |             | max. Earth dist. | -5110 Oct 03 j 05:48 | 2° $\mathbb{N}49'55$       | 31.31432 AU |
|                  |                      |                            |             | morning rise     | -5110 Oct 18 j 12:54 | 3° $\mathbb{N}24'21$       |             |
| conjunction      | -5116 Sep 20 j 06:33 | 19° $\mathbb{Q}47'23$      | 2°18'02     | retrograde       | -5109 Jan 14 j 16:20 | 5° $\mathbb{N}18'49$       |             |
| minimum elong    | -5116 Sep 20 j 06:33 | 19° $\mathbb{Q}47'23$      | 2°18'14     | opposition       | -5109 Apr 04 j 12:19 | 3° $\mathbb{N}56'20$       | 2°26'05     |
| max. Earth dist. | -5116 Sep 19 j 20:31 | 19° $\mathbb{Q}46'27$      | 31.32587 AU | min. Earth dist. | -5109 Apr 04 j 17:51 | 3° $\mathbb{N}55'58$       | 29.31312 AU |
| morning rise     | -5116 Oct 05 j 07:41 | 20° $\mathbb{Q}21'12$      |             | direct           | -5109 Jun 24 j 05:22 | 2° $\mathbb{N}32'49$       |             |
| retrograde       | -5116 Dec 31 j 20:46 | 22° $\mathbb{Q}14'50$      |             | evening set      | -5109 Sep 20 j 19:45 | 4° $\mathbb{N}27'26$       |             |
| opposition       | -5115 Mar 21 j 07:20 | 20° $\mathbb{Q}52'34$      | 2°27'40     |                  |                      |                            |             |
| min. Earth dist. | -5115 Mar 21 j 17:27 | 20° $\mathbb{Q}51'53$      | 29.32741 AU | conjunction      | -5109 Oct 05 j 21:11 | 5° $\mathbb{N}01'18$       | 2°16'19     |
| direct           | -5115 Jun 10 j 08:30 | 19° $\mathbb{Q}28'37$      |             | minimum elong    | -5109 Oct 05 j 21:11 | 5° $\mathbb{N}01'19$       | 2°16'27     |
| evening set      | -5115 Sep 07 j 12:57 | 21° $\mathbb{Q}23'41$      |             | max. Earth dist. | -5109 Oct 05 j 16:27 | 5° $\mathbb{N}00'52$       | 31.30807 AU |
|                  |                      |                            |             | morning rise     | -5109 Oct 20 j 21:57 | 5° $\mathbb{N}35'09$       |             |
| conjunction      | -5115 Sep 22 j 15:15 | 21° $\mathbb{Q}57'35$      | 2°18'23     | retrograde       | -5108 Jan 17 j 02:15 | 7° $\mathbb{N}29'44$       |             |
| minimum elong    | -5115 Sep 22 j 15:15 | 21° $\mathbb{Q}57'35$      | 2°18'35     | opposition       | -5108 Apr 06 j 01:05 | 6° $\mathbb{N}07'11$       | 2°25'06     |
| max. Earth dist. | -5115 Sep 22 j 05:18 | 21° $\mathbb{Q}56'39$      | 31.32549 AU | min. Earth dist. | -5108 Apr 06 j 05:36 | 6° $\mathbb{N}06'52$       | 29.30609 AU |
| morning rise     | -5115 Oct 07 j 16:23 | 22° $\mathbb{Q}31'24$      |             | direct           | -5108 Jun 25 j 18:00 | 4° $\mathbb{N}43'41$       |             |
| retrograde       | -5114 Jan 03 j 09:11 | 24° $\mathbb{Q}25'10$      |             | evening set      | -5108 Sep 22 j 04:51 | 6° $\mathbb{N}38'11$       |             |
| opposition       | -5114 Mar 23 j 19:56 | 23° $\mathbb{Q}02'53$      | 2°27'56     |                  |                      |                            |             |
| min. Earth dist. | -5114 Mar 24 j 04:20 | 23° $\mathbb{Q}02'19$      | 29.32711 AU | conjunction      | -5108 Oct 07 j 06:04 | 7° $\mathbb{N}12'03$       | 2°15'17     |
| direct           | -5114 Jun 12 j 18:55 | 21° $\mathbb{Q}39'01$      |             | minimum elong    | -5108 Oct 07 j 06:04 | 7° $\mathbb{N}12'03$       | 2°15'25     |
| evening set      | -5114 Sep 09 j 22:02 | 23° $\mathbb{Q}34'02$      |             | max. Earth dist. | -5108 Oct 07 j 01:03 | 7° $\mathbb{N}11'35$       | 31.30059 AU |
|                  |                      |                            |             | morning rise     | -5108 Oct 22 j 07:06 | 7° $\mathbb{N}45'55$       |             |
| conjunction      | -5114 Sep 25 j 00:13 | 24° $\mathbb{Q}07'55$      | 2°18'32     | retrograde       | -5107 Jan 18 j 14:30 | 9° $\mathbb{N}40'37$       |             |
| minimum elong    | -5114 Sep 25 j 00:13 | 24° $\mathbb{Q}07'55$      | 2°18'43     | opposition       | -5107 Apr 08 j 14:00 | 8° $\mathbb{N}17'57$       | 2°23'54     |
| max. Earth dist. | -5114 Sep 24 j 15:56 | 24° $\mathbb{Q}07'09$      | 31.32509 AU | min. Earth dist. | -5107 Apr 08 j 17:41 | 8° $\mathbb{N}17'42$       | 29.29824 AU |
| morning rise     | -5114 Oct 10 j 01:06 | 24° $\mathbb{Q}41'44$      |             | direct           | -5107 Jun 28 j 03:39 | 6° $\mathbb{N}54'27$       |             |
| retrograde       | -5113 Jan 05 j 20:07 | 26° $\mathbb{Q}35'39$      |             | evening set      | -5107 Sep 24 j 13:36 | 8° $\mathbb{N}48'51$       |             |
| opposition       | -5113 Mar 26 j 08:47 | 25° $\mathbb{Q}13'20$      | 2°27'59     |                  |                      |                            |             |
| min. Earth dist. | -5113 Mar 26 j 17:15 | 25° $\mathbb{Q}12'46$      | 29.32655 AU | conjunction      | -5107 Oct 09 j 14:56 | 9° $\mathbb{N}22'44$       | 2°14'04     |
| direct           | -5113 Jun 15 j 07:28 | 23° $\mathbb{Q}49'34$      |             | minimum elong    | -5107 Oct 09 j 14:57 | 9° $\mathbb{N}22'44$       | 2°14'11     |
| evening set      | -5113 Sep 12 j 07:08 | 25° $\mathbb{Q}44'31$      |             | max. Earth dist. | -5107 Oct 09 j 12:00 | 9° $\mathbb{N}22'27$       | 31.29248 AU |
|                  |                      |                            |             | morning rise     | -5107 Oct 24 j 15:53 | 9° $\mathbb{N}56'36$       |             |
| conjunction      | -5113 Sep 27 j 09:02 | 26° $\mathbb{Q}18'24$      | 2°18'29     | retrograde       | -5106 Jan 21 j 00:47 | 11° $\mathbb{N}51'24$      |             |
| minimum elong    | -5113 Sep 27 j 09:02 | 26° $\mathbb{Q}18'24$      | 2°18'39     | opposition       | -5106 Apr 11 j 03:00 | 10° $\mathbb{N}28'38$      | 2°22'30     |
| max. Earth dist. | -5113 Sep 27 j 01:05 | 26° $\mathbb{Q}17'39$      | 31.32429 AU | min. Earth dist. | -5106 Apr 11 j 06:02 | 10° $\mathbb{N}28'26$      | 29.29001 AU |
| morning rise     | -5113 Oct 12 j 09:57 | 26° $\mathbb{Q}52'12$      |             | direct           | -5106 Jun 30 j 14:54 | 9° $\mathbb{N}05'10$       |             |
| retrograde       | -5112 Jan 08 j 08:42 | 28° $\mathbb{Q}46'15$      |             | evening set      | -5106 Sep 26 j 22:33 | 10° $\mathbb{N}59'27$      |             |
| opposition       | -5112 Mar 27 j 21:29 | 27° $\mathbb{Q}23'56$      | 2°27'50     |                  |                      |                            |             |
| min. Earth dist. | -5112 Mar 28 j 04:11 | 27° $\mathbb{Q}23'29$      | 29.32524 AU | conjunction      | -5106 Oct 11 j 23:43 | 11° $\mathbb{N}33'19$      | 2°12'40     |
| direct           | -5112 Jun 16 j 19:40 | 26° $\mathbb{Q}00'14$      |             | minimum elong    | -5106 Oct 11 j 23:43 | 11° $\mathbb{N}33'19$      | 2°12'46     |
| evening set      | -5112 Sep 13 j 16:20 | 27° $\mathbb{Q}55'07$      |             | max. Earth dist. | -5106 Oct 11 j 21:01 | 11° $\mathbb{N}33'04$      | 31.28450 AU |
|                  |                      |                            |             | morning rise     | -5106 Oct 27 j 00:57 | 12° $\mathbb{N}07'12$      |             |

Attention, astronomical year style is used: The year -5105 in astronomical counting style is the year 5106 BCE in historical counting style.

|                  |                      |                            |             |                  |                      |                            |             |
|------------------|----------------------|----------------------------|-------------|------------------|----------------------|----------------------------|-------------|
| retrograde       | -5105 Jan 23 j 13:24 | 14° $\mathring{\mu}$ 02'08 |             | minimum elong    | -5099 Oct 26 j 14:14 | 26° $\mathring{\mu}$ 49'05 | 1°57'36     |
| opposition       | -5105 Apr 13 j 15:49 | 12° $\mathring{\mu}$ 39'16 | 2°20'54     | max. Earth dist. | -5099 Oct 26 j 18:30 | 26° $\mathring{\mu}$ 49'30 | 31.24304 AU |
| min. Earth dist. | -5105 Apr 13 j 16:57 | 12° $\mathring{\mu}$ 39'11 | 29.28233 AU | morning rise     | -5099 Nov 10 j 17:12 | 27° $\mathring{\mu}$ 23'11 |             |
| direct           | -5105 Jul 03 j 01:13 | 11° $\mathring{\mu}$ 15'48 |             | retrograde       | -5098 Feb 07 j 21:50 | 29° $\mathring{\mu}$ 19'04 |             |
| evening set      | -5105 Sep 29 j 07:15 | 13° $\mathring{\mu}$ 09'59 |             | opposition       | -5098 Apr 29 j 10:31 | 27° $\mathring{\mu}$ 55'48 | 2°04'05     |
|                  |                      |                            |             | min. Earth dist. | -5098 Apr 29 j 04:59 | 27° $\mathring{\mu}$ 56'11 | 29.24073 AU |
| conjunction      | -5105 Oct 14 j 08:33 | 13° $\mathring{\mu}$ 43'52 | 2°11'04     | direct           | -5098 Jul 18 j 08:49 | 26° $\mathring{\mu}$ 32'46 |             |
| minimum elong    | -5105 Oct 14 j 08:34 | 13° $\mathring{\mu}$ 43'52 | 2°11'10     | evening set      | -5098 Oct 13 j 21:20 | 28° $\mathring{\mu}$ 26'22 |             |
| max. Earth dist. | -5105 Oct 14 j 07:39 | 13° $\mathring{\mu}$ 43'47 | 31.27711 AU |                  |                      |                            |             |
| morning rise     | -5105 Oct 29 j 09:52 | 14° $\mathring{\mu}$ 17'47 |             | conjunction      | -5098 Oct 28 j 23:35 | 29° $\mathring{\mu}$ 00'23 | 1°54'42     |
| retrograde       | -5104 Jan 26 j 00:51 | 16° $\mathring{\mu}$ 12'49 |             | minimum elong    | -5098 Oct 28 j 23:36 | 29° $\mathring{\mu}$ 00'23 | 1°54'44     |
| opposition       | -5104 Apr 15 j 04:46 | 14° $\mathring{\mu}$ 49'52 | 2°19'05     | max. Earth dist. | -5098 Oct 29 j 05:33 | 29° $\mathring{\mu}$ 00'57 | 31.23554 AU |
| min. Earth dist. | -5104 Apr 15 j 05:34 | 14° $\mathring{\mu}$ 49'49 | 29.27533 AU | morning rise     | -5098 Nov 13 j 02:46 | 29° $\mathring{\mu}$ 34'30 |             |
| direct           | -5104 Jul 04 j 13:36 | 13° $\mathring{\mu}$ 26'28 |             |                  | -5098 Nov 24 j 22:33 | 0° $\mathring{\mu}$        |             |
| evening set      | -5104 Sep 30 j 16:04 | 15° $\mathring{\mu}$ 20'33 |             | retrograde       | -5097 Feb 10 j 08:31 | 1° $\mathring{\mu}$ 30'30  |             |
|                  |                      |                            |             | opposition       | -5097 May 01 j 23:37 | 0° $\mathring{\mu}$ 07'10  | 2°00'56     |
| conjunction      | -5104 Oct 15 j 17:22 | 15° $\mathring{\mu}$ 54'27 | 2°09'17     | min. Earth dist. | -5097 May 01 j 17:49 | 0° $\mathring{\mu}$ 07'34  | 29.23250 AU |
| minimum elong    | -5104 Oct 15 j 17:22 | 15° $\mathring{\mu}$ 54'27 | 2°09'21     |                  | -5097 May 06 j 09:55 | 30° $\mathring{\mu}$       |             |
| max. Earth dist. | -5104 Oct 15 j 17:16 | 15° $\mathring{\mu}$ 54'26 | 31.27067 AU | direct           | -5097 Jul 20 j 19:48 | 28° $\mathring{\mu}$ 44'10 |             |
| morning rise     | -5104 Oct 30 j 18:54 | 16° $\mathring{\mu}$ 28'23 |             |                  | -5097 Sep 28 j 10:30 | 0° $\mathring{\mu}$        |             |
| retrograde       | -5103 Jan 27 j 13:55 | 18° $\mathring{\mu}$ 23'33 |             | evening set      | -5097 Oct 16 j 06:25 | 0° $\mathring{\mu}$ 37'39  |             |
| opposition       | -5103 Apr 17 j 17:28 | 17° $\mathring{\mu}$ 00'32 | 2°17'05     |                  |                      |                            |             |
| min. Earth dist. | -5103 Apr 17 j 16:02 | 17° $\mathring{\mu}$ 00'38 | 29.26922 AU | conjunction      | -5097 Oct 31 j 08:50 | 1° $\mathring{\mu}$ 11'41  | 1°51'40     |
| direct           | -5103 Jul 07 j 01:14 | 15° $\mathring{\mu}$ 37'11 |             | minimum elong    | -5097 Oct 31 j 08:50 | 1° $\mathring{\mu}$ 11'41  | 1°51'41     |
| evening set      | -5103 Oct 03 j 00:52 | 17° $\mathring{\mu}$ 31'12 |             | max. Earth dist. | -5097 Oct 31 j 14:37 | 1° $\mathring{\mu}$ 12'14  | 31.22678 AU |
|                  |                      |                            |             | morning rise     | -5097 Nov 15 j 12:32 | 1° $\mathring{\mu}$ 45'52  |             |
| conjunction      | -5103 Oct 18 j 02:14 | 18° $\mathring{\mu}$ 05'06 | 2°07'18     | retrograde       | -5096 Feb 12 j 21:43 | 3° $\mathring{\mu}$ 41'58  |             |
| minimum elong    | -5103 Oct 18 j 02:15 | 18° $\mathring{\mu}$ 05'06 | 2°07'23     | opposition       | -5096 May 03 j 12:40 | 2° $\mathring{\mu}$ 18'32  | 1°57'37     |
| max. Earth dist. | -5103 Oct 18 j 03:14 | 18° $\mathring{\mu}$ 05'12 | 31.26496 AU | min. Earth dist. | -5096 May 03 j 05:29 | 2° $\mathring{\mu}$ 19'01  | 29.22302 AU |
| morning rise     | -5103 Nov 02 j 04:00 | 18° $\mathring{\mu}$ 39'04 |             | direct           | -5096 Jul 22 j 06:19 | 0° $\mathring{\mu}$ 55'32  |             |
| retrograde       | -5102 Jan 30 j 00:28 | 20° $\mathring{\mu}$ 34'23 |             | evening set      | -5096 Oct 17 j 15:23 | 2° $\mathring{\mu}$ 48'55  |             |
| opposition       | -5102 Apr 20 j 06:32 | 19° $\mathring{\mu}$ 11'19 | 2°14'52     |                  |                      |                            |             |
| min. Earth dist. | -5102 Apr 20 j 05:00 | 19° $\mathring{\mu}$ 11'25 | 29.26383 AU | conjunction      | -5096 Nov 01 j 18:07 | 3° $\mathring{\mu}$ 22'58  | 1°48'29     |
| direct           | -5102 Jul 09 j 12:01 | 17° $\mathring{\mu}$ 48'02 |             | minimum elong    | -5096 Nov 01 j 18:08 | 3° $\mathring{\mu}$ 22'58  | 1°48'29     |
| evening set      | -5102 Oct 05 j 09:32 | 19° $\mathring{\mu}$ 41'58 |             | max. Earth dist. | -5096 Nov 02 j 01:06 | 3° $\mathring{\mu}$ 23'38  | 31.21669 AU |
|                  |                      |                            |             | morning rise     | -5096 Nov 16 j 22:09 | 3° $\mathring{\mu}$ 57'11  |             |
| conjunction      | -5102 Oct 20 j 11:06 | 20° $\mathring{\mu}$ 15'53 | 2°05'08     | retrograde       | -5095 Feb 14 j 09:24 | 5° $\mathring{\mu}$ 53'23  |             |
| minimum elong    | -5102 Oct 20 j 11:06 | 20° $\mathring{\mu}$ 15'53 | 2°05'12     | opposition       | -5095 May 06 j 01:45 | 4° $\mathring{\mu}$ 29'50  | 1°54'07     |
| max. Earth dist. | -5102 Oct 20 j 13:43 | 20° $\mathring{\mu}$ 16'08 | 31.25990 AU | min. Earth dist. | -5095 May 05 j 18:42 | 4° $\mathring{\mu}$ 30'19  | 29.21242 AU |
| morning rise     | -5102 Nov 04 j 13:03 | 20° $\mathring{\mu}$ 49'53 |             | direct           | -5095 Jul 24 j 17:58 | 3° $\mathring{\mu}$ 06'50  |             |
| retrograde       | -5101 Feb 01 j 11:24 | 22° $\mathring{\mu}$ 45'20 |             | evening set      | -5095 Oct 20 j 00:22 | 5° $\mathring{\mu}$ 00'06  |             |
| opposition       | -5101 Apr 22 j 19:27 | 21° $\mathring{\mu}$ 22'14 | 2°12'28     |                  |                      |                            |             |
| min. Earth dist. | -5101 Apr 22 j 16:01 | 21° $\mathring{\mu}$ 22'27 | 29.25873 AU | conjunction      | -5095 Nov 04 j 03:23 | 5° $\mathring{\mu}$ 34'11  | 1°45'08     |
| direct           | -5101 Jul 12 j 00:54 | 19° $\mathring{\mu}$ 59'01 |             | minimum elong    | -5095 Nov 04 j 03:24 | 5° $\mathring{\mu}$ 34'11  | 1°45'08     |
| evening set      | -5101 Oct 07 j 18:30 | 21° $\mathring{\mu}$ 52'52 |             | max. Earth dist. | -5095 Nov 04 j 11:05 | 5° $\mathring{\mu}$ 34'55  | 31.20600 AU |
|                  |                      |                            |             | morning rise     | -5095 Nov 19 j 07:51 | 6° $\mathring{\mu}$ 08'25  |             |
| conjunction      | -5101 Oct 22 j 20:04 | 22° $\mathring{\mu}$ 26'49 | 2°02'48     | retrograde       | -5094 Feb 16 j 22:32 | 8° $\mathring{\mu}$ 04'43  |             |
| minimum elong    | -5101 Oct 22 j 20:05 | 22° $\mathring{\mu}$ 26'49 | 2°02'51     | opposition       | -5094 May 08 j 14:45 | 6° $\mathring{\mu}$ 41'03  | 1°50'28     |
| max. Earth dist. | -5101 Oct 22 j 22:52 | 22° $\mathring{\mu}$ 27'05 | 31.25480 AU | min. Earth dist. | -5094 May 08 j 05:42 | 6° $\mathring{\mu}$ 41'40  | 29.20151 AU |
| morning rise     | -5101 Nov 06 j 22:26 | 23° $\mathring{\mu}$ 00'51 |             | direct           | -5094 Jul 27 j 05:26 | 5° $\mathring{\mu}$ 18'03  |             |
| retrograde       | -5100 Feb 03 j 23:33 | 24° $\mathring{\mu}$ 56'26 |             | evening set      | -5094 Oct 22 j 09:17 | 7° $\mathring{\mu}$ 11'12  |             |
| opposition       | -5100 Apr 24 j 08:20 | 23° $\mathring{\mu}$ 33'17 | 2°09'51     |                  |                      |                            |             |
| min. Earth dist. | -5100 Apr 24 j 04:43 | 23° $\mathring{\mu}$ 33'32 | 29.25353 AU | conjunction      | -5094 Nov 06 j 12:34 | 7° $\mathring{\mu}$ 45'19  | 1°41'38     |
| direct           | -5100 Jul 13 j 11:04 | 22° $\mathring{\mu}$ 10'09 |             | minimum elong    | -5094 Nov 06 j 12:34 | 7° $\mathring{\mu}$ 45'19  | 1°41'37     |
| evening set      | -5100 Oct 09 j 03:20 | 24° $\mathring{\mu}$ 03'55 |             | max. Earth dist. | -5094 Nov 06 j 21:05 | 7° $\mathring{\mu}$ 46'07  | 31.19512 AU |
|                  |                      |                            |             | morning rise     | -5094 Nov 21 j 17:32 | 8° $\mathring{\mu}$ 19'36  |             |
| conjunction      | -5100 Oct 24 j 05:14 | 24° $\mathring{\mu}$ 37'54 | 2°00'16     | retrograde       | -5093 Feb 19 j 09:55 | 10° $\mathring{\mu}$ 16'00 |             |
| minimum elong    | -5100 Oct 24 j 05:14 | 24° $\mathring{\mu}$ 37'54 | 2°00'19     | opposition       | -5093 May 11 j 03:50 | 8° $\mathring{\mu}$ 52'13  | 1°46'39     |
| max. Earth dist. | -5100 Oct 24 j 09:46 | 24° $\mathring{\mu}$ 38'19 | 31.24936 AU | min. Earth dist. | -5093 May 10 j 18:51 | 8° $\mathring{\mu}$ 52'50  | 29.19085 AU |
| morning rise     | -5100 Nov 08 j 07:44 | 25° $\mathring{\mu}$ 11'57 |             | direct           | -5093 Jul 29 j 16:28 | 7° $\mathring{\mu}$ 29'13  |             |
| retrograde       | -5099 Feb 05 j 09:39 | 27° $\mathring{\mu}$ 07'41 |             | evening set      | -5093 Oct 24 j 18:15 | 9° $\mathring{\mu}$ 22'17  |             |
| opposition       | -5099 Apr 26 j 21:21 | 25° $\mathring{\mu}$ 44'30 | 2°07'04     |                  |                      |                            |             |
| min. Earth dist. | -5099 Apr 26 j 16:34 | 25° $\mathring{\mu}$ 44'49 | 29.24759 AU | conjunction      | -5093 Nov 08 j 21:57 | 9° $\mathring{\mu}$ 56'25  | 1°38'00     |
| direct           | -5099 Jul 15 j 23:15 | 24° $\mathring{\mu}$ 21'25 |             | minimum elong    | -5093 Nov 08 j 21:58 | 9° $\mathring{\mu}$ 56'25  | 1°37'58     |
| evening set      | -5099 Oct 11 j 12:20 | 26° $\mathring{\mu}$ 15'06 |             | max. Earth dist. | -5093 Nov 09 j 08:10 | 9° $\mathring{\mu}$ 57'23  | 31.18486 AU |
|                  |                      |                            |             | morning rise     | -5093 Nov 24 j 03:16 | 10° $\mathring{\mu}$ 30'44 |             |
| conjunction      | -5099 Oct 26 j 14:13 | 26° $\mathring{\mu}$ 49'05 | 1°57'34     | retrograde       | -5092 Feb 21 j 21:35 | 12° $\mathring{\mu}$ 27'13 |             |



Attention, astronomical year style is used: The year -5092 in astronomical counting style is the year 5093 BCE in historical counting style.

|                  |                      |                    |             |                  |                      |                    |             |
|------------------|----------------------|--------------------|-------------|------------------|----------------------|--------------------|-------------|
| opposition       | -5092 May 12 j 16:32 | 11° <u>♂</u> 03'22 | 1°42'41     | max. Earth dist. | -5086 Nov 24 j 09:12 | 25° <u>♂</u> 19'35 | 31.13109 AU |
| min. Earth dist. | -5092 May 12 j 05:34 | 11° <u>♂</u> 04'07 | 29.18092 AU | morning rise     | -5086 Dec 09 j 02:05 | 25° <u>♂</u> 52'45 |             |
| direct           | -5092 Jul 31 j 05:21 | 9° <u>♂</u> 40'23  |             | retrograde       | -5085 Mar 09 j 12:13 | 27° <u>♂</u> 50'11 |             |
| evening set      | -5092 Oct 26 j 03:20 | 11° <u>♂</u> 33'22 |             | opposition       | -5085 May 29 j 11:23 | 26° <u>♂</u> 26'02 | 1°10'54     |
|                  |                      |                    |             | min. Earth dist. | -5085 May 28 j 18:29 | 26° <u>♂</u> 27'11 | 29.12712 AU |
| conjunction      | -5092 Nov 10 j 07:14 | 12° <u>♂</u> 07'33 | 1°34'13     | direct           | -5085 Aug 16 j 06:32 | 25° <u>♂</u> 03'26 |             |
| minimum elong    | -5092 Nov 10 j 07:14 | 12° <u>♂</u> 07'33 | 1°34'10     | evening set      | -5085 Nov 10 j 20:28 | 26° <u>♂</u> 56'03 |             |
| max. Earth dist. | -5092 Nov 10 j 17:39 | 12° <u>♂</u> 08'32 | 31.17548 AU |                  |                      |                    |             |
| morning rise     | -5092 Nov 25 j 13:09 | 12° <u>♂</u> 41'55 |             | conjunction      | -5085 Nov 26 j 03:15 | 27° <u>♂</u> 30'31 | 1°04'04     |
| retrograde       | -5091 Feb 23 j 10:19 | 14° <u>♂</u> 38'31 |             | minimum elong    | -5085 Nov 26 j 03:15 | 27° <u>♂</u> 30'31 | 1°03'57     |
| opposition       | -5091 May 15 j 05:33 | 13° <u>♂</u> 14'36 | 1°38'33     | max. Earth dist. | -5085 Nov 26 j 19:23 | 27° <u>♂</u> 32'02 | 31.12172 AU |
| min. Earth dist. | -5091 May 14 j 18:06 | 13° <u>♂</u> 15'22 | 29.17210 AU | morning rise     | -5085 Dec 11 j 12:50 | 28° <u>♂</u> 05'14 |             |
| direct           | -5091 Aug 02 j 15:41 | 11° <u>♂</u> 51'39 |             |                  | -5084 Feb 26 j 23:15 | 0° <u>♂</u>        |             |
| evening set      | -5091 Oct 28 j 12:10 | 13° <u>♂</u> 44'33 |             | retrograde       | -5084 Mar 11 j 00:52 | 0° <u>♂</u> 02'47  |             |
|                  |                      |                    |             |                  | -5084 Mar 24 j 05:00 | 30° <u>♂</u>       |             |
| conjunction      | -5091 Nov 12 j 16:35 | 14° <u>♂</u> 18'46 | 1°30'17     | min. Earth dist. | -5084 May 30 j 08:09 | 28° <u>♂</u> 39'40 | 29.11710 AU |
| minimum elong    | -5091 Nov 12 j 16:36 | 14° <u>♂</u> 18'46 | 1°30'15     | opposition       | -5084 May 31 j 00:21 | 28° <u>♂</u> 38'34 | 1°05'53     |
| max. Earth dist. | -5091 Nov 13 j 05:09 | 14° <u>♂</u> 19'58 | 31.16722 AU | direct           | -5084 Aug 17 j 17:30 | 27° <u>♂</u> 15'58 |             |
| morning rise     | -5091 Nov 27 j 22:51 | 14° <u>♂</u> 53'12 |             | evening set      | -5084 Nov 12 j 06:10 | 29° <u>♂</u> 08'31 |             |
| retrograde       | -5090 Feb 25 j 20:39 | 16° <u>♂</u> 49'56 |             |                  |                      |                    |             |
| opposition       | -5090 May 17 j 18:31 | 15° <u>♂</u> 25'58 | 1°34'17     | conjunction      | -5084 Nov 27 j 13:32 | 29° <u>♂</u> 43'01 | 0°59'19     |
| min. Earth dist. | -5090 May 17 j 05:32 | 15° <u>♂</u> 26'51 | 29.16419 AU | minimum elong    | -5084 Nov 27 j 13:33 | 29° <u>♂</u> 43'01 | 0°59'12     |
| direct           | -5090 Aug 05 j 03:42 | 14° <u>♂</u> 03'05 |             | max. Earth dist. | -5084 Nov 28 j 06:49 | 29° <u>♂</u> 44'39 | 31.11116 AU |
| evening set      | -5090 Oct 30 j 21:21 | 15° <u>♂</u> 55'56 |             |                  | -5084 Dec 05 j 01:04 | 0° <u>♂</u>        |             |
|                  |                      |                    |             | morning rise     | -5084 Dec 12 j 23:34 | 0° <u>♂</u> 17'47  |             |
| conjunction      | -5090 Nov 15 j 02:00 | 16° <u>♂</u> 30'10 | 1°26'13     | retrograde       | -5083 Mar 13 j 14:25 | 2° <u>♂</u> 15'24  |             |
| minimum elong    | -5090 Nov 15 j 02:01 | 16° <u>♂</u> 30'11 | 1°26'10     | opposition       | -5083 Jun 02 j 13:17 | 0° <u>♂</u> 51'06  | 1°00'45     |
| max. Earth dist. | -5090 Nov 15 j 14:34 | 16° <u>♂</u> 31'22 | 31.15987 AU | min. Earth dist. | -5083 Jun 01 j 19:43 | 0° <u>♂</u> 52'18  | 29.10583 AU |
| morning rise     | -5090 Nov 30 j 08:57 | 17° <u>♂</u> 04'39 |             |                  | -5083 Jul 06 j 04:58 | 30° <u>♂</u>       |             |
| retrograde       | -5089 Feb 28 j 09:08 | 19° <u>♂</u> 01'32 |             | direct           | -5083 Aug 20 j 06:54 | 29° <u>♂</u> 28'29 |             |
| opposition       | -5089 May 20 j 07:23 | 17° <u>♂</u> 37'32 | 1°29'52     |                  | -5083 Oct 02 j 14:40 | 0° <u>♂</u>        |             |
| min. Earth dist. | -5089 May 19 j 17:30 | 17° <u>♂</u> 38'28 | 29.15717 AU | evening set      | -5083 Nov 14 j 15:51 | 1° <u>♂</u> 20'58  |             |
| direct           | -5089 Aug 07 j 12:58 | 16° <u>♂</u> 14'42 |             |                  |                      |                    |             |
| evening set      | -5089 Nov 02 j 06:27 | 18° <u>♂</u> 07'30 |             | conjunction      | -5083 Nov 29 j 23:33 | 1° <u>♂</u> 55'30  | 0°54'29     |
|                  |                      |                    |             | minimum elong    | -5083 Nov 29 j 23:33 | 1° <u>♂</u> 55'30  | 0°54'21     |
| conjunction      | -5089 Nov 17 j 11:39 | 18° <u>♂</u> 41'48 | 1°22'02     | max. Earth dist. | -5083 Nov 30 j 16:29 | 1° <u>♂</u> 57'06  | 31.09951 AU |
| minimum elong    | -5089 Nov 17 j 11:40 | 18° <u>♂</u> 41'48 | 1°21'58     | morning rise     | -5083 Dec 15 j 10:20 | 2° <u>♂</u> 30'19  |             |
| max. Earth dist. | -5089 Nov 18 j 02:07 | 18° <u>♂</u> 43'10 | 31.15303 AU | retrograde       | -5082 Mar 16 j 03:47 | 4° <u>♂</u> 28'01  |             |
| morning rise     | -5089 Dec 02 j 18:59 | 19° <u>♂</u> 16'19 |             | min. Earth dist. | -5082 Jun 04 j 08:55 | 3° <u>♂</u> 04'47  | 29.09389 AU |
| retrograde       | -5088 Mar 01 j 20:17 | 21° <u>♂</u> 13'21 |             | opposition       | -5082 Jun 05 j 02:19 | 3° <u>♂</u> 03'36  | 0°55'33     |
| opposition       | -5088 May 21 j 20:22 | 19° <u>♂</u> 49'19 | 1°25'19     | direct           | -5082 Aug 22 j 17:57 | 1° <u>♂</u> 40'57  |             |
| min. Earth dist. | -5088 May 21 j 06:03 | 19° <u>♂</u> 50'18 | 29.15033 AU | evening set      | -5082 Nov 17 j 01:34 | 3° <u>♂</u> 33'20  |             |
| direct           | -5088 Aug 08 j 23:25 | 18° <u>♂</u> 26'35 |             |                  |                      |                    |             |
| evening set      | -5088 Nov 03 j 15:44 | 20° <u>♂</u> 19'20 |             | conjunction      | -5082 Dec 02 j 09:55 | 4° <u>♂</u> 07'55  | 0°49'34     |
|                  |                      |                    |             | minimum elong    | -5082 Dec 02 j 09:55 | 4° <u>♂</u> 07'55  | 0°49'26     |
| conjunction      | -5088 Nov 18 j 21:14 | 20° <u>♂</u> 53'40 | 1°17'42     | max. Earth dist. | -5082 Dec 03 j 04:32 | 4° <u>♂</u> 09'40  | 31.08743 AU |
| minimum elong    | -5088 Nov 18 j 21:14 | 20° <u>♂</u> 53'40 | 1°17'37     | morning rise     | -5082 Dec 17 j 21:08 | 4° <u>♂</u> 42'47  |             |
| max. Earth dist. | -5088 Nov 19 j 11:48 | 20° <u>♂</u> 55'02 | 31.14630 AU | retrograde       | -5081 Mar 18 j 14:21 | 6° <u>♂</u> 40'32  |             |
| morning rise     | -5088 Dec 04 j 05:10 | 21° <u>♂</u> 28'14 |             | opposition       | -5081 Jun 07 j 15:00 | 5° <u>♂</u> 16'00  | 0°50'16     |
| retrograde       | -5087 Mar 04 j 09:52 | 23° <u>♂</u> 25'25 |             | min. Earth dist. | -5081 Jun 06 j 20:33 | 5° <u>♂</u> 17'16  | 29.08174 AU |
| opposition       | -5087 May 24 j 09:18 | 22° <u>♂</u> 01'22 | 1°20'38     | direct           | -5081 Aug 25 j 06:27 | 3° <u>♂</u> 53'19  |             |
| min. Earth dist. | -5087 May 23 j 17:37 | 22° <u>♂</u> 02'25 | 29.14341 AU | evening set      | -5081 Nov 19 j 11:27 | 5° <u>♂</u> 45'39  |             |
| direct           | -5087 Aug 11 j 09:23 | 20° <u>♂</u> 38'41 |             |                  |                      |                    |             |
| evening set      | -5087 Nov 06 j 01:11 | 22° <u>♂</u> 31'24 |             | conjunction      | -5081 Dec 04 j 20:08 | 6° <u>♂</u> 20'15  | 0°44'36     |
|                  |                      |                    |             | minimum elong    | -5081 Dec 04 j 20:09 | 6° <u>♂</u> 20'15  | 0°44'26     |
| conjunction      | -5087 Nov 21 j 07:07 | 23° <u>♂</u> 05'46 | 1°13'16     | max. Earth dist. | -5081 Dec 05 j 14:28 | 6° <u>♂</u> 21'59  | 31.07552 AU |
| minimum elong    | -5087 Nov 21 j 07:07 | 23° <u>♂</u> 05'46 | 1°13'10     | morning rise     | -5081 Dec 20 j 08:06 | 6° <u>♂</u> 55'10  |             |
| max. Earth dist. | -5087 Nov 21 j 22:43 | 23° <u>♂</u> 07'14 | 31.13907 AU | retrograde       | -5080 Mar 20 j 03:05 | 8° <u>♂</u> 52'59  |             |
| morning rise     | -5087 Dec 06 j 15:32 | 23° <u>♂</u> 40'24 |             | min. Earth dist. | -5080 Jun 08 j 08:38 | 7° <u>♂</u> 29'40  | 29.07017 AU |
| retrograde       | -5086 Mar 06 j 22:22 | 25° <u>♂</u> 37'43 |             | opposition       | -5080 Jun 09 j 03:47 | 7° <u>♂</u> 28'21  | 0°44'54     |
| opposition       | -5086 May 26 j 22:25 | 24° <u>♂</u> 13'37 | 1°15'49     | direct           | -5080 Aug 26 j 17:09 | 6° <u>♂</u> 05'39  |             |
| min. Earth dist. | -5086 May 26 j 07:02 | 24° <u>♂</u> 14'40 | 29.13580 AU | evening set      | -5080 Nov 20 j 21:10 | 7° <u>♂</u> 57'54  |             |
| direct           | -5086 Aug 13 j 19:57 | 22° <u>♂</u> 50'59 |             |                  |                      |                    |             |
| evening set      | -5086 Nov 08 j 10:42 | 24° <u>♂</u> 43'39 |             | conjunction      | -5080 Dec 06 j 06:26 | 8° <u>♂</u> 32'33  | 0°39'33     |
|                  |                      |                    |             | minimum elong    | -5080 Dec 06 j 06:26 | 8° <u>♂</u> 32'33  | 0°39'23     |
| conjunction      | -5086 Nov 23 j 17:07 | 25° <u>♂</u> 18'04 | 1°08'43     | max. Earth dist. | -5080 Dec 07 j 02:34 | 8° <u>♂</u> 34'27  | 31.06427 AU |
| minimum elong    | -5086 Nov 23 j 17:07 | 25° <u>♂</u> 18'04 | 1°08'37     | morning rise     | -5080 Dec 21 j 18:49 | 9° <u>♂</u> 07'31  |             |

## Planetary Phenomena of Neptune from -5400 through -4898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 26

Attention, astronomical year style is used: The year -5079 in astronomical counting style is the year 5080 BCE in historical counting style.

|                  |                      |                    |             |                  |                      |                    |             |
|------------------|----------------------|--------------------|-------------|------------------|----------------------|--------------------|-------------|
| retrograde       | -5079 Mar 22 j 14:12 | 11° <b>ℳ</b> 05'24 |             | max. Earth dist. | -5074 Dec 20 j 21:37 | 21° <b>ℳ</b> 50'51 | 31.01326 AU |
| opposition       | -5079 Jun 11 j 16:33 | 9° <b>ℳ</b> 40'41  | 0°39'28     | morning rise     | -5073 Jan 04 j 14:48 | 22° <b>ℳ</b> 23'58 |             |
| min. Earth dist. | -5079 Jun 10 j 20:55 | 9° <b>ℳ</b> 42'02  | 29.05937 AU | retrograde       | -5073 Apr 05 j 22:07 | 24° <b>ℳ</b> 22'27 |             |
| direct           | -5079 Aug 29 j 04:37 | 8° <b>ℳ</b> 17'59  |             | opposition       | -5073 Jun 25 j 20:34 | 22° <b>ℳ</b> 57'33 | 0°05'47     |
| evening set      | -5079 Nov 23 j 07:08 | 10° <b>ℳ</b> 10'11 |             | min. Earth dist. | -5073 Jun 24 j 22:12 | 22° <b>ℳ</b> 59'05 | 29.00918 AU |
|                  |                      |                    |             | direct           | -5073 Sep 11 j 20:13 | 21° <b>ℳ</b> 34'56 |             |
| conjunction      | -5079 Dec 08 j 16:50 | 10° <b>ℳ</b> 44'52 | 0°34'26     | evening set      | -5073 Dec 06 j 21:25 | 23° <b>ℳ</b> 27'08 |             |
| minimum elong    | -5079 Dec 08 j 16:50 | 10° <b>ℳ</b> 44'52 | 0°34'16     |                  |                      |                    |             |
| max. Earth dist. | -5079 Dec 09 j 13:09 | 10° <b>ℳ</b> 46'47 | 31.05415 AU | conjunction      | -5073 Dec 22 j 10:13 | 24° <b>ℳ</b> 02'05 | 0°02'53     |
| morning rise     | -5079 Dec 24 j 05:53 | 11° <b>ℳ</b> 19'53 |             | minimum elong    | -5073 Dec 22 j 10:13 | 24° <b>ℳ</b> 02'05 | 0°02'40     |
| retrograde       | -5078 Mar 25 j 03:03 | 13° <b>ℳ</b> 17'51 |             | behind sun begin | -5073 Dec 22 j 03:46 | 24° <b>ℳ</b> 01'30 |             |
| min. Earth dist. | -5078 Jun 13 j 08:10 | 11° <b>ℳ</b> 54'31 | 29.04981 AU | behind sun end   | -5073 Dec 22 j 16:39 | 24° <b>ℳ</b> 02'40 |             |
| opposition       | -5078 Jun 14 j 05:14 | 11° <b>ℳ</b> 53'05 | 0°33'58     | max. Earth dist. | -5073 Dec 23 j 10:09 | 24° <b>ℳ</b> 04'21 | 31.00418 AU |
| direct           | -5078 Aug 31 j 14:45 | 10° <b>ℳ</b> 30'22 |             | morning rise     | -5072 Jan 07 j 02:35 | 24° <b>ℳ</b> 37'24 |             |
| evening set      | -5078 Nov 25 j 17:07 | 12° <b>ℳ</b> 22'32 |             | retrograde       | -5072 Apr 07 j 10:31 | 26° <b>ℳ</b> 35'57 |             |
|                  |                      |                    |             | min. Earth dist. | -5072 Jun 26 j 10:18 | 25° <b>ℳ</b> 12'36 | 28.99945 AU |
| conjunction      | -5078 Dec 11 j 03:21 | 12° <b>ℳ</b> 57'16 | 0°29'16     | opposition       | -5072 Jun 27 j 09:11 | 25° <b>ℳ</b> 11'01 | 0°00'04     |
| minimum elong    | -5078 Dec 11 j 03:21 | 12° <b>ℳ</b> 57'16 | 0°29'05     | desc. node       | -5072 Jul 02 j 02:08 | 25° <b>ℳ</b> 03'16 |             |
| max. Earth dist. | -5078 Dec 12 j 00:44 | 12° <b>ℳ</b> 59'17 | 31.04502 AU | direct           | -5072 Sep 13 j 08:44 | 23° <b>ℳ</b> 48'25 |             |
| morning rise     | -5078 Dec 26 j 16:59 | 13° <b>ℳ</b> 32'20 |             | evening set      | -5072 Dec 08 j 08:17 | 25° <b>ℳ</b> 40'37 |             |
|                  | -5077 Feb 11 j 22:25 | 15° <b>ℳ</b>       |             |                  |                      |                    |             |
| retrograde       | -5077 Mar 27 j 14:39 | 15° <b>ℳ</b> 30'24 |             | conjunction      | -5072 Dec 23 j 21:25 | 26° <b>ℳ</b> 15'36 | -0°02'36    |
|                  | -5077 May 11 j 18:35 | 15° <b>ℳ</b>       |             | minimum elong    | -5072 Dec 23 j 21:26 | 26° <b>ℳ</b> 15'36 | 0°02'49     |
| opposition       | -5077 Jun 16 j 17:59 | 14° <b>ℳ</b> 05'35 | 0°28'24     | behind sun begin | -5072 Dec 23 j 14:59 | 26° <b>ℳ</b> 15'01 |             |
| min. Earth dist. | -5077 Jun 15 j 21:06 | 14° <b>ℳ</b> 07'01 | 29.04113 AU | behind sun end   | -5072 Dec 24 j 03:52 | 26° <b>ℳ</b> 16'11 |             |
| direct           | -5077 Sep 03 j 00:50 | 12° <b>ℳ</b> 42'53 |             | max. Earth dist. | -5072 Dec 24 j 20:25 | 26° <b>ℳ</b> 17'46 | 30.99390 AU |
| evening set      | -5077 Nov 28 j 03:15 | 14° <b>ℳ</b> 35'02 |             | morning rise     | -5071 Jan 08 j 14:31 | 26° <b>ℳ</b> 50'58 |             |
|                  | -5077 Dec 09 j 06:19 | 15° <b>ℳ</b>       |             | retrograde       | -5071 Apr 10 j 00:49 | 28° <b>ℳ</b> 49'35 |             |
| conjunction      | -5077 Dec 13 j 14:02 | 15° <b>ℳ</b> 09'48 | 0°24'03     | opposition       | -5071 Jun 29 j 21:55 | 27° <b>ℳ</b> 24'36 | -0°05'38    |
| minimum elong    | -5077 Dec 13 j 14:02 | 15° <b>ℳ</b> 09'48 | 0°23'52     | min. Earth dist. | -5071 Jun 28 j 23:01 | 27° <b>ℳ</b> 26'10 | 28.98862 AU |
| max. Earth dist. | -5077 Dec 14 j 12:07 | 15° <b>ℳ</b> 11'54 | 31.03683 AU | direct           | -5071 Sep 15 j 19:58 | 26° <b>ℳ</b> 01'58 |             |
| morning rise     | -5077 Dec 29 j 04:11 | 15° <b>ℳ</b> 44'55 |             | evening set      | -5071 Dec 10 j 19:13 | 27° <b>ℳ</b> 54'09 |             |
| retrograde       | -5076 Mar 29 j 04:20 | 17° <b>ℳ</b> 43'05 |             | conjunction      | -5071 Dec 26 j 08:59 | 28° <b>ℳ</b> 29'11 | -0°07'55    |
| min. Earth dist. | -5076 Jun 17 j 08:00 | 16° <b>ℳ</b> 19'47 | 29.03317 AU | minimum elong    | -5071 Dec 26 j 08:58 | 28° <b>ℳ</b> 29'11 | 0°08'09     |
| opposition       | -5076 Jun 18 j 06:28 | 16° <b>ℳ</b> 18'15 | 0°22'48     | behind sun begin | -5071 Dec 26 j 03:13 | 28° <b>ℳ</b> 28'40 |             |
|                  | -5076 Aug 19 j 07:34 | 15° <b>ℳ</b>       |             | behind sun end   | -5071 Dec 26 j 14:44 | 28° <b>ℳ</b> 29'42 |             |
| direct           | -5076 Sep 04 j 10:59 | 14° <b>ℳ</b> 55'34 |             | max. Earth dist. | -5071 Dec 27 j 09:01 | 28° <b>ℳ</b> 31'27 | 30.98250 AU |
|                  | -5076 Sep 20 j 11:31 | 15° <b>ℳ</b>       |             | morning rise     | -5070 Jan 11 j 02:30 | 29° <b>ℳ</b> 04'35 |             |
| evening set      | -5076 Nov 29 j 13:36 | 16° <b>ℳ</b> 47'44 |             |                  | -5070 Feb 07 j 04:24 | 0° <b>♂</b>        |             |
| conjunction      | -5076 Dec 15 j 00:45 | 17° <b>ℳ</b> 22'33 | 0°18'48     | retrograde       | -5070 Apr 12 j 12:39 | 1° <b>♂</b> 03'16  |             |
| minimum elong    | -5076 Dec 15 j 00:45 | 17° <b>ℳ</b> 22'33 | 0°18'36     |                  | -5070 Jun 19 j 02:35 | 30° <b>ℳ</b>       |             |
| max. Earth dist. | -5076 Dec 15 j 23:03 | 17° <b>ℳ</b> 24'39 | 31.02904 AU | min. Earth dist. | -5070 Jul 01 j 11:47 | 29° <b>ℳ</b> 39'45 | 28.97680 AU |
| morning rise     | -5076 Dec 30 j 15:34 | 17° <b>ℳ</b> 57'43 |             | opposition       | -5070 Jul 02 j 10:26 | 29° <b>ℳ</b> 38'12 | -0°11'20    |
| retrograde       | -5075 Mar 31 j 17:38 | 19° <b>ℳ</b> 55'59 |             | direct           | -5070 Sep 18 j 07:56 | 28° <b>ℳ</b> 15'31 |             |
| opposition       | -5075 Jun 20 j 19:17 | 18° <b>ℳ</b> 31'08 | 0°17'10     | evening set      | -5070 Dec 09 j 18:00 | 0° <b>♂</b>        |             |
| min. Earth dist. | -5075 Jun 19 j 21:24 | 18° <b>ℳ</b> 32'38 | 29.02554 AU |                  | -5070 Dec 13 j 06:14 | 0° <b>♂</b> 07'41  |             |
| direct           | -5075 Sep 06 j 21:18 | 17° <b>ℳ</b> 08'29 |             | conjunction      | -5070 Dec 28 j 20:28 | 0° <b>♂</b> 42'45  | -0°13'13    |
| evening set      | -5075 Dec 01 j 23:52 | 19° <b>ℳ</b> 00'39 |             | minimum elong    | -5070 Dec 28 j 20:28 | 0° <b>♂</b> 42'45  | 0°13'27     |
| conjunction      | -5075 Dec 17 j 11:40 | 19° <b>ℳ</b> 35'31 | 0°13'30     | behind sun begin | -5070 Dec 28 j 16:48 | 0° <b>♂</b> 42'25  |             |
| minimum elong    | -5075 Dec 17 j 11:40 | 19° <b>ℳ</b> 35'31 | 0°13'18     | behind sun end   | -5070 Dec 29 j 00:08 | 0° <b>♂</b> 43'05  |             |
| behind sun begin | -5075 Dec 17 j 07:54 | 19° <b>ℳ</b> 35'10 |             | max. Earth dist. | -5070 Dec 29 j 20:05 | 0° <b>♂</b> 44'58  | 30.97053 AU |
| behind sun end   | -5075 Dec 17 j 15:27 | 19° <b>ℳ</b> 35'51 |             | morning rise     | -5069 Jan 13 j 14:38 | 1° <b>♂</b> 18'12  |             |
| max. Earth dist. | -5075 Dec 18 j 11:14 | 19° <b>ℳ</b> 37'44 | 31.02143 AU | retrograde       | -5069 Apr 15 j 01:23 | 3° <b>♂</b> 16'54  |             |
| morning rise     | -5074 Jan 02 j 02:57 | 20° <b>ℳ</b> 10'43 |             | opposition       | -5069 Jul 04 j 22:52 | 1° <b>♂</b> 51'46  | -0°17'01    |
| retrograde       | -5074 Apr 03 j 07:57 | 22° <b>ℳ</b> 09'06 |             | min. Earth dist. | -5069 Jul 03 j 23:29 | 1° <b>♂</b> 53'23  | 28.96472 AU |
| min. Earth dist. | -5074 Jun 22 j 08:54 | 20° <b>ℳ</b> 45'48 | 29.01768 AU | direct           | -5069 Sep 20 j 18:50 | 0° <b>♂</b> 29'01  |             |
| opposition       | -5074 Jun 23 j 07:56 | 20° <b>ℳ</b> 44'14 | 0°11'29     | evening set      | -5069 Dec 15 j 17:20 | 2° <b>♂</b> 21'11  |             |
| direct           | -5074 Sep 09 j 09:50 | 19° <b>ℳ</b> 21'37 |             | conjunction      | -5069 Dec 31 j 08:01 | 2° <b>♂</b> 56'17  | -0°18'31    |
| evening set      | -5074 Dec 04 j 10:39 | 21° <b>ℳ</b> 13'48 |             | minimum elong    | -5069 Dec 31 j 08:01 | 2° <b>♂</b> 56'17  | 0°18'46     |
| conjunction      | -5074 Dec 19 j 22:47 | 21° <b>ℳ</b> 48'42 | 0°08'12     | max. Earth dist. | -5068 Jan 01 j 08:13 | 2° <b>♂</b> 58'34  | 30.95835 AU |
| minimum elong    | -5074 Dec 19 j 22:47 | 21° <b>ℳ</b> 48'42 | 0°08'00     | morning rise     | -5068 Jan 16 j 02:40 | 3° <b>♂</b> 31'46  |             |
| behind sun begin | -5074 Dec 19 j 17:01 | 21° <b>ℳ</b> 48'11 |             | retrograde       | -5068 Apr 16 j 12:17 | 5° <b>♂</b> 30'31  |             |
| behind sun end   | -5074 Dec 20 j 04:34 | 21° <b>ℳ</b> 49'13 |             | opposition       | -5068 Jul 06 j 11:10 | 4° <b>♂</b> 05'17  | -0°22'41    |
|                  |                      |                    |             | min. Earth dist. | -5068 Jul 05 j 12:20 | 4° <b>♂</b> 06'52  | 28.95285 AU |

Attention, astronomical year style is used: The year -5068 in astronomical counting style is the year 5069 BCE in historical counting style.

|                  |                      |                       |                  |                      |                       |             |
|------------------|----------------------|-----------------------|------------------|----------------------|-----------------------|-------------|
| direct           | -5068 Sep 22 j 05:07 | 2°♄42'30              | retrograde       | -5061 May 03 j 10:51 | 21°♄07'12             |             |
| evening set      | -5068 Dec 17 j 04:24 | 4°♄34'39              | min. Earth dist. | -5061 Jul 21 j 23:53 | 19°♄43'31             | 28.89981 AU |
|                  |                      |                       | opposition       | -5061 Jul 23 j 00:11 | 19°♄41'49             | -1°00'57    |
| conjunction      | -5067 Jan 01 j 19:38 | 5°♄09'47 -0°23'47     | direct           | -5061 Oct 08 j 11:26 | 18°♄18'52             |             |
| minimum elong    | -5067 Jan 01 j 19:38 | 5°♄09'47 0°24'02      | evening set      | -5060 Jan 02 j 13:44 | 20°♄11'21             |             |
| max. Earth dist. | -5067 Jan 02 j 20:19 | 5°♄12'06 30.94695 AU  |                  |                      |                       |             |
| morning rise     | -5067 Jan 17 j 14:45 | 5°♄45'18              | conjunction      | -5060 Jan 18 j 08:07 | 20°♄46'43 -0°59'22    |             |
| retrograde       | -5067 Apr 19 j 01:46 | 7°♄44'05              | minimum elong    | -5060 Jan 18 j 08:07 | 20°♄46'43 0°59'39     |             |
| opposition       | -5067 Jul 08 j 23:22 | 6°♄18'48 -0°28'18     | max. Earth dist. | -5060 Jan 19 j 09:56 | 20°♄49'09 30.89622 AU |             |
| min. Earth dist. | -5067 Jul 07 j 23:07 | 6°♄20'29 28.94197 AU  | morning rise     | -5060 Feb 03 j 06:35 | 21°♄22'29             |             |
| direct           | -5067 Sep 24 j 15:17 | 4°♄55'56              | retrograde       | -5060 May 05 j 00:58 | 23°♄21'35             |             |
| evening set      | -5067 Dec 19 j 15:37 | 6°♄48'07              | min. Earth dist. | -5060 Jul 23 j 11:42 | 21°♄57'55 28.89371 AU |             |
|                  |                      |                       | opposition       | -5060 Jul 24 j 12:13 | 21°♄56'12 -1°06'08    |             |
| conjunction      | -5066 Jan 04 j 07:13 | 7°♄23'17 -0°29'01     | direct           | -5060 Oct 09 j 22:34 | 20°♄33'14             |             |
| minimum elong    | -5066 Jan 04 j 07:13 | 7°♄23'17 0°29'17      | evening set      | -5059 Jan 04 j 02:02 | 22°♄25'46             |             |
| max. Earth dist. | -5066 Jan 05 j 07:58 | 7°♄25'37 30.93656 AU  |                  |                      |                       |             |
| morning rise     | -5066 Jan 20 j 02:57 | 7°♄58'50              | conjunction      | -5059 Jan 19 j 20:51 | 23°♄01'10 -1°04'10    |             |
| retrograde       | -5066 Apr 21 j 14:08 | 9°♄57'40              | minimum elong    | -5059 Jan 19 j 20:51 | 23°♄01'10 1°04'26     |             |
| opposition       | -5066 Jul 11 j 11:42 | 8°♄32'20 -0°33'53     | max. Earth dist. | -5059 Jan 20 j 22:39 | 23°♄03'36 30.88957 AU |             |
| min. Earth dist. | -5066 Jul 10 j 12:07 | 8°♄33'58 28.93231 AU  | morning rise     | -5059 Feb 04 j 19:42 | 23°♄36'58             |             |
| direct           | -5066 Sep 27 j 01:50 | 7°♄09'26              | retrograde       | -5059 May 07 j 13:08 | 25°♄36'05             |             |
| evening set      | -5066 Dec 22 j 02:54 | 9°♄01'38              | min. Earth dist. | -5059 Jul 26 j 01:00 | 24°♄12'19 28.88668 AU |             |
|                  |                      |                       | opposition       | -5059 Jul 27 j 00:23 | 24°♄10'41 -1°11'13    |             |
| conjunction      | -5065 Jan 06 j 19:09 | 9°♄36'50 -0°34'13     | direct           | -5059 Oct 12 j 09:25 | 22°♄47'40             |             |
| minimum elong    | -5065 Jan 06 j 19:09 | 9°♄36'50 0°34'28      | evening set      | -5058 Jan 06 j 14:20 | 24°♄40'14             |             |
| max. Earth dist. | -5065 Jan 07 j 21:05 | 9°♄39'17 30.92757 AU  |                  |                      |                       |             |
| morning rise     | -5065 Jan 22 j 15:14 | 10°♄12'25             | conjunction      | -5058 Jan 22 j 09:41 | 25°♄15'40 -1°08'52    |             |
| retrograde       | -5065 Apr 24 j 03:48 | 12°♄11'18             | minimum elong    | -5058 Jan 22 j 09:41 | 25°♄15'40 1°09'09     |             |
| opposition       | -5065 Jul 13 j 23:39 | 10°♄45'55 -0°39'25    | max. Earth dist. | -5058 Jan 23 j 11:06 | 25°♄18'04 30.88214 AU |             |
| min. Earth dist. | -5065 Jul 12 j 22:52 | 10°♄47'39 28.92398 AU | morning rise     | -5058 Feb 07 j 08:57 | 25°♄51'29             |             |
| direct           | -5065 Sep 29 j 13:46 | 9°♄23'00              | retrograde       | -5058 May 10 j 03:00 | 27°♄50'36             |             |
| evening set      | -5065 Dec 24 j 14:27 | 11°♄15'15             | opposition       | -5058 Jul 29 j 12:22 | 26°♄25'10 -1°16'11    |             |
|                  |                      |                       | min. Earth dist. | -5058 Jul 28 j 12:23 | 26°♄26'51 28.87882 AU |             |
| conjunction      | -5064 Jan 09 j 06:59 | 11°♄50'29 -0°39'23    | direct           | -5058 Oct 14 j 20:41 | 25°♄02'04             |             |
| minimum elong    | -5064 Jan 09 j 06:59 | 11°♄50'29 0°39'38     | evening set      | -5057 Jan 09 j 02:55 | 26°♄54'42             |             |
| max. Earth dist. | -5064 Jan 10 j 08:17 | 11°♄52'52 30.91985 AU |                  |                      |                       |             |
| morning rise     | -5064 Jan 25 j 03:43 | 12°♄26'07             | conjunction      | -5057 Jan 24 j 22:35 | 27°♄30'09 -1°13'29    |             |
| retrograde       | -5064 Apr 25 j 17:39 | 14°♄25'02             | minimum elong    | -5057 Jan 24 j 22:35 | 27°♄30'09 1°13'45     |             |
| min. Earth dist. | -5064 Jul 14 j 11:35 | 13°♄01'20 28.91697 AU | max. Earth dist. | -5057 Jan 25 j 23:15 | 27°♄32'29 30.87385 AU |             |
| opposition       | -5064 Jul 15 j 11:53 | 12°♄59'39 -0°44'54    | morning rise     | -5057 Feb 09 j 22:20 | 28°♄06'00             |             |
| direct           | -5064 Sep 30 j 23:34 | 11°♄36'43             |                  | -5057 Apr 24 j 23:10 | 0°♄                   |             |
| evening set      | -5064 Dec 26 j 01:48 | 13°♄29'00             | retrograde       | -5057 May 12 j 14:27 | 0°♄05'06              |             |
|                  |                      |                       |                  | -5057 May 30 j 10:39 | 30°♄♄                 |             |
| conjunction      | -5063 Jan 10 j 18:57 | 14°♄04'16 -0°44'28    | min. Earth dist. | -5057 Jul 31 j 01:39 | 28°♄41'12 28.87044 AU |             |
| minimum elong    | -5063 Jan 10 j 18:57 | 14°♄04'16 0°44'44     | opposition       | -5057 Aug 01 j 00:15 | 28°♄39'37 -1°21'03    |             |
| max. Earth dist. | -5063 Jan 11 j 21:40 | 14°♄06'47 30.91331 AU | direct           | -5057 Oct 17 j 07:16 | 27°♄16'27             |             |
| morning rise     | -5063 Jan 26 j 16:00 | 14°♄39'56             | evening set      | -5056 Jan 11 j 15:22 | 29°♄09'07             |             |
| retrograde       | -5063 Apr 28 j 07:00 | 16°♄38'55             |                  |                      |                       |             |
| opposition       | -5063 Jul 17 j 24:00 | 15°♄13'31 -0°50'19    | conjunction      | -5056 Jan 27 j 11:36 | 29°♄44'36 -1°17'58    |             |
| min. Earth dist. | -5063 Jul 16 j 23:02 | 15°♄15'15 28.91086 AU | minimum elong    | -5056 Jan 27 j 11:35 | 29°♄44'36 1°18'15     |             |
| direct           | -5063 Oct 03 j 12:04 | 13°♄50'35             | max. Earth dist. | -5056 Jan 28 j 12:49 | 29°♄46'58 30.86544 AU |             |
| evening set      | -5063 Dec 28 j 13:38 | 15°♄42'56             |                  | -5056 Feb 03 j 07:17 | 0°♄                   |             |
|                  |                      |                       | morning rise     | -5056 Feb 12 j 11:35 | 0°♄20'27              |             |
| conjunction      | -5062 Jan 13 j 07:06 | 16°♄18'15 -0°49'31    | retrograde       | -5056 May 14 j 03:24 | 2°♄19'32              |             |
| minimum elong    | -5062 Jan 13 j 07:06 | 16°♄18'15 0°49'47     | opposition       | -5056 Aug 02 j 12:00 | 0°♄54'00 -1°25'47     |             |
| max. Earth dist. | -5062 Jan 14 j 08:54 | 16°♄20'40 30.90758 AU | min. Earth dist. | -5056 Aug 01 j 12:43 | 0°♄55'38 28.86215 AU  |             |
| morning rise     | -5062 Jan 29 j 04:46 | 16°♄53'57             |                  | -5056 Sep 06 j 08:53 | 30°♄♄                 |             |
| retrograde       | -5062 Apr 30 j 22:39 | 18°♄52'58             | direct           | -5056 Oct 18 j 19:16 | 29°♄30'45             |             |
| min. Earth dist. | -5062 Jul 19 j 11:17 | 17°♄29'18 28.90542 AU |                  | -5056 Nov 29 j 04:49 | 0°♄                   |             |
| opposition       | -5062 Jul 20 j 12:05 | 17°♄27'35 -0°55'40    | evening set      | -5055 Jan 13 j 03:52 | 1°♄23'28              |             |
| direct           | -5062 Oct 05 j 23:27 | 16°♄04'38             |                  |                      |                       |             |
| evening set      | -5062 Dec 31 j 01:34 | 17°♄57'03             | conjunction      | -5055 Jan 29 j 00:20 | 1°♄58'58 -1°22'20     |             |
|                  |                      |                       | minimum elong    | -5055 Jan 29 j 00:19 | 1°♄58'58 1°22'36      |             |
| conjunction      | -5061 Jan 15 j 19:37 | 18°♄32'24 -0°54'29    | max. Earth dist. | -5055 Jan 30 j 00:33 | 2°♄01'15 30.85737 AU  |             |
| minimum elong    | -5061 Jan 15 j 19:36 | 18°♄32'24 0°54'45     | morning rise     | -5055 Feb 14 j 00:51 | 2°♄34'51              |             |
| max. Earth dist. | -5061 Jan 16 j 22:18 | 18°♄34'55 30.90205 AU | retrograde       | -5055 May 16 j 16:43 | 4°♄33'55              |             |
| morning rise     | -5061 Jan 31 j 17:36 | 19°♄08'08             | opposition       | -5055 Aug 04 j 23:51 | 3°♄08'21 -1°30'24     |             |

Attention, astronomical year style is used: The year -5055 in astronomical counting style is the year 5056 BCE in historical counting style.

|                  |                      |                          |             |                  |                      |  |             |
|------------------|----------------------|--------------------------|-------------|------------------|----------------------|--|-------------|
| min. Earth dist. | -5055 Aug 04 j 01:27 | 3° $\overline{3}$ 09'56  | 28.85463 AU | morning rise     | -5048 Mar 02 j 00:36 | 18° $\overline{3}$ 17'50               |             |
| direct           | -5055 Oct 21 j 05:14 | 1° $\overline{3}$ 45'02  |             | retrograde       | -5048 Jun 01 j 15:00 | 20° $\overline{3}$ 16'51               |             |
| evening set      | -5054 Jan 15 j 16:27 | 3° $\overline{3}$ 37'49  |             | opposition       | -5048 Aug 20 j 08:38 | 18° $\overline{3}$ 51'30               | -1°58'30    |
|                  |                      |                          |             | min. Earth dist. | -5048 Aug 19 j 12:29 | 18° $\overline{3}$ 52'55               | 28.83397 AU |
| conjunction      | -5054 Jan 31 j 13:29 | 4° $\overline{3}$ 13'20  | -1°26'35    | direct           | -5048 Nov 05 j 13:14 | 17° $\overline{3}$ 28'00               |             |
| minimum elong    | -5054 Jan 31 j 13:29 | 4° $\overline{3}$ 13'20  | 1°26'52     | evening set      | -5047 Jan 31 j 12:14 | 19° $\overline{3}$ 21'30               |             |
| max. Earth dist. | -5054 Feb 01 j 14:42 | 4° $\overline{3}$ 15'42  | 30.85026 AU |                  |                      |  |             |
| morning rise     | -5054 Feb 16 j 14:12 | 4° $\overline{3}$ 49'14  |             | conjunction      | -5047 Feb 16 j 11:51 | 19° $\overline{3}$ 57'12               | -1°52'21    |
| retrograde       | -5054 May 19 j 05:52 | 6° $\overline{3}$ 48'17  |             | minimum elong    | -5047 Feb 16 j 11:51 | 19° $\overline{3}$ 57'12               | 1°52'36     |
| opposition       | -5054 Aug 07 j 11:22 | 5° $\overline{3}$ 22'42  | -1°34'52    | max. Earth dist. | -5047 Feb 17 j 10:39 | 19° $\overline{3}$ 59'20               | 30.83181 AU |
| min. Earth dist. | -5054 Aug 06 j 12:36 | 5° $\overline{3}$ 24'18  | 28.84815 AU | morning rise     | -5047 Mar 04 j 14:40 | 20° $\overline{3}$ 33'13               |             |
| direct           | -5054 Oct 23 j 17:57 | 3° $\overline{3}$ 59'19  |             | retrograde       | -5047 Jun 04 j 04:27 | 22° $\overline{3}$ 32'13               |             |
| evening set      | -5053 Jan 18 j 05:17 | 5° $\overline{3}$ 52'10  |             | opposition       | -5047 Aug 22 j 20:07 | 21° $\overline{3}$ 06'54               | -2°01'50    |
|                  |                      |                          |             | min. Earth dist. | -5047 Aug 21 j 23:51 | 21° $\overline{3}$ 08'20               | 28.83214 AU |
| conjunction      | -5053 Feb 03 j 02:34 | 6° $\overline{3}$ 27'44  | -1°30'42    | direct           | -5047 Nov 08 j 00:48 | 19° $\overline{3}$ 43'21               |             |
| minimum elong    | -5053 Feb 03 j 02:34 | 6° $\overline{3}$ 27'43  | 1°30'58     | evening set      | -5046 Feb 03 j 02:05 | 21° $\overline{3}$ 36'58               |             |
| max. Earth dist. | -5053 Feb 04 j 02:35 | 6° $\overline{3}$ 29'59  | 30.84444 AU |                  |                      |  |             |
| morning rise     | -5053 Feb 19 j 03:47 | 7° $\overline{3}$ 03'38  |             | conjunction      | -5046 Feb 19 j 01:55 | 22° $\overline{3}$ 12'41               | -1°55'24    |
| retrograde       | -5053 May 21 j 21:09 | 9° $\overline{3}$ 02'40  |             | minimum elong    | -5046 Feb 19 j 01:54 | 22° $\overline{3}$ 12'41               | 1°55'40     |
| opposition       | -5053 Aug 09 j 23:01 | 7° $\overline{3}$ 37'06  | -1°39'12    | max. Earth dist. | -5046 Feb 19 j 22:54 | 22° $\overline{3}$ 14'39               | 30.82944 AU |
| min. Earth dist. | -5053 Aug 09 j 00:25 | 7° $\overline{3}$ 38'41  | 28.84316 AU | morning rise     | -5046 Mar 07 j 05:09 | 22° $\overline{3}$ 48'43               |             |
| direct           | -5053 Oct 26 j 05:28 | 6° $\overline{3}$ 13'39  |             | retrograde       | -5046 Jun 06 j 17:19 | 24° $\overline{3}$ 47'39               |             |
| evening set      | -5052 Jan 20 j 17:59 | 8° $\overline{3}$ 06'36  |             | opposition       | -5046 Aug 25 j 07:36 | 23° $\overline{3}$ 22'22               | -2°05'00    |
|                  |                      |                          |             | min. Earth dist. | -5046 Aug 24 j 12:58 | 23° $\overline{3}$ 23'41               | 28.82941 AU |
| conjunction      | -5052 Feb 05 j 15:45 | 8° $\overline{3}$ 42'12  | -1°34'41    | direct           | -5046 Nov 10 j 10:36 | 21° $\overline{3}$ 58'44               |             |
| minimum elong    | -5052 Feb 05 j 15:44 | 8° $\overline{3}$ 42'12  | 1°34'58     | evening set      | -5045 Feb 05 j 15:51 | 23° $\overline{3}$ 52'25               |             |
| max. Earth dist. | -5052 Feb 06 j 16:44 | 8° $\overline{3}$ 44'32  | 30.84000 AU |                  |                      |  |             |
| morning rise     | -5052 Feb 21 j 17:07 | 9° $\overline{3}$ 18'07  |             | conjunction      | -5045 Feb 21 j 16:12 | 24° $\overline{3}$ 28'10               | -1°58'16    |
| retrograde       | -5052 May 23 j 09:12 | 11° $\overline{3}$ 17'09 |             | minimum elong    | -5045 Feb 21 j 16:11 | 24° $\overline{3}$ 28'10               | 1°58'31     |
| opposition       | -5052 Aug 11 j 10:34 | 9° $\overline{3}$ 51'36  | -1°43'23    | max. Earth dist. | -5045 Feb 22 j 13:18 | 24° $\overline{3}$ 30'08               | 30.82622 AU |
| min. Earth dist. | -5052 Aug 10 j 12:18 | 9° $\overline{3}$ 53'10  | 28.83948 AU | morning rise     | -5045 Mar 09 j 19:30 | 25° $\overline{3}$ 04'12               |             |
| direct           | -5052 Oct 27 j 17:27 | 8° $\overline{3}$ 28'09  |             | retrograde       | -5045 Jun 09 j 05:43 | 27° $\overline{3}$ 03'04               |             |
| evening set      | -5051 Jan 22 j 06:57 | 10° $\overline{3}$ 21'11 |             | opposition       | -5045 Aug 27 j 18:59 | 25° $\overline{3}$ 37'46               | -2°07'58    |
|                  |                      |                          |             | min. Earth dist. | -5045 Aug 27 j 00:38 | 25° $\overline{3}$ 39'04               | 28.82579 AU |
| conjunction      | -5051 Feb 07 j 05:01 | 10° $\overline{3}$ 56'48 | -1°38'32    | direct           | -5045 Nov 12 j 23:58 | 24° $\overline{3}$ 14'04               |             |
| minimum elong    | -5051 Feb 07 j 05:01 | 10° $\overline{3}$ 56'48 | 1°38'48     | evening set      | -5044 Feb 08 j 05:38 | 26° $\overline{3}$ 07'49               |             |
| max. Earth dist. | -5051 Feb 08 j 05:10 | 10° $\overline{3}$ 59'04 | 30.83710 AU |                  |                      |  |             |
| morning rise     | -5051 Feb 23 j 06:49 | 11° $\overline{3}$ 32'45 |             | conjunction      | -5044 Feb 24 j 06:08 | 26° $\overline{3}$ 43'34               | -2°00'57    |
| retrograde       | -5051 May 26 j 00:13 | 13° $\overline{3}$ 31'47 |             | minimum elong    | -5044 Feb 24 j 06:08 | 26° $\overline{3}$ 43'34               | 2°01'13     |
| opposition       | -5051 Aug 13 j 22:04 | 12° $\overline{3}$ 06'16 | -1°47'25    | max. Earth dist. | -5044 Feb 25 j 01:20 | 26° $\overline{3}$ 45'22               | 30.82237 AU |
| min. Earth dist. | -5051 Aug 12 j 23:30 | 12° $\overline{3}$ 07'51 | 28.83729 AU | morning rise     | -5044 Mar 11 j 09:51 | 27° $\overline{3}$ 19'36               |             |
| direct           | -5051 Oct 30 j 04:45 | 10° $\overline{3}$ 42'48 |             | retrograde       | -5044 Jun 10 j 19:45 | 29° $\overline{3}$ 18'23               |             |
| evening set      | -5050 Jan 24 j 20:00 | 12° $\overline{3}$ 35'57 |             | opposition       | -5044 Aug 29 j 06:21 | 27° $\overline{3}$ 53'04               | -2°10'44    |
|                  |                      |                          |             | min. Earth dist. | -5044 Aug 28 j 12:48 | 27° $\overline{3}$ 54'19               | 28.82193 AU |
| conjunction      | -5050 Feb 09 j 18:29 | 13° $\overline{3}$ 11'35 | -1°42'13    | direct           | -5044 Nov 14 j 11:48 | 26° $\overline{3}$ 29'16               |             |
| minimum elong    | -5050 Feb 09 j 18:28 | 13° $\overline{3}$ 11'35 | 1°42'30     | evening set      | -5043 Feb 09 j 19:23 | 28° $\overline{3}$ 23'05               |             |
| max. Earth dist. | -5050 Feb 10 j 18:49 | 13° $\overline{3}$ 13'53 | 30.83530 AU |                  |                      |  |             |
| morning rise     | -5050 Feb 25 j 20:33 | 13° $\overline{3}$ 47'34 |             | conjunction      | -5043 Feb 25 j 20:22 | 28° $\overline{3}$ 58'51               | -2°03'27    |
| retrograde       | -5050 May 28 j 13:20 | 15° $\overline{3}$ 46'36 |             | minimum elong    | -5043 Feb 25 j 20:22 | 28° $\overline{3}$ 58'51               | 2°03'42     |
| opposition       | -5050 Aug 16 j 09:40 | 14° $\overline{3}$ 21'08 | -1°51'16    | max. Earth dist. | -5043 Feb 26 j 15:58 | 29° $\overline{3}$ 00'41               | 30.81844 AU |
| min. Earth dist. | -5050 Aug 15 j 12:16 | 14° $\overline{3}$ 22'38 | 28.83595 AU | morning rise     | -5043 Mar 14 j 00:09 | 29° $\overline{3}$ 34'54               |             |
| direct           | -5050 Nov 01 j 15:45 | 12° $\overline{3}$ 57'40 |             |                  | -5043 Mar 25 j 18:28 | 0° $\overline{\infty}$                 |             |
| evening set      | -5049 Jan 27 j 09:18 | 14° $\overline{3}$ 50'56 |             | retrograde       | -5043 Jun 13 j 07:45 | 1° $\overline{\infty}$ 33'34           |             |
|                  |                      |                          |             | opposition       | -5043 Aug 31 j 17:31 | 0° $\overline{\infty}$ 08'15           | -2°13'19    |
| conjunction      | -5049 Feb 12 j 08:11 | 15° $\overline{3}$ 26'36 | -1°45'46    | min. Earth dist. | -5043 Aug 31 j 00:49 | 0° $\overline{\infty}$ 09'26           | 28.81820 AU |
| minimum elong    | -5049 Feb 12 j 08:11 | 15° $\overline{3}$ 26'36 | 1°46'02     |                  | -5043 Sep 05 j 13:52 | 30° $\overline{\infty}$ $\overline{3}$ |             |
| max. Earth dist. | -5049 Feb 13 j 07:58 | 15° $\overline{3}$ 28'50 | 30.83426 AU | direct           | -5043 Nov 17 j 00:02 | 28° $\overline{3}$ 44'20               |             |
| morning rise     | -5049 Feb 28 j 10:31 | 16° $\overline{3}$ 02'35 |             |                  | -5042 Jan 25 j 02:25 | 0° $\overline{\infty}$                 |             |
| retrograde       | -5049 May 31 j 03:26 | 18° $\overline{3}$ 01'37 |             | evening set      | -5042 Feb 12 j 09:17 | 0° $\overline{\infty}$ 38'14           |             |
| opposition       | -5049 Aug 18 j 21:00 | 16° $\overline{3}$ 36'13 | -1°54'58    |                  |                      |  |             |
| min. Earth dist. | -5049 Aug 17 j 23:12 | 16° $\overline{3}$ 37'45 | 28.83506 AU | conjunction      | -5042 Feb 28 j 10:31 | 1° $\overline{\infty}$ 14'00           | -2°05'46    |
| direct           | -5049 Nov 04 j 02:59 | 15° $\overline{3}$ 12'44 |             | minimum elong    | -5042 Feb 28 j 10:31 | 1° $\overline{\infty}$ 14'00           | 2°06'01     |
| evening set      | -5048 Jan 29 j 22:50 | 17° $\overline{3}$ 06'08 |             | max. Earth dist. | -5042 Mar 01 j 04:42 | 1° $\overline{\infty}$ 15'42           | 30.81506 AU |
|                  |                      |                          |             | morning rise     | -5042 Mar 16 j 14:41 | 1° $\overline{\infty}$ 50'03           |             |
| conjunction      | -5048 Feb 14 j 21:57 | 17° $\overline{3}$ 41'49 | -1°49'08    | retrograde       | -5042 Jun 15 j 22:43 | 3° $\overline{\infty}$ 48'38           |             |
| minimum elong    | -5048 Feb 14 j 21:57 | 17° $\overline{3}$ 41'49 | 1°49'25     | opposition       | -5042 Sep 03 j 04:39 | 2° $\overline{\infty}$ 23'17           | -2°15'41    |
| max. Earth dist. | -5048 Feb 15 j 20:48 | 17° $\overline{3}$ 43'57 | 30.83321 AU | min. Earth dist. | -5042 Sep 02 j 12:01 | 2° $\overline{\infty}$ 24'28           | 28.81526 AU |

Attention, astronomical year style is used: The year -5042 in astronomical counting style is the year 5043 BCE in historical counting style.

|                  |                      |                      |                  |                      |          |             |
|------------------|----------------------|----------------------|------------------|----------------------|----------|-------------|
| direct           | -5042 Nov 19 j 12:41 | 0°59'17              | conjunction      | -5035 Mar 16 j 15:06 | 16°59'49 | -2°16'23    |
| evening set      | -5041 Feb 14 j 23:12 | 2°53'15              | minimum elong    | -5035 Mar 16 j 15:06 | 16°59'49 | 2°16'35     |
|                  |                      |                      | max. Earth dist. | -5035 Mar 17 j 04:11 | 17°01'02 | 30.82088 AU |
| conjunction      | -5041 Mar 03 j 00:47 | 3°29'03 -2°07'53     | morning rise     | -5035 Apr 01 j 20:30 | 17°35'54 |             |
| minimum elong    | -5041 Mar 03 j 00:47 | 3°29'03 2°08'07      | retrograde       | -5035 Jul 01 j 16:17 | 19°33'55 |             |
| max. Earth dist. | -5041 Mar 03 j 18:57 | 3°30'45 30.81243 AU  | opposition       | -5035 Sep 18 j 09:35 | 18°08'58 | -2°26'15    |
| morning rise     | -5041 Mar 19 j 05:02 | 4°05'06              | min. Earth dist. | -5035 Sep 17 j 21:57 | 18°09'47 | 28.82389 AU |
| retrograde       | -5041 Jun 18 j 11:06 | 6°03'34              | direct           | -5035 Dec 04 j 20:39 | 16°44'41 |             |
| opposition       | -5041 Sep 05 j 15:44 | 4°38'14 -2°17'50     | evening set      | -5034 Mar 03 j 02:17 | 18°39'26 |             |
| min. Earth dist. | -5041 Sep 05 j 00:22 | 4°39'20 28.81329 AU  |                  |                      |          |             |
| direct           | -5041 Nov 22 j 00:51 | 3°14'10              | conjunction      | -5034 Mar 19 j 06:02 | 19°15'20 | -2°17'04    |
| evening set      | -5040 Feb 17 j 13:05 | 5°08'13              | minimum elong    | -5034 Mar 19 j 06:02 | 19°15'20 | 2°17'17     |
|                  |                      |                      | max. Earth dist. | -5034 Mar 19 j 18:57 | 19°16'33 | 30.82302 AU |
| conjunction      | -5040 Mar 04 j 14:59 | 5°44'01 -2°09'48     | morning rise     | -5034 Apr 04 j 11:24 | 19°51'25 |             |
| minimum elong    | -5040 Mar 04 j 14:59 | 5°44'01 2°10'03      | retrograde       | -5034 Jul 04 j 04:25 | 21°49'20 |             |
| max. Earth dist. | -5040 Mar 05 j 08:24 | 5°45'39 30.81119 AU  | opposition       | -5034 Sep 20 j 20:36 | 20°24'27 | -2°26'53    |
| morning rise     | -5040 Mar 20 j 19:27 | 6°20'04              | min. Earth dist. | -5034 Sep 20 j 10:15 | 20°25'11 | 28.82553 AU |
| retrograde       | -5040 Jun 20 j 00:56 | 8°18'27              | direct           | -5034 Dec 07 j 08:42 | 19°00'08 |             |
| min. Earth dist. | -5040 Sep 06 j 10:48 | 6°54'17 28.81276 AU  | evening set      | -5033 Mar 05 j 16:52 | 20°54'59 |             |
| opposition       | -5040 Sep 07 j 02:43 | 6°53'09 -2°19'47     |                  |                      |          |             |
| direct           | -5040 Nov 23 j 13:09 | 5°29'01              | conjunction      | -5033 Mar 21 j 20:46 | 21°30'54 | -2°17'33    |
| evening set      | -5039 Feb 19 j 02:58 | 7°23'09              | minimum elong    | -5033 Mar 21 j 20:46 | 21°30'54 | 2°17'44     |
|                  |                      |                      | max. Earth dist. | -5033 Mar 22 j 07:29 | 21°31'54 | 30.82428 AU |
| conjunction      | -5039 Mar 07 j 05:08 | 7°58'59 -2°11'32     | morning rise     | -5033 Apr 07 j 02:23 | 22°06'58 |             |
| minimum elong    | -5039 Mar 07 j 05:08 | 7°58'59 2°11'45      | retrograde       | -5033 Jul 06 j 19:01 | 24°04'46 |             |
| max. Earth dist. | -5039 Mar 07 j 21:51 | 8°00'32 30.81126 AU  | opposition       | -5033 Sep 23 j 07:26 | 22°39'55 | -2°27'17    |
| morning rise     | -5039 Mar 23 j 09:50 | 8°35'02              | min. Earth dist. | -5033 Sep 22 j 21:39 | 22°40'37 | 28.82640 AU |
| retrograde       | -5039 Jun 22 j 12:54 | 10°33'20             | direct           | -5033 Dec 09 j 21:48 | 21°15'32 |             |
| opposition       | -5039 Sep 09 j 13:52 | 9°08'04 -2°21'31     | evening set      | -5032 Mar 07 j 07:21 | 23°10'28 |             |
| min. Earth dist. | -5039 Sep 08 j 23:24 | 9°09'06 28.81358 AU  |                  |                      |          |             |
| direct           | -5039 Nov 25 j 23:38 | 7°43'54              | conjunction      | -5032 Mar 23 j 11:35 | 23°46'24 | -2°17'50    |
| evening set      | -5038 Feb 21 j 16:58 | 9°38'09              | minimum elong    | -5032 Mar 23 j 11:35 | 23°46'24 | 2°18'01     |
|                  |                      |                      | max. Earth dist. | -5032 Mar 23 j 21:52 | 23°47'21 | 30.82476 AU |
| conjunction      | -5038 Mar 09 j 19:35 | 10°13'59 -2°13'03    | morning rise     | -5032 Apr 08 j 17:13 | 24°22'28 |             |
| minimum elong    | -5038 Mar 09 j 19:35 | 10°13'59 2°13'17     | retrograde       | -5032 Jul 08 j 07:02 | 26°20'09 |             |
| max. Earth dist. | -5038 Mar 10 j 12:14 | 10°15'33 30.81275 AU | opposition       | -5032 Sep 24 j 18:20 | 24°55'19 | -2°27'28    |
| morning rise     | -5038 Mar 26 j 00:23 | 10°50'03             | min. Earth dist. | -5032 Sep 24 j 10:18 | 24°55'53 | 28.82665 AU |
| retrograde       | -5038 Jun 25 j 02:31 | 12°48'16             | direct           | -5032 Dec 11 j 10:39 | 23°30'51 |             |
| min. Earth dist. | -5038 Sep 11 j 09:59 | 11°24'08 28.81556 AU | evening set      | -5031 Mar 09 j 21:42 | 25°25'51 |             |
| opposition       | -5038 Sep 12 j 00:40 | 11°23'05 -2°23'02    |                  |                      |          |             |
| direct           | -5038 Nov 28 j 11:17 | 9°58'53              | conjunction      | -5031 Mar 26 j 02:14 | 26°01'47 | -2°17'54    |
| evening set      | -5037 Feb 24 j 07:16 | 11°53'15             | minimum elong    | -5031 Mar 26 j 02:14 | 26°01'47 | 2°18'04     |
|                  |                      |                      | max. Earth dist. | -5031 Mar 26 j 11:04 | 26°02'37 | 30.82502 AU |
| conjunction      | -5037 Mar 12 j 10:00 | 12°29'07 -2°14'22    | morning rise     | -5031 Apr 11 j 08:05 | 26°37'52 |             |
| minimum elong    | -5037 Mar 12 j 10:00 | 12°29'07 2°14'35     | retrograde       | -5031 Jul 10 j 20:47 | 28°35'23 |             |
| max. Earth dist. | -5037 Mar 13 j 01:08 | 12°30'32 30.81515 AU | opposition       | -5031 Sep 27 j 05:00 | 27°10'35 | -2°27'25    |
| morning rise     | -5037 Mar 28 j 15:06 | 13°05'11             | min. Earth dist. | -5031 Sep 26 j 20:56 | 27°11'09 | 28.82684 AU |
|                  | -5037 Jun 13 j 11:39 | 15°                  | direct           | -5031 Dec 13 j 23:55 | 25°46'01 |             |
| retrograde       | -5037 Jun 27 j 14:39 | 15°03'21             | evening set      | -5030 Mar 12 j 12:14 | 27°41'05 |             |
|                  | -5037 Jul 11 j 18:55 | 15°                  |                  |                      |          |             |
| opposition       | -5037 Sep 14 j 11:45 | 13°38'14 -2°24'20    | conjunction      | -5030 Mar 28 j 16:59 | 28°17'02 | -2°17'45    |
| min. Earth dist. | -5037 Sep 13 j 22:34 | 13°39'10 28.81837 AU | minimum elong    | -5030 Mar 28 j 16:59 | 28°17'02 | 2°17'55     |
| direct           | -5037 Nov 30 j 20:55 | 12°14'01             | max. Earth dist. | -5030 Mar 29 j 00:47 | 28°17'46 | 30.82527 AU |
| evening set      | -5036 Feb 26 j 21:19 | 14°08'31             | morning rise     | -5030 Apr 13 j 22:56 | 28°53'07 |             |
|                  |                      |                      |                  | -5030 May 17 j 22:41 | 0°       |             |
| conjunction      | -5036 Mar 14 j 00:30 | 14°44'23 -2°15'29    | retrograde       | -5030 Jul 13 j 08:53 | 0°50'28  |             |
| minimum elong    | -5036 Mar 14 j 00:30 | 14°44'23 2°15'42     |                  | -5030 Sep 08 j 23:47 | 30°      |             |
| max. Earth dist. | -5036 Mar 14 j 15:50 | 14°45'49 30.81809 AU | opposition       | -5030 Sep 29 j 15:40 | 29°25'41 | -2°27'09    |
|                  | -5036 Mar 20 j 23:33 | 15°                  | min. Earth dist. | -5030 Sep 29 j 09:24 | 29°26'08 | 28.82742 AU |
| morning rise     | -5036 Mar 30 j 05:34 | 15°20'28             | direct           | -5030 Dec 16 j 11:17 | 28°01'03 |             |
| retrograde       | -5036 Jun 29 j 02:38 | 17°18'33             | evening set      | -5029 Mar 15 j 02:37 | 29°56'10 |             |
| opposition       | -5036 Sep 15 j 22:40 | 15°53'32 -2°25'24    |                  | -5029 Mar 16 j 20:41 | 0°       |             |
| min. Earth dist. | -5036 Sep 15 j 09:53 | 15°54'27 28.82127 AU |                  |                      |          |             |
|                  | -5036 Oct 19 j 21:32 | 15°                  | conjunction      | -5029 Mar 31 j 07:42 | 0°32'08  | -2°17'24    |
| direct           | -5036 Dec 02 j 09:36 | 14°29'18             | minimum elong    | -5029 Mar 31 j 07:42 | 0°32'08  | 2°17'33     |
|                  | -5035 Jan 14 j 05:05 | 15°                  | max. Earth dist. | -5029 Mar 31 j 15:03 | 0°32'50  | 30.82631 AU |
| evening set      | -5035 Feb 28 j 11:48 | 16°23'55             | morning rise     | -5029 Apr 16 j 13:41 | 1°08'12  |             |

Attention, astronomical year style is used: The year -5029 in astronomical counting style is the year 5030 BCE in historical counting style.

|                  |                      |                                    |                  |                      |                               |             |
|------------------|----------------------|------------------------------------|------------------|----------------------|-------------------------------|-------------|
| retrograde       | -5029 Jul 15 j 22:29 | 3° $\mathbf{H}$ 05'24              | minimum elong    | -5022 Apr 16 j 14:02 | 16° $\mathbf{H}$ 16'19        | 2°09'12     |
| opposition       | -5029 Oct 02 j 02:14 | 1° $\mathbf{H}$ 40'39 -2°26'40     | max. Earth dist. | -5022 Apr 16 j 14:37 | 16° $\mathbf{H}$ 16'22        | 30.86636 AU |
| min. Earth dist. | -5029 Oct 01 j 19:46 | 1° $\mathbf{H}$ 41'07 28.82888 AU  | morning rise     | -5022 May 02 j 20:28 | 16° $\mathbf{H}$ 52'21        |             |
| direct           | -5029 Dec 18 j 23:52 | 0° $\mathbf{H}$ 15'56              | retrograde       | -5022 Jul 31 j 09:58 | 18° $\mathbf{H}$ 48'36        |             |
| evening set      | -5028 Mar 16 j 16:54 | 2° $\mathbf{H}$ 11'07              | opposition       | -5022 Oct 17 j 03:55 | 17° $\mathbf{H}$ 24'23        | -2°17'01    |
|                  |                      |                                    | min. Earth dist. | -5022 Oct 17 j 03:06 | 17° $\mathbf{H}$ 24'26        | 28.87133 AU |
| conjunction      | -5028 Apr 01 j 22:05 | 2° $\mathbf{H}$ 47'06 -2°16'50     | direct           | -5021 Jan 03 j 10:48 | 15° $\mathbf{H}$ 59'26        |             |
| minimum elong    | -5028 Apr 01 j 22:05 | 2° $\mathbf{H}$ 47'06 2°16'59      | evening set      | -5021 Apr 02 j 22:09 | 17° $\mathbf{H}$ 55'14        |             |
| max. Earth dist. | -5028 Apr 02 j 04:04 | 2° $\mathbf{H}$ 47'39 30.82836 AU  |                  |                      |                               |             |
| morning rise     | -5028 Apr 18 j 04:15 | 3° $\mathbf{H}$ 23'10              | conjunction      | -5021 Apr 19 j 04:48 | 18° $\mathbf{H}$ 31'16        | -2°07'07    |
| retrograde       | -5028 Jul 17 j 09:08 | 5° $\mathbf{H}$ 20'13              | minimum elong    | -5021 Apr 19 j 04:48 | 18° $\mathbf{H}$ 31'16        | 2°07'11     |
| opposition       | -5028 Oct 03 j 12:54 | 3° $\mathbf{H}$ 55'30 -2°25'57     | max. Earth dist. | -5021 Apr 19 j 04:12 | 18° $\mathbf{H}$ 31'12        | 30.87306 AU |
| min. Earth dist. | -5028 Oct 03 j 07:47 | 3° $\mathbf{H}$ 55'52 28.83171 AU  | morning rise     | -5021 May 05 j 11:10 | 19° $\mathbf{H}$ 07'18        |             |
| direct           | -5028 Dec 20 j 10:16 | 2° $\mathbf{H}$ 30'43              | retrograde       | -5021 Aug 02 j 22:12 | 21° $\mathbf{H}$ 03'23        |             |
| evening set      | -5027 Mar 19 j 07:10 | 4° $\mathbf{H}$ 25'58              | opposition       | -5021 Oct 19 j 14:37 | 19° $\mathbf{H}$ 39'14        | -2°14'47    |
|                  |                      |                                    | min. Earth dist. | -5021 Oct 19 j 15:50 | 19° $\mathbf{H}$ 39'08        | 28.87764 AU |
| conjunction      | -5027 Apr 04 j 12:45 | 5° $\mathbf{H}$ 01'57 -2°16'04     | direct           | -5020 Jan 05 j 22:50 | 18° $\mathbf{H}$ 14'15        |             |
| minimum elong    | -5027 Apr 04 j 12:46 | 5° $\mathbf{H}$ 01'57 2°16'12      | evening set      | -5020 Apr 04 j 12:29 | 20° $\mathbf{H}$ 10'05        |             |
| max. Earth dist. | -5027 Apr 04 j 18:58 | 5° $\mathbf{H}$ 02'32 30.83195 AU  |                  |                      |                               |             |
| morning rise     | -5027 Apr 20 j 18:53 | 5° $\mathbf{H}$ 38'01              | conjunction      | -5020 Apr 20 j 19:21 | 20° $\mathbf{H}$ 46'08        | -2°04'56    |
| retrograde       | -5027 Jul 19 j 20:09 | 7° $\mathbf{H}$ 34'55              | minimum elong    | -5020 Apr 20 j 19:22 | 20° $\mathbf{H}$ 46'08        | 2°05'00     |
| opposition       | -5027 Oct 05 j 23:20 | 6° $\mathbf{H}$ 10'15 -2°25'01     | max. Earth dist. | -5020 Apr 20 j 17:42 | 20° $\mathbf{H}$ 45'59        | 30.87908 AU |
| min. Earth dist. | -5027 Oct 05 j 18:23 | 6° $\mathbf{H}$ 10'37 28.83597 AU  | morning rise     | -5020 May 07 j 01:44 | 21° $\mathbf{H}$ 22'09        |             |
| direct           | -5027 Dec 22 j 22:51 | 4° $\mathbf{H}$ 45'26              | retrograde       | -5020 Aug 04 j 11:19 | 23° $\mathbf{H}$ 18'05        |             |
| evening set      | -5026 Mar 21 j 21:41 | 6° $\mathbf{H}$ 40'46              | opposition       | -5020 Oct 21 j 01:06 | 21° $\mathbf{H}$ 53'58        | -2°12'21    |
|                  |                      |                                    | min. Earth dist. | -5020 Oct 21 j 02:31 | 21° $\mathbf{H}$ 53'52        | 28.88314 AU |
| conjunction      | -5026 Apr 07 j 03:20 | 7° $\mathbf{H}$ 16'46 -2°15'05     | direct           | -5019 Jan 07 j 12:35 | 20° $\mathbf{H}$ 28'56        |             |
| minimum elong    | -5026 Apr 07 j 03:21 | 7° $\mathbf{H}$ 16'46 2°15'14      | evening set      | -5019 Apr 07 j 03:04 | 22° $\mathbf{H}$ 24'49        |             |
| max. Earth dist. | -5026 Apr 07 j 07:37 | 7° $\mathbf{H}$ 17'09 30.83704 AU  |                  |                      |                               |             |
| morning rise     | -5026 Apr 23 j 09:41 | 7° $\mathbf{H}$ 52'49              | conjunction      | -5019 Apr 23 j 10:00 | 23° $\mathbf{H}$ 00'52        | -2°02'34    |
| retrograde       | -5026 Jul 22 j 08:46 | 9° $\mathbf{H}$ 49'35              | minimum elong    | -5019 Apr 23 j 10:00 | 23° $\mathbf{H}$ 00'52        | 2°02'37     |
| opposition       | -5026 Oct 08 j 09:54 | 8° $\mathbf{H}$ 25'00 -2°23'51     | max. Earth dist. | -5019 Apr 23 j 06:34 | 23° $\mathbf{H}$ 00'33        | 30.88433 AU |
| min. Earth dist. | -5026 Oct 08 j 05:41 | 8° $\mathbf{H}$ 25'18 28.84181 AU  | morning rise     | -5019 May 09 j 16:25 | 23° $\mathbf{H}$ 36'53        |             |
| direct           | -5026 Dec 25 j 09:03 | 7° $\mathbf{H}$ 00'08              | retrograde       | -5019 Aug 06 j 22:17 | 25° $\mathbf{H}$ 32'38        |             |
| evening set      | -5025 Mar 24 j 11:58 | 8° $\mathbf{H}$ 55'34              | opposition       | -5019 Oct 23 j 11:32 | 24° $\mathbf{H}$ 08'34        | -2°09'43    |
|                  |                      |                                    | min. Earth dist. | -5019 Oct 23 j 14:46 | 24° $\mathbf{H}$ 08'20        | 28.88823 AU |
| conjunction      | -5025 Apr 09 j 17:59 | 9° $\mathbf{H}$ 31'34 -2°13'54     | direct           | -5018 Jan 09 j 23:45 | 22° $\mathbf{H}$ 43'28        |             |
| minimum elong    | -5025 Apr 09 j 17:59 | 9° $\mathbf{H}$ 31'34 2°14'01      | evening set      | -5018 Apr 09 j 17:29 | 24° $\mathbf{H}$ 39'24        |             |
| max. Earth dist. | -5025 Apr 09 j 22:35 | 9° $\mathbf{H}$ 32'00 30.84351 AU  |                  |                      |                               |             |
| morning rise     | -5025 Apr 26 j 00:11 | 10° $\mathbf{H}$ 07'37             | conjunction      | -5018 Apr 26 j 00:41 | 25° $\mathbf{H}$ 15'27        | -2°00'01    |
| retrograde       | -5025 Jul 24 j 19:33 | 12° $\mathbf{H}$ 04'16             | minimum elong    | -5018 Apr 26 j 00:42 | 25° $\mathbf{H}$ 15'27        | 2°00'05     |
| opposition       | -5025 Oct 10 j 20:25 | 10° $\mathbf{H}$ 39'46 -2°22'28    | max. Earth dist. | -5018 Apr 25 j 21:00 | 25° $\mathbf{H}$ 15'06        | 30.88941 AU |
| min. Earth dist. | -5025 Oct 10 j 17:10 | 10° $\mathbf{H}$ 40'00 28.84874 AU | morning rise     | -5018 May 12 j 06:58 | 25° $\mathbf{H}$ 51'27        |             |
| direct           | -5025 Dec 27 j 20:36 | 9° $\mathbf{H}$ 14'53              | retrograde       | -5018 Aug 09 j 09:23 | 27° $\mathbf{H}$ 47'00        |             |
| evening set      | -5024 Mar 26 j 02:28 | 11° $\mathbf{H}$ 10'25             | opposition       | -5018 Oct 25 j 21:56 | 26° $\mathbf{H}$ 23'00        | -2°06'54    |
|                  |                      |                                    | min. Earth dist. | -5018 Oct 26 j 01:40 | 26° $\mathbf{H}$ 22'44        | 28.89319 AU |
| conjunction      | -5024 Apr 11 j 08:32 | 11° $\mathbf{H}$ 46'25 -2°12'31    | direct           | -5017 Jan 12 j 12:51 | 24° $\mathbf{H}$ 57'50        |             |
| minimum elong    | -5024 Apr 11 j 08:32 | 11° $\mathbf{H}$ 46'25 2°12'38     | evening set      | -5017 Apr 12 j 07:51 | 26° $\mathbf{H}$ 53'47        |             |
| max. Earth dist. | -5024 Apr 11 j 11:12 | 11° $\mathbf{H}$ 46'40 30.85101 AU |                  |                      |                               |             |
| morning rise     | -5024 Apr 27 j 14:57 | 12° $\mathbf{H}$ 22'29             | conjunction      | -5017 Apr 28 j 14:58 | 27° $\mathbf{H}$ 29'51        | -1°57'18    |
| retrograde       | -5024 Jul 26 j 08:48 | 14° $\mathbf{H}$ 18'59             | minimum elong    | -5017 Apr 28 j 14:59 | 27° $\mathbf{H}$ 29'51        | 1°57'20     |
| opposition       | -5024 Oct 12 j 06:50 | 12° $\mathbf{H}$ 54'36 -2°20'52    | max. Earth dist. | -5017 Apr 28 j 09:17 | 27° $\mathbf{H}$ 29'19        | 30.89459 AU |
| min. Earth dist. | -5024 Oct 12 j 04:00 | 12° $\mathbf{H}$ 54'48 28.85651 AU | morning rise     | -5017 May 14 j 21:20 | 28° $\mathbf{H}$ 05'50        |             |
| direct           | -5024 Dec 29 j 09:12 | 11° $\mathbf{H}$ 29'42             |                  | -5017 Aug 03 j 10:21 | 0° $\mathbf{Y}$               |             |
| evening set      | -5023 Mar 28 j 16:52 | 13° $\mathbf{H}$ 25'19             | retrograde       | -5017 Aug 11 j 21:09 | 0° $\mathbf{Y}$ 01'13         |             |
|                  |                      |                                    |                  | -5017 Aug 20 j 07:30 | 30° $\mathbf{R}$ $\mathbf{H}$ |             |
| conjunction      | -5023 Apr 13 j 23:15 | 14° $\mathbf{H}$ 01'21 -2°10'55    | opposition       | -5017 Oct 28 j 08:18 | 28° $\mathbf{H}$ 37'15        | -2°03'54    |
| minimum elong    | -5023 Apr 13 j 23:16 | 14° $\mathbf{H}$ 01'21 2°11'00     | min. Earth dist. | -5017 Oct 28 j 12:51 | 28° $\mathbf{H}$ 36'56        | 28.89871 AU |
| max. Earth dist. | -5023 Apr 14 j 01:43 | 14° $\mathbf{H}$ 01'35 30.85882 AU | direct           | -5016 Jan 14 j 23:18 | 27° $\mathbf{H}$ 12'01        |             |
| morning rise     | -5023 Apr 30 j 05:36 | 14° $\mathbf{H}$ 37'24             | evening set      | -5016 Apr 13 j 22:00 | 29° $\mathbf{H}$ 08'02        |             |
| retrograde       | -5023 Jul 28 j 20:10 | 16° $\mathbf{H}$ 33'47             |                  |                      |                               |             |
| opposition       | -5023 Oct 14 j 17:28 | 15° $\mathbf{H}$ 09'29 -2°19'03    | conjunction      | -5016 Apr 30 j 05:22 | 29° $\mathbf{H}$ 44'05        | -1°54'24    |
| min. Earth dist. | -5023 Oct 14 j 16:29 | 15° $\mathbf{H}$ 09'33 28.86419 AU | minimum elong    | -5016 Apr 30 j 05:23 | 29° $\mathbf{H}$ 44'05        | 1°54'26     |
| direct           | -5023 Dec 31 j 21:36 | 13° $\mathbf{H}$ 44'34             | max. Earth dist. | -5016 Apr 29 j 23:58 | 29° $\mathbf{H}$ 43'35        | 30.90053 AU |
| evening set      | -5022 Mar 31 j 07:31 | 15° $\mathbf{H}$ 40'17             |                  | -5016 May 07 j 08:46 | 0° $\mathbf{Y}$               |             |
|                  |                      |                                    | morning rise     | -5016 May 16 j 11:30 | 0° $\mathbf{Y}$ 20'03         |             |
| conjunction      | -5022 Apr 16 j 14:01 | 16° $\mathbf{H}$ 16'19 -2°09'07    | retrograde       | -5016 Aug 13 j 06:46 | 2° $\mathbf{Y}$ 15'16         |             |

Attention, astronomical year style is used: The year -5016 in astronomical counting style is the year 5017 BCE in historical counting style.

|                  |                      |                      |             |                  |                      |                      |             |
|------------------|----------------------|----------------------|-------------|------------------|----------------------|----------------------|-------------|
| opposition       | -5016 Oct 29 j 18:36 | 0° $\Upsilon$ 51'22  | -2°00'42    | conjunction      | -5009 May 17 j 08:20 | 15° $\Upsilon$ 22'53 | -1°29'32    |
| min. Earth dist. | -5016 Oct 30 j 00:07 | 0° $\Upsilon$ 50'58  | 28.90508 AU | minimum elong    | -5009 May 17 j 08:20 | 15° $\Upsilon$ 22'53 | 1°29'29     |
|                  | -5016 Dec 01 j 01:23 | 30° $\Re$            |             | max. Earth dist. | -5009 May 16 j 20:42 | 15° $\Upsilon$ 21'48 | 30.97024 AU |
| direct           | -5015 Jan 16 j 11:14 | 29° $\Re$ 26'05      |             | morning rise     | -5009 Jun 02 j 13:31 | 15° $\Upsilon$ 58'45 |             |
|                  | -5015 Mar 03 j 07:49 | 0° $\Upsilon$        |             | retrograde       | -5009 Aug 29 j 17:44 | 17° $\Upsilon$ 53'00 |             |
| evening set      | -5015 Apr 16 j 12:14 | 1° $\Upsilon$ 22'08  |             | opposition       | -5009 Nov 14 j 19:19 | 16° $\Upsilon$ 29'47 | -1°33'33    |
|                  |                      |                      |             | min. Earth dist. | -5009 Nov 15 j 06:09 | 16° $\Upsilon$ 29'01 | 28.97589 AU |
| conjunction      | -5015 May 02 j 19:33 | 1° $\Upsilon$ 58'11  | -1°51'20    | direct           | -5008 Feb 02 j 03:22 | 15° $\Upsilon$ 04'32 |             |
| minimum elong    | -5015 May 02 j 19:33 | 1° $\Upsilon$ 58'11  | 1°51'20     | evening set      | -5008 May 02 j 15:05 | 17° $\Upsilon$ 01'00 |             |
| max. Earth dist. | -5015 May 02 j 12:16 | 1° $\Upsilon$ 57'31  | 30.90763 AU |                  |                      |                      |             |
| morning rise     | -5015 May 19 j 01:47 | 2° $\Upsilon$ 34'09  |             | conjunction      | -5008 May 18 j 22:17 | 17° $\Upsilon$ 37'02 | -1°25'24    |
| retrograde       | -5015 Aug 15 j 18:41 | 4° $\Upsilon$ 29'13  |             | minimum elong    | -5008 May 18 j 22:18 | 17° $\Upsilon$ 37'03 | 1°25'21     |
| opposition       | -5015 Nov 01 j 04:54 | 3° $\Upsilon$ 05'22  | -1°57'20    | max. Earth dist. | -5008 May 18 j 08:27 | 17° $\Upsilon$ 35'45 | 30.97976 AU |
| min. Earth dist. | -5015 Nov 01 j 10:29 | 3° $\Upsilon$ 04'58  | 28.91278 AU | morning rise     | -5008 Jun 04 j 03:24 | 18° $\Upsilon$ 12'54 |             |
| direct           | -5014 Jan 18 j 23:41 | 1° $\Upsilon$ 40'03  |             | retrograde       | -5008 Aug 31 j 05:28 | 20° $\Upsilon$ 07'00 |             |
| evening set      | -5014 Apr 19 j 02:21 | 3° $\Upsilon$ 36'10  |             | opposition       | -5008 Nov 16 j 05:43 | 18° $\Upsilon$ 43'50 | -1°29'03    |
|                  |                      |                      |             | min. Earth dist. | -5008 Nov 16 j 17:36 | 18° $\Upsilon$ 42'59 | 28.98490 AU |
| conjunction      | -5014 May 05 j 09:50 | 4° $\Upsilon$ 12'13  | -1°48'05    | direct           | -5007 Feb 03 j 14:17 | 17° $\Upsilon$ 18'32 |             |
| minimum elong    | -5014 May 05 j 09:51 | 4° $\Upsilon$ 12'13  | 1°48'05     | evening set      | -5007 May 05 j 05:03 | 19° $\Upsilon$ 15'02 |             |
| max. Earth dist. | -5014 May 05 j 02:48 | 4° $\Upsilon$ 11'34  | 30.91599 AU |                  |                      |                      |             |
| morning rise     | -5014 May 21 j 15:48 | 4° $\Upsilon$ 48'10  |             | conjunction      | -5007 May 21 j 12:22 | 19° $\Upsilon$ 51'04 | -1°21'09    |
| retrograde       | -5014 Aug 18 j 04:54 | 6° $\Upsilon$ 43'05  |             | minimum elong    | -5007 May 21 j 12:22 | 19° $\Upsilon$ 51'04 | 1°21'05     |
| opposition       | -5014 Nov 03 j 15:17 | 5° $\Upsilon$ 19'20  | -1°53'47    | max. Earth dist. | -5007 May 20 j 22:23 | 19° $\Upsilon$ 49'46 | 30.98825 AU |
| min. Earth dist. | -5014 Nov 03 j 22:18 | 5° $\Upsilon$ 18'50  | 28.92180 AU | morning rise     | -5007 Jun 06 j 17:06 | 20° $\Upsilon$ 26'54 |             |
| direct           | -5013 Jan 21 j 11:31 | 3° $\Upsilon$ 54'01  |             | retrograde       | -5007 Sep 02 j 14:27 | 22° $\Upsilon$ 20'50 |             |
| evening set      | -5013 Apr 21 j 16:31 | 5° $\Upsilon$ 50'12  |             | opposition       | -5007 Nov 18 j 16:15 | 20° $\Upsilon$ 57'43 | -1°24'27    |
|                  |                      |                      |             | min. Earth dist. | -5007 Nov 19 j 05:26 | 20° $\Upsilon$ 56'47 | 28.99276 AU |
| conjunction      | -5013 May 07 j 23:56 | 6° $\Upsilon$ 26'14  | -1°44'41    | direct           | -5006 Feb 06 j 03:15 | 19° $\Upsilon$ 32'23 |             |
| minimum elong    | -5013 May 07 j 23:57 | 6° $\Upsilon$ 26'14  | 1°44'41     | evening set      | -5006 May 07 j 19:05 | 21° $\Upsilon$ 28'53 |             |
| max. Earth dist. | -5013 May 07 j 15:32 | 6° $\Upsilon$ 25'27  | 30.92587 AU | max. Earth dist. | -5006 May 23 j 09:56 | 22° $\Upsilon$ 03'23 | 30.99582 AU |
| morning rise     | -5013 May 24 j 05:55 | 7° $\Upsilon$ 02'11  |             |                  |                      |                      |             |
| retrograde       | -5013 Aug 20 j 17:52 | 8° $\Upsilon$ 56'57  |             | conjunction      | -5006 May 24 j 02:05 | 22° $\Upsilon$ 04'54 | -1°16'46    |
| opposition       | -5013 Nov 06 j 01:34 | 7° $\Upsilon$ 33'18  | -1°50'03    | minimum elong    | -5006 May 24 j 02:05 | 22° $\Upsilon$ 04'54 | 1°16'41     |
| min. Earth dist. | -5013 Nov 06 j 08:12 | 7° $\Upsilon$ 32'50  | 28.93221 AU | morning rise     | -5006 Jun 09 j 06:43 | 22° $\Upsilon$ 40'42 |             |
| direct           | -5012 Jan 24 j 00:13 | 6° $\Upsilon$ 08'00  |             | retrograde       | -5006 Sep 05 j 01:16 | 24° $\Upsilon$ 34'27 |             |
| evening set      | -5012 Apr 23 j 06:27 | 8° $\Upsilon$ 04'15  |             | opposition       | -5006 Nov 21 j 02:36 | 23° $\Upsilon$ 11'23 | -1°19'43    |
|                  |                      |                      |             | min. Earth dist. | -5006 Nov 21 j 16:06 | 23° $\Upsilon$ 10'26 | 29.00002 AU |
| conjunction      | -5012 May 09 j 13:57 | 8° $\Upsilon$ 40'18  | -1°41'08    | direct           | -5005 Feb 08 j 15:11 | 21° $\Upsilon$ 45'59 |             |
| minimum elong    | -5012 May 09 j 13:58 | 8° $\Upsilon$ 40'18  | 1°41'06     | evening set      | -5005 May 10 j 08:48 | 23° $\Upsilon$ 42'29 |             |
| max. Earth dist. | -5012 May 09 j 05:07 | 8° $\Upsilon$ 39'29  | 30.93679 AU |                  |                      |                      |             |
| morning rise     | -5012 May 25 j 19:43 | 9° $\Upsilon$ 16'14  |             | conjunction      | -5005 May 26 j 15:49 | 24° $\Upsilon$ 18'29 | -1°12'18    |
| retrograde       | -5012 Aug 22 j 05:44 | 11° $\Upsilon$ 10'53 |             | minimum elong    | -5005 May 26 j 15:49 | 24° $\Upsilon$ 18'29 | 1°12'12     |
| opposition       | -5012 Nov 07 j 12:01 | 9° $\Upsilon$ 47'21  | -1°46'10    | max. Earth dist. | -5005 May 25 j 23:48 | 24° $\Upsilon$ 17'00 | 31.00291 AU |
| min. Earth dist. | -5012 Nov 07 j 20:23 | 9° $\Upsilon$ 46'45  | 28.94347 AU | morning rise     | -5005 Jun 11 j 20:01 | 24° $\Upsilon$ 54'15 |             |
| direct           | -5011 Jan 25 j 12:32 | 8° $\Upsilon$ 22'04  |             | retrograde       | -5005 Sep 07 j 10:41 | 26° $\Upsilon$ 47'51 |             |
| evening set      | -5011 Apr 25 j 20:36 | 10° $\Upsilon$ 18'24 |             | opposition       | -5005 Nov 23 j 13:07 | 25° $\Upsilon$ 24'48 | -1°14'52    |
|                  |                      |                      |             | min. Earth dist. | -5005 Nov 24 j 04:13 | 25° $\Upsilon$ 23'44 | 29.00703 AU |
| conjunction      | -5011 May 12 j 04:07 | 10° $\Upsilon$ 54'27 | -1°37'25    | direct           | -5004 Feb 11 j 02:37 | 23° $\Upsilon$ 59'21 |             |
| minimum elong    | -5011 May 12 j 04:07 | 10° $\Upsilon$ 54'27 | 1°37'22     | evening set      | -5004 May 11 j 22:22 | 25° $\Upsilon$ 55'50 |             |
| max. Earth dist. | -5011 May 11 j 18:21 | 10° $\Upsilon$ 53'32 | 30.94836 AU | max. Earth dist. | -5004 May 27 j 11:42 | 26° $\Upsilon$ 30'11 | 31.01011 AU |
| morning rise     | -5011 May 28 j 09:46 | 11° $\Upsilon$ 30'21 |             |                  |                      |                      |             |
| retrograde       | -5011 Aug 24 j 18:32 | 13° $\Upsilon$ 24'53 |             | conjunction      | -5004 May 28 j 05:07 | 26° $\Upsilon$ 31'48 | -1°07'43    |
| opposition       | -5011 Nov 09 j 22:15 | 12° $\Upsilon$ 01'28 | -1°42'06    | minimum elong    | -5004 May 28 j 05:08 | 26° $\Upsilon$ 31'48 | 1°07'36     |
| min. Earth dist. | -5011 Nov 10 j 06:43 | 12° $\Upsilon$ 00'52 | 28.95489 AU | morning rise     | -5004 Jun 13 j 09:12 | 27° $\Upsilon$ 07'33 |             |
| direct           | -5010 Jan 28 j 02:36 | 10° $\Upsilon$ 36'12 |             | retrograde       | -5004 Sep 08 j 21:52 | 29° $\Upsilon$ 00'58 |             |
| evening set      | -5010 Apr 28 j 10:54 | 12° $\Upsilon$ 32'36 |             | opposition       | -5004 Nov 24 j 23:25 | 27° $\Upsilon$ 37'57 | -1°09'55    |
|                  |                      |                      |             | min. Earth dist. | -5004 Nov 25 j 14:09 | 27° $\Upsilon$ 36'55 | 29.01433 AU |
| conjunction      | -5010 May 14 j 18:17 | 13° $\Upsilon$ 08'39 | -1°33'33    | direct           | -5003 Feb 12 j 15:48 | 26° $\Upsilon$ 12'26 |             |
| minimum elong    | -5010 May 14 j 18:18 | 13° $\Upsilon$ 08'39 | 1°33'30     | evening set      | -5003 May 14 j 11:56 | 28° $\Upsilon$ 08'56 |             |
| max. Earth dist. | -5010 May 14 j 07:00 | 13° $\Upsilon$ 07'36 | 30.95963 AU |                  |                      |                      |             |
| morning rise     | -5010 May 30 j 23:46 | 13° $\Upsilon$ 44'33 |             | conjunction      | -5003 May 30 j 18:32 | 28° $\Upsilon$ 44'53 | -1°03'02    |
| retrograde       | -5010 Aug 27 j 05:57 | 15° $\Upsilon$ 38'57 |             | minimum elong    | -5003 May 30 j 18:33 | 28° $\Upsilon$ 44'53 | 1°02'55     |
| opposition       | -5010 Nov 12 j 08:49 | 14° $\Upsilon$ 15'38 | -1°37'54    | max. Earth dist. | -5003 May 30 j 00:54 | 28° $\Upsilon$ 43'14 | 31.01767 AU |
| min. Earth dist. | -5010 Nov 12 j 19:01 | 14° $\Upsilon$ 14'55 | 28.96591 AU | morning rise     | -5003 Jun 15 j 22:12 | 29° $\Upsilon$ 20'36 |             |
| direct           | -5009 Jan 30 j 13:47 | 12° $\Upsilon$ 50'23 |             |                  | -5003 Jul 04 j 22:59 | 0° $\Re$             |             |
| evening set      | -5009 May 01 j 00:54 | 14° $\Upsilon$ 46'50 |             | retrograde       | -5003 Sep 11 j 08:04 | 1° $\Re$ 13'52       |             |
|                  |                      |                      |             |                  | -5003 Nov 22 j 00:02 | 30° $\Re$ $\Upsilon$ |             |

Attention, astronomical year style is used: The year -5003 in astronomical counting style is the year 5004 BCE in historical counting style.

|                  |                      |                         |             |                  |                      |                         |             |
|------------------|----------------------|-------------------------|-------------|------------------|----------------------|-------------------------|-------------|
| opposition       | -5003 Nov 27 j 09:49 | 29° $\Upsilon$ 50'52    | -1°04'52    | minimum elong    | -4996 Jun 15 j 13:29 | 14° $\mathcal{B}$ 14'25 | 0°27'57     |
| min. Earth dist. | -5003 Nov 28 j 02:02 | 29° $\Upsilon$ 49'44    | 29.02234 AU | max. Earth dist. | -4996 Jun 14 j 16:08 | 14° $\mathcal{B}$ 12'26 | 31.09261 AU |
| direct           | -5002 Feb 15 j 04:23 | 28° $\Upsilon$ 25'20    |             | morning rise     | -4996 Jul 01 j 14:17 | 14° $\mathcal{B}$ 49'55 |             |
|                  | -5002 May 06 j 18:11 | 0° $\mathcal{B}$        |             |                  | -4996 Jul 06 j 06:43 | 15° $\mathcal{B}$       |             |
| evening set      | -5002 May 17 j 01:26 | 0° $\mathcal{B}$ 21'50  |             | retrograde       | -4996 Sep 26 j 10:57 | 16° $\mathcal{B}$ 42'29 |             |
|                  |                      |                         |             | opposition       | -4996 Dec 12 j 11:24 | 15° $\mathcal{B}$ 20'06 | -0°27'20    |
| conjunction      | -5002 Jun 02 j 07:48 | 0° $\mathcal{B}$ 57'45  | -0°58'16    | min. Earth dist. | -4996 Dec 13 j 07:40 | 15° $\mathcal{B}$ 18'41 | 29.09773 AU |
| minimum elong    | -5002 Jun 02 j 07:48 | 0° $\mathcal{B}$ 57'45  | 0°58'09     |                  | -4996 Dec 24 j 13:24 | 15° $\mathcal{B}$       |             |
| max. Earth dist. | -5002 Jun 01 j 13:36 | 0° $\mathcal{B}$ 56'04  | 31.02630 AU | direct           | -4995 Mar 02 j 17:11 | 13° $\mathcal{B}$ 54'42 |             |
| morning rise     | -5002 Jun 18 j 11:09 | 1° $\mathcal{B}$ 33'27  |             |                  | -4995 May 07 j 11:58 | 15° $\mathcal{B}$       |             |
| retrograde       | -5002 Sep 13 j 19:34 | 3° $\mathcal{B}$ 26'35  |             | evening set      | -4995 Jun 01 j 22:12 | 15° $\mathcal{B}$ 51'26 |             |
| opposition       | -5002 Nov 29 j 20:14 | 2° $\mathcal{B}$ 03'38  | -0°59'44    | max. Earth dist. | -4995 Jun 17 j 03:15 | 16° $\mathcal{B}$ 25'04 | 31.10197 AU |
| min. Earth dist. | -5002 Nov 30 j 11:57 | 2° $\mathcal{B}$ 02'32  | 29.03144 AU |                  |                      |                         |             |
| direct           | -5001 Feb 17 j 18:30 | 0° $\mathcal{B}$ 38'05  |             | conjunction      | -4995 Jun 18 j 02:11 | 16° $\mathcal{B}$ 27'12 | -0°22'56    |
| evening set      | -5001 May 19 j 14:44 | 2° $\mathcal{B}$ 34'36  |             | minimum elong    | -4995 Jun 18 j 02:11 | 16° $\mathcal{B}$ 27'12 | 0°22'46     |
|                  |                      |                         |             | morning rise     | -4995 Jul 04 j 02:39 | 17° $\mathcal{B}$ 02'41 |             |
| conjunction      | -5001 Jun 04 j 20:46 | 3° $\mathcal{B}$ 10'30  | -0°53'25    | retrograde       | -4995 Sep 28 j 21:38 | 18° $\mathcal{B}$ 55'09 |             |
| minimum elong    | -5001 Jun 04 j 20:47 | 3° $\mathcal{B}$ 10'30  | 0°53'18     | opposition       | -4995 Dec 14 j 21:57 | 17° $\mathcal{B}$ 32'49 | -0°21'45    |
| max. Earth dist. | -5001 Jun 04 j 01:52 | 3° $\mathcal{B}$ 08'45  | 31.03605 AU | min. Earth dist. | -4995 Dec 15 j 17:57 | 17° $\mathcal{B}$ 31'25 | 29.10646 AU |
| morning rise     | -5001 Jun 20 j 23:46 | 3° $\mathcal{B}$ 46'10  |             | direct           | -4994 Mar 05 j 06:10 | 16° $\mathcal{B}$ 07'24 |             |
| retrograde       | -5001 Sep 16 j 06:30 | 5° $\mathcal{B}$ 39'11  |             | evening set      | -4994 Jun 04 j 11:15 | 18° $\mathcal{B}$ 04'08 |             |
| opposition       | -5001 Dec 02 j 06:43 | 4° $\mathcal{B}$ 16'18  | -0°54'30    |                  |                      |                         |             |
| min. Earth dist. | -5001 Dec 02 j 23:27 | 4° $\mathcal{B}$ 15'08  | 29.04187 AU | conjunction      | -4994 Jun 20 j 14:53 | 18° $\mathcal{B}$ 39'53 | -0°17'43    |
| direct           | -5000 Feb 20 j 05:42 | 2° $\mathcal{B}$ 50'46  |             | minimum elong    | -4994 Jun 20 j 14:53 | 18° $\mathcal{B}$ 39'53 | 0°17'31     |
| evening set      | -5000 May 21 j 03:59 | 4° $\mathcal{B}$ 47'19  |             | max. Earth dist. | -4994 Jun 19 j 15:41 | 18° $\mathcal{B}$ 37'44 | 31.11014 AU |
|                  |                      |                         |             | morning rise     | -4994 Jul 06 j 14:43 | 19° $\mathcal{B}$ 15'19 |             |
| conjunction      | -5000 Jun 06 j 09:52 | 5° $\mathcal{B}$ 23'12  | -0°48'30    | retrograde       | -4994 Oct 01 j 07:30 | 21° $\mathcal{B}$ 07'42 |             |
| minimum elong    | -5000 Jun 06 j 09:52 | 5° $\mathcal{B}$ 23'12  | 0°48'21     | opposition       | -4994 Dec 17 j 08:47 | 19° $\mathcal{B}$ 45'23 | -0°16'09    |
| max. Earth dist. | -5000 Jun 05 j 15:15 | 5° $\mathcal{B}$ 21'29  | 31.04710 AU | min. Earth dist. | -4994 Dec 18 j 06:19 | 19° $\mathcal{B}$ 43'53 | 29.11424 AU |
| morning rise     | -5000 Jun 22 j 12:26 | 5° $\mathcal{B}$ 58'50  |             | direct           | -4993 Mar 07 j 18:24 | 18° $\mathcal{B}$ 19'58 |             |
| retrograde       | -5000 Sep 17 j 17:45 | 7° $\mathcal{B}$ 51'44  |             | evening set      | -4993 Jun 06 j 24:00 | 20° $\mathcal{B}$ 16'41 |             |
| opposition       | -5000 Dec 03 j 17:01 | 6° $\mathcal{B}$ 28'58  | -0°49'12    | max. Earth dist. | -4993 Jun 22 j 03:19 | 20° $\mathcal{B}$ 50'10 | 31.11761 AU |
| min. Earth dist. | -5000 Dec 04 j 09:56 | 6° $\mathcal{B}$ 27'47  | 29.05322 AU |                  |                      |                         |             |
| direct           | -4999 Feb 21 j 19:26 | 5° $\mathcal{B}$ 03'28  |             | conjunction      | -4993 Jun 23 j 03:10 | 20° $\mathcal{B}$ 52'23 | -0°12'29    |
| evening set      | -4999 May 23 j 17:23 | 7° $\mathcal{B}$ 00'04  |             | minimum elong    | -4993 Jun 23 j 03:09 | 20° $\mathcal{B}$ 52'23 | 0°12'17     |
|                  |                      |                         |             | behind sun begin | -4993 Jun 22 j 22:52 | 20° $\mathcal{B}$ 52'00 |             |
| conjunction      | -4999 Jun 08 j 22:51 | 7° $\mathcal{B}$ 35'56  | -0°43'29    | behind sun end   | -4993 Jun 23 j 07:27 | 20° $\mathcal{B}$ 52'46 |             |
| minimum elong    | -4999 Jun 08 j 22:51 | 7° $\mathcal{B}$ 35'56  | 0°43'21     | morning rise     | -4993 Jul 09 j 02:34 | 21° $\mathcal{B}$ 27'46 |             |
| max. Earth dist. | -4999 Jun 08 j 02:43 | 7° $\mathcal{B}$ 34'04  | 31.05884 AU | retrograde       | -4993 Oct 03 j 18:14 | 23° $\mathcal{B}$ 20'03 |             |
| morning rise     | -4999 Jun 25 j 01:08 | 8° $\mathcal{B}$ 11'32  |             | opposition       | -4993 Dec 19 j 19:24 | 21° $\mathcal{B}$ 57'45 | -0°10'32    |
| retrograde       | -4999 Sep 20 j 05:25 | 10° $\mathcal{B}$ 04'21 |             | min. Earth dist. | -4993 Dec 20 j 16:37 | 21° $\mathcal{B}$ 56'17 | 29.12134 AU |
| opposition       | -4999 Dec 06 j 03:29 | 8° $\mathcal{B}$ 41'41  | -0°43'49    | direct           | -4992 Mar 09 j 08:09 | 20° $\mathcal{B}$ 32'19 |             |
| min. Earth dist. | -4999 Dec 06 j 20:57 | 8° $\mathcal{B}$ 40'28  | 29.06516 AU | evening set      | -4992 Jun 08 j 12:45 | 22° $\mathcal{B}$ 29'01 |             |
| direct           | -4998 Feb 24 j 06:32 | 7° $\mathcal{B}$ 16'14  |             |                  |                      |                         |             |
| evening set      | -4998 May 26 j 06:35 | 9° $\mathcal{B}$ 12'52  |             | conjunction      | -4992 Jun 24 j 15:25 | 23° $\mathcal{B}$ 04'40 | -0°07'14    |
|                  |                      |                         |             | minimum elong    | -4992 Jun 24 j 15:26 | 23° $\mathcal{B}$ 04'40 | 0°07'02     |
| conjunction      | -4998 Jun 11 j 11:50 | 9° $\mathcal{B}$ 48'43  | -0°38'26    | behind sun begin | -4992 Jun 24 j 09:23 | 23° $\mathcal{B}$ 04'08 |             |
| minimum elong    | -4998 Jun 11 j 11:50 | 9° $\mathcal{B}$ 48'43  | 0°38'16     | behind sun end   | -4992 Jun 24 j 21:28 | 23° $\mathcal{B}$ 05'13 |             |
| max. Earth dist. | -4998 Jun 10 j 16:08 | 9° $\mathcal{B}$ 46'54  | 31.07072 AU | max. Earth dist. | -4992 Jun 23 j 14:51 | 23° $\mathcal{B}$ 02'24 | 31.12454 AU |
| morning rise     | -4998 Jun 27 j 13:32 | 10° $\mathcal{B}$ 24'17 |             | morning rise     | -4992 Jul 10 j 14:19 | 23° $\mathcal{B}$ 40'01 |             |
| retrograde       | -4998 Sep 22 j 14:30 | 12° $\mathcal{B}$ 17'02 |             | retrograde       | -4992 Oct 05 j 04:52 | 25° $\mathcal{B}$ 32'12 |             |
| opposition       | -4998 Dec 08 j 14:06 | 10° $\mathcal{B}$ 54'29 | -0°38'22    | opposition       | -4992 Dec 21 j 05:56 | 24° $\mathcal{B}$ 09'55 | -0°04'55    |
| min. Earth dist. | -4998 Dec 09 j 08:37 | 10° $\mathcal{B}$ 53'11 | 29.07679 AU | min. Earth dist. | -4992 Dec 22 j 04:15 | 24° $\mathcal{B}$ 08'22 | 29.12835 AU |
| direct           | -4997 Feb 26 j 19:16 | 9° $\mathcal{B}$ 29'03  |             | direct           | -4991 Mar 11 j 19:42 | 22° $\mathcal{B}$ 44'26 |             |
| evening set      | -4997 May 28 j 19:55 | 11° $\mathcal{B}$ 25'44 |             | evening set      | -4991 Jun 11 j 01:19 | 24° $\mathcal{B}$ 41'07 |             |
| max. Earth dist. | -4997 Jun 13 j 03:04 | 11° $\mathcal{B}$ 59'34 | 31.08213 AU | max. Earth dist. | -4991 Jun 26 j 03:26 | 25° $\mathcal{B}$ 14'30 | 31.13165 AU |
|                  |                      |                         |             |                  |                      |                         |             |
| conjunction      | -4997 Jun 14 j 00:38 | 12° $\mathcal{B}$ 01'34 | -0°33'18    | conjunction      | -4991 Jun 27 j 03:36 | 25° $\mathcal{B}$ 16'44 | -0°01'58    |
| minimum elong    | -4997 Jun 14 j 00:39 | 12° $\mathcal{B}$ 01'34 | 0°33'08     | minimum elong    | -4991 Jun 27 j 03:35 | 25° $\mathcal{B}$ 16'44 | 0°01'46     |
| morning rise     | -4997 Jun 30 j 02:03 | 12° $\mathcal{B}$ 37'06 |             | behind sun begin | -4991 Jun 26 j 21:03 | 25° $\mathcal{B}$ 16'09 |             |
| retrograde       | -4997 Sep 25 j 01:32 | 14° $\mathcal{B}$ 29'46 |             | behind sun end   | -4991 Jun 27 j 10:07 | 25° $\mathcal{B}$ 17'19 |             |
| opposition       | -4997 Dec 11 j 00:39 | 13° $\mathcal{B}$ 07'18 | -0°32'52    | morning rise     | -4991 Jul 13 j 01:52 | 25° $\mathcal{B}$ 52'02 |             |
| min. Earth dist. | -4997 Dec 11 j 19:15 | 13° $\mathcal{B}$ 05'59 | 29.08785 AU | retrograde       | -4991 Oct 07 j 15:48 | 27° $\mathcal{B}$ 44'06 |             |
| direct           | -4996 Feb 29 j 06:23 | 11° $\mathcal{B}$ 41'53 |             | asc. node        | -4991 Nov 07 j 13:52 | 27° $\mathcal{B}$ 28'10 |             |
| evening set      | -4996 May 30 j 08:58 | 13° $\mathcal{B}$ 38'36 |             | opposition       | -4991 Dec 23 j 16:38 | 26° $\mathcal{B}$ 21'50 | 0°00'43     |
|                  |                      |                         |             | min. Earth dist. | -4991 Dec 24 j 14:52 | 26° $\mathcal{B}$ 20'17 | 29.13560 AU |
| conjunction      | -4996 Jun 15 j 13:29 | 14° $\mathcal{B}$ 14'25 | -0°28'08    | direct           | -4990 Mar 14 j 10:39 | 24° $\mathcal{B}$ 56'21 |             |



Attention, astronomical year style is used: The year -4990 in astronomical counting style is the year 4991 BCE in historical counting style.

|                  |                      |                     |             |                  |                      |                     |             |
|------------------|----------------------|---------------------|-------------|------------------|----------------------|---------------------|-------------|
| evening set      | -4990 Jun 13 j 13:47 | 26° <b>8</b> 53'00  |             | min. Earth dist. | -4984 Jan 07 j 08:57 | 9° <b>II</b> 29'41  | 29.19748 AU |
|                  |                      |                     |             | direct           | -4984 Mar 27 j 08:59 | 8° <b>II</b> 06'00  |             |
| conjunction      | -4990 Jun 29 j 15:22 | 27° <b>8</b> 28'35  | 0°03'25     | evening set      | -4984 Jun 26 j 14:40 | 10° <b>II</b> 02'40 |             |
| minimum elong    | -4990 Jun 29 j 15:22 | 27° <b>8</b> 28'35  | 0°03'38     | max. Earth dist. | -4984 Jul 11 j 11:43 | 10° <b>II</b> 35'39 | 31.20228 AU |
| behind sun begin | -4990 Jun 29 j 08:54 | 27° <b>8</b> 28'00  |             |                  |                      |                     |             |
| behind sun end   | -4990 Jun 29 j 21:51 | 27° <b>8</b> 29'09  |             | conjunction      | -4984 Jul 12 j 12:48 | 10° <b>II</b> 37'59 | 0°34'31     |
| max. Earth dist. | -4990 Jun 28 j 14:15 | 27° <b>8</b> 26'15  | 31.13926 AU | minimum elong    | -4984 Jul 12 j 12:48 | 10° <b>II</b> 37'59 | 0°34'46     |
| morning rise     | -4990 Jul 15 j 13:11 | 28° <b>8</b> 03'50  |             | morning rise     | -4984 Jul 28 j 06:56 | 11° <b>II</b> 12'59 |             |
| retrograde       | -4990 Oct 10 j 02:39 | 29° <b>8</b> 55'49  |             | retrograde       | -4984 Oct 22 j 13:12 | 13° <b>II</b> 04'45 |             |
| opposition       | -4990 Dec 26 j 03:21 | 28° <b>8</b> 33'34  | 0°06'20     | opposition       | -4983 Jan 07 j 20:28 | 11° <b>II</b> 42'52 | 0°39'32     |
| min. Earth dist. | -4990 Dec 27 j 01:30 | 28° <b>8</b> 32'02  | 29.14382 AU | min. Earth dist. | -4983 Jan 08 j 19:25 | 11° <b>II</b> 41'17 | 29.20755 AU |
| direct           | -4989 Mar 16 j 22:40 | 27° <b>8</b> 08'04  |             | direct           | -4983 Mar 29 j 21:34 | 10° <b>II</b> 17'36 |             |
| evening set      | -4989 Jun 16 j 02:01 | 29° <b>8</b> 04'43  |             | evening set      | -4983 Jun 29 j 02:47 | 12° <b>II</b> 14'17 |             |
| max. Earth dist. | -4989 Jul 01 j 03:09 | 29° <b>8</b> 38'00  | 31.14801 AU | max. Earth dist. | -4983 Jul 13 j 22:28 | 12° <b>II</b> 47'09 | 31.21169 AU |
|                  |                      |                     |             |                  |                      |                     |             |
| conjunction      | -4989 Jul 02 j 03:13 | 29° <b>8</b> 40'15  | 0°08'39     | conjunction      | -4983 Jul 15 j 00:14 | 12° <b>II</b> 49'33 | 0°39'34     |
| minimum elong    | -4989 Jul 02 j 03:13 | 29° <b>8</b> 40'14  | 0°08'51     | minimum elong    | -4983 Jul 15 j 00:14 | 12° <b>II</b> 49'33 | 0°39'49     |
| behind sun begin | -4989 Jul 01 j 21:36 | 29° <b>8</b> 39'45  |             | morning rise     | -4983 Jul 30 j 17:42 | 13° <b>II</b> 24'30 |             |
| behind sun end   | -4989 Jul 02 j 08:49 | 29° <b>8</b> 40'44  |             | retrograde       | -4983 Oct 25 j 00:10 | 15° <b>II</b> 16'15 |             |
|                  | -4989 Jul 10 j 23:42 | 0° <b>II</b>        |             | opposition       | -4982 Jan 10 j 07:41 | 13° <b>II</b> 54'24 | 0°44'54     |
| morning rise     | -4989 Jul 18 j 00:18 | 0° <b>II</b> 15'27  |             | min. Earth dist. | -4982 Jan 11 j 07:34 | 13° <b>II</b> 52'45 | 29.21650 AU |
| retrograde       | -4989 Oct 12 j 11:12 | 2° <b>II</b> 07'22  |             | direct           | -4982 Apr 01 j 09:02 | 12° <b>II</b> 29'10 |             |
| opposition       | -4989 Dec 28 j 14:03 | 0° <b>II</b> 45'10  | 0°11'56     | evening set      | -4982 Jul 01 j 14:37 | 14° <b>II</b> 25'50 |             |
| min. Earth dist. | -4989 Dec 29 j 12:37 | 0° <b>II</b> 43'35  | 29.15315 AU | max. Earth dist. | -4982 Jul 16 j 10:10 | 14° <b>II</b> 58'41 | 31.21996 AU |
|                  | -4988 Jan 26 j 03:09 | 30° <b>8</b>        |             |                  |                      |                     |             |
| direct           | -4988 Mar 18 j 11:33 | 29° <b>8</b> 19'40  |             | conjunction      | -4982 Jul 17 j 11:29 | 15° <b>II</b> 01'03 | 0°44'34     |
|                  | -4988 May 08 j 08:31 | 0° <b>II</b>        |             | minimum elong    | -4982 Jul 17 j 11:29 | 15° <b>II</b> 01'03 | 0°44'49     |
| evening set      | -4988 Jun 17 j 14:16 | 1° <b>II</b> 16'18  |             | morning rise     | -4982 Aug 02 j 04:14 | 15° <b>II</b> 35'56 |             |
|                  |                      |                     |             | retrograde       | -4982 Oct 27 j 10:51 | 17° <b>II</b> 27'40 |             |
| conjunction      | -4988 Jul 03 j 14:46 | 1° <b>II</b> 51'48  | 0°13'52     | opposition       | -4981 Jan 12 j 18:54 | 16° <b>II</b> 05'51 | 0°50'12     |
| minimum elong    | -4988 Jul 03 j 14:46 | 1° <b>II</b> 51'48  | 0°14'06     | min. Earth dist. | -4981 Jan 13 j 18:49 | 16° <b>II</b> 04'12 | 29.22410 AU |
| behind sun begin | -4988 Jul 03 j 11:37 | 1° <b>II</b> 51'31  |             | direct           | -4981 Apr 03 j 23:30 | 14° <b>II</b> 40'38 |             |
| behind sun end   | -4988 Jul 03 j 17:55 | 1° <b>II</b> 52'05  |             | evening set      | -4981 Jul 04 j 02:31 | 16° <b>II</b> 37'17 |             |
| max. Earth dist. | -4988 Jul 02 j 13:36 | 1° <b>II</b> 49'28  | 31.15801 AU |                  |                      |                     |             |
| morning rise     | -4988 Jul 19 j 11:27 | 2° <b>II</b> 26'58  |             | conjunction      | -4981 Jul 19 j 22:36 | 17° <b>II</b> 12'27 | 0°49'30     |
| retrograde       | -4988 Oct 13 j 22:00 | 4° <b>II</b> 18'49  |             | minimum elong    | -4981 Jul 19 j 22:36 | 17° <b>II</b> 12'27 | 0°49'44     |
| opposition       | -4988 Dec 30 j 00:45 | 2° <b>II</b> 56'40  | 0°17'31     | max. Earth dist. | -4981 Jul 18 j 20:10 | 17° <b>II</b> 09'59 | 31.22700 AU |
| min. Earth dist. | -4988 Dec 30 j 22:38 | 2° <b>II</b> 55'09  | 29.16370 AU | morning rise     | -4981 Aug 04 j 14:48 | 17° <b>II</b> 47'17 |             |
| direct           | -4987 Mar 20 j 23:04 | 1° <b>II</b> 31'13  |             | retrograde       | -4981 Oct 29 j 21:59 | 19° <b>II</b> 39'00 |             |
| evening set      | -4987 Jun 20 j 02:24 | 3° <b>II</b> 27'52  |             | opposition       | -4980 Jan 15 j 05:58 | 18° <b>II</b> 17'11 | 0°55'26     |
| max. Earth dist. | -4987 Jul 05 j 02:19 | 4° <b>II</b> 01'04  | 31.16893 AU | min. Earth dist. | -4980 Jan 16 j 05:56 | 18° <b>II</b> 15'32 | 29.23079 AU |
|                  |                      |                     |             | direct           | -4980 Apr 05 j 11:19 | 16° <b>II</b> 51'58 |             |
| conjunction      | -4987 Jul 06 j 02:28 | 4° <b>II</b> 03'19  | 0°19'04     | evening set      | -4980 Jul 05 j 14:05 | 18° <b>II</b> 48'36 |             |
| minimum elong    | -4987 Jul 06 j 02:28 | 4° <b>II</b> 03'19  | 0°19'18     | max. Earth dist. | -4980 Jul 20 j 08:11 | 19° <b>II</b> 21'20 | 31.23318 AU |
| morning rise     | -4987 Jul 21 j 22:23 | 4° <b>II</b> 38'26  |             |                  |                      |                     |             |
| retrograde       | -4987 Oct 16 j 07:04 | 6° <b>II</b> 30'16  |             | conjunction      | -4980 Jul 21 j 09:41 | 19° <b>II</b> 23'43 | 0°54'21     |
| opposition       | -4986 Jan 01 j 11:36 | 5° <b>II</b> 08'11  | 0°23'05     | minimum elong    | -4980 Jul 21 j 09:41 | 19° <b>II</b> 23'43 | 0°54'37     |
| min. Earth dist. | -4986 Jan 02 j 10:35 | 5° <b>II</b> 06'36  | 29.17493 AU | morning rise     | -4980 Aug 06 j 01:08 | 19° <b>II</b> 58'30 |             |
| direct           | -4986 Mar 23 j 10:04 | 3° <b>II</b> 42'47  |             | retrograde       | -4980 Oct 31 j 06:50 | 21° <b>II</b> 50'11 |             |
| evening set      | -4986 Jun 22 j 14:38 | 5° <b>II</b> 39'27  |             | opposition       | -4979 Jan 16 j 17:13 | 20° <b>II</b> 28'23 | 1°00'34     |
|                  |                      |                     |             | min. Earth dist. | -4979 Jan 17 j 17:46 | 20° <b>II</b> 26'41 | 29.23660 AU |
| conjunction      | -4986 Jul 08 j 13:58 | 6° <b>II</b> 14'51  | 0°24'15     | direct           | -4979 Apr 08 j 00:48 | 19° <b>II</b> 03'10 |             |
| minimum elong    | -4986 Jul 08 j 13:57 | 6° <b>II</b> 14'51  | 0°24'30     | evening set      | -4979 Jul 08 j 01:42 | 20° <b>II</b> 59'45 |             |
| max. Earth dist. | -4986 Jul 07 j 13:00 | 6° <b>II</b> 12'32  | 31.18040 AU |                  |                      |                     |             |
| morning rise     | -4986 Jul 24 j 09:24 | 6° <b>II</b> 49'56  |             | conjunction      | -4979 Jul 23 j 20:26 | 21° <b>II</b> 34'49 | 0°59'07     |
| retrograde       | -4986 Oct 18 j 17:09 | 8° <b>II</b> 41'43  |             | minimum elong    | -4979 Jul 23 j 20:26 | 21° <b>II</b> 34'49 | 0°59'22     |
| opposition       | -4985 Jan 03 j 22:29 | 7° <b>II</b> 19'44  | 0°28'37     | max. Earth dist. | -4979 Jul 22 j 17:55 | 21° <b>II</b> 32'20 | 31.23880 AU |
| min. Earth dist. | -4985 Jan 04 j 20:37 | 7° <b>II</b> 18'12  | 29.18642 AU | morning rise     | -4979 Aug 08 j 11:22 | 22° <b>II</b> 09'33 |             |
| direct           | -4985 Mar 25 j 22:14 | 5° <b>II</b> 54'23  |             | retrograde       | -4979 Nov 02 j 17:34 | 24° <b>II</b> 01'12 |             |
| evening set      | -4985 Jun 25 j 02:34 | 7° <b>II</b> 51'03  |             | opposition       | -4978 Jan 19 j 04:22 | 22° <b>II</b> 39'24 | 1°05'37     |
| max. Earth dist. | -4985 Jul 10 j 00:43 | 8° <b>II</b> 24'07  | 31.19164 AU | min. Earth dist. | -4978 Jan 20 j 04:07 | 22° <b>II</b> 37'46 | 29.24225 AU |
|                  |                      |                     |             | direct           | -4978 Apr 10 j 13:08 | 21° <b>II</b> 14'11 |             |
| conjunction      | -4985 Jul 11 j 01:22 | 8° <b>II</b> 26'25  | 0°29'24     | evening set      | -4978 Jul 10 j 13:01 | 23° <b>II</b> 10'44 |             |
| minimum elong    | -4985 Jul 11 j 01:22 | 8° <b>II</b> 26'25  | 0°29'39     | max. Earth dist. | -4978 Jul 25 j 05:58 | 23° <b>II</b> 43'24 | 31.24445 AU |
| morning rise     | -4985 Jul 26 j 20:04 | 9° <b>II</b> 01'27  |             |                  |                      |                     |             |
| retrograde       | -4985 Oct 21 j 02:41 | 10° <b>II</b> 53'14 |             | conjunction      | -4978 Jul 26 j 07:13 | 23° <b>II</b> 45'46 | 1°03'47     |
| opposition       | -4984 Jan 06 j 09:34 | 9° <b>II</b> 31'18  | 0°34'06     | minimum elong    | -4978 Jul 26 j 07:12 | 23° <b>II</b> 45'46 | 1°04'04     |

## Planetary Phenomena of Neptune from -5400 through -4898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 34

Attention, astronomical year style is used: The year -4978 in astronomical counting style is the year 4979 BCE in historical counting style.

|                  |                      |                    |             |                  |                      |                     |             |
|------------------|----------------------|--------------------|-------------|------------------|----------------------|---------------------|-------------|
| morning rise     | -4978 Aug 10 j 21:19 | 24° $\Pi$ 20'27    |             | opposition       | -4971 Feb 03 j 12:21 | 7° $\ominus$ 55'33  | 1°37'52     |
| retrograde       | -4978 Nov 05 j 02:28 | 26° $\Pi$ 12'06    |             | min. Earth dist. | -4971 Feb 04 j 10:30 | 7° $\ominus$ 54'03  | 29.29572 AU |
| opposition       | -4977 Jan 21 j 15:47 | 24° $\Pi$ 50'18    | 1°10'34     | direct           | -4971 Apr 25 j 21:28 | 6° $\ominus$ 30'44  |             |
| min. Earth dist. | -4977 Jan 22 j 16:13 | 24° $\Pi$ 48'37    | 29.24822 AU | evening set      | -4971 Jul 25 j 18:08 | 8° $\ominus$ 27'11  |             |
| direct           | -4977 Apr 13 j 00:52 | 23° $\Pi$ 25'06    |             | max. Earth dist. | -4971 Aug 09 j 08:38 | 8° $\ominus$ 59'43  | 31.29786 AU |
| evening set      | -4977 Jul 13 j 00:12 | 25° $\Pi$ 21'37    |             |                  |                      |                     |             |
| conjunction      | -4977 Jul 28 j 17:35 | 25° $\Pi$ 56'34    | 1°08'22     | conjunction      | -4971 Aug 10 j 07:26 | 9° $\ominus$ 01'51  | 1°33'35     |
| minimum elong    | -4977 Jul 28 j 17:35 | 25° $\Pi$ 56'34    | 1°08'38     | minimum elong    | -4971 Aug 10 j 07:26 | 9° $\ominus$ 01'51  | 1°33'51     |
| max. Earth dist. | -4977 Jul 27 j 16:05 | 25° $\Pi$ 54'11    | 31.25076 AU | morning rise     | -4971 Aug 25 j 17:01 | 9° $\ominus$ 36'14  |             |
| morning rise     | -4977 Aug 13 j 07:11 | 26° $\Pi$ 31'13    |             | retrograde       | -4971 Nov 20 j 02:25 | 11° $\ominus$ 28'12 |             |
| retrograde       | -4977 Nov 07 j 11:49 | 28° $\Pi$ 22'52    |             | opposition       | -4970 Feb 06 j 00:15 | 10° $\ominus$ 06'37 | 1°41'58     |
| opposition       | -4976 Jan 24 j 02:59 | 27° $\Pi$ 01'05    | 1°15'25     | min. Earth dist. | -4970 Feb 06 j 22:49 | 10° $\ominus$ 05'05 | 29.30183 AU |
| min. Earth dist. | -4976 Jan 25 j 02:00 | 26° $\Pi$ 59'30    | 29.25498 AU | direct           | -4970 Apr 28 j 11:00 | 8° $\ominus$ 41'51  |             |
| direct           | -4976 Apr 14 j 13:00 | 25° $\Pi$ 35'55    |             | evening set      | -4970 Jul 28 j 05:06 | 10° $\ominus$ 38'16 |             |
| evening set      | -4976 Jul 14 j 11:21 | 27° $\Pi$ 32'24    |             |                  |                      |                     |             |
| max. Earth dist. | -4976 Jul 29 j 03:23 | 28° $\Pi$ 05'01    | 31.25787 AU | conjunction      | -4970 Aug 12 j 17:33 | 11° $\ominus$ 12'53 | 1°37'21     |
| conjunction      | -4976 Jul 30 j 04:06 | 28° $\Pi$ 07'20    | 1°12'52     | minimum elong    | -4970 Aug 12 j 17:32 | 11° $\ominus$ 12'53 | 1°37'37     |
| minimum elong    | -4976 Jul 30 j 04:06 | 28° $\Pi$ 07'20    | 1°13'08     | max. Earth dist. | -4970 Aug 11 j 17:46 | 11° $\ominus$ 10'39 | 31.30327 AU |
| morning rise     | -4976 Aug 14 j 16:56 | 28° $\Pi$ 41'55    |             | morning rise     | -4970 Aug 28 j 02:40 | 11° $\ominus$ 47'12 |             |
|                  | -4976 Sep 25 j 04:28 | 0° $\ominus$       |             | retrograde       | -4970 Nov 22 j 14:16 | 13° $\ominus$ 39'14 |             |
| retrograde       | -4976 Nov 08 j 20:55 | 0° $\ominus$ 33'37 |             | opposition       | -4969 Feb 08 j 12:03 | 12° $\ominus$ 17'38 | 1°45'55     |
|                  | -4976 Dec 25 j 06:50 | 30° $\Re$ $\Pi$    |             | min. Earth dist. | -4969 Feb 09 j 09:44 | 12° $\ominus$ 16'09 | 29.30660 AU |
| opposition       | -4975 Jan 25 j 14:17 | 29° $\Pi$ 11'51    | 1°20'09     | direct           | -4969 Apr 30 j 23:58 | 10° $\ominus$ 52'53 |             |
| min. Earth dist. | -4975 Jan 26 j 13:52 | 29° $\Pi$ 10'14    | 29.26266 AU | evening set      | -4969 Jul 30 j 15:41 | 12° $\ominus$ 49'16 |             |
| direct           | -4975 Apr 16 j 23:01 | 27° $\Pi$ 46'44    |             | max. Earth dist. | -4969 Aug 14 j 04:54 | 13° $\ominus$ 21'42 | 31.30714 AU |
| evening set      | -4975 Jul 16 j 22:29 | 29° $\Pi$ 43'13    |             |                  |                      |                     |             |
|                  | -4975 Jul 24 j 12:49 | 0° $\ominus$       |             | conjunction      | -4969 Aug 15 j 03:38 | 13° $\ominus$ 23'50 | 1°40'58     |
| conjunction      | -4975 Aug 01 j 14:31 | 0° $\ominus$ 18'05 | 1°17'14     | minimum elong    | -4969 Aug 15 j 03:37 | 13° $\ominus$ 23'50 | 1°41'13     |
| minimum elong    | -4975 Aug 01 j 14:31 | 0° $\ominus$ 18'05 | 1°17'30     | morning rise     | -4969 Aug 30 j 12:00 | 13° $\ominus$ 58'07 |             |
| max. Earth dist. | -4975 Jul 31 j 14:12 | 0° $\ominus$ 15'49 | 31.26600 AU | retrograde       | -4969 Nov 24 j 23:30 | 15° $\ominus$ 50'11 |             |
| morning rise     | -4975 Aug 17 j 02:45 | 0° $\ominus$ 52'38 |             | opposition       | -4968 Feb 10 j 24:00 | 14° $\ominus$ 28'33 | 1°49'42     |
| retrograde       | -4975 Nov 11 j 07:07 | 2° $\ominus$ 44'22 |             | min. Earth dist. | -4968 Feb 11 j 22:35 | 14° $\ominus$ 27'01 | 29.30979 AU |
| opposition       | -4974 Jan 28 j 01:41 | 1° $\ominus$ 22'39 | 1°24'46     | direct           | -4968 May 02 j 12:28 | 13° $\ominus$ 03'50 |             |
| min. Earth dist. | -4974 Jan 29 j 00:06 | 1° $\ominus$ 21'07 | 29.27105 AU | evening set      | -4968 Aug 01 j 02:23 | 15° $\ominus$ 00'08 |             |
|                  | -4974 Apr 07 j 05:18 | 30° $\Re$ $\Pi$    |             | conjunction      | -4968 Aug 16 j 13:34 | 15° $\ominus$ 34'39 | 1°44'27     |
| direct           | -4974 Apr 19 j 10:24 | 29° $\Pi$ 57'37    |             | minimum elong    | -4968 Aug 16 j 13:33 | 15° $\ominus$ 34'39 | 1°44'43     |
|                  | -4974 May 01 j 16:03 | 0° $\ominus$       |             | max. Earth dist. | -4968 Aug 15 j 14:26 | 15° $\ominus$ 32'29 | 31.30967 AU |
| evening set      | -4974 Jul 19 j 09:24 | 1° $\ominus$ 54'05 |             | morning rise     | -4968 Aug 31 j 21:29 | 16° $\ominus$ 08'53 |             |
| max. Earth dist. | -4974 Aug 03 j 00:26 | 2° $\ominus$ 26'38 | 31.27454 AU | retrograde       | -4968 Nov 26 j 08:45 | 18° $\ominus$ 00'58 |             |
| conjunction      | -4974 Aug 04 j 00:42 | 2° $\ominus$ 28'54 | 1°21'30     | opposition       | -4967 Feb 12 j 11:42 | 16° $\ominus$ 39'19 | 1°53'20     |
| minimum elong    | -4974 Aug 04 j 00:41 | 2° $\ominus$ 28'54 | 1°21'47     | min. Earth dist. | -4967 Feb 13 j 09:03 | 16° $\ominus$ 37'52 | 29.31171 AU |
| morning rise     | -4974 Aug 19 j 12:17 | 3° $\ominus$ 03'25 |             | direct           | -4967 May 05 j 01:05 | 15° $\ominus$ 14'35 |             |
| retrograde       | -4974 Nov 13 j 18:13 | 4° $\ominus$ 55'13 |             | evening set      | -4967 Aug 03 j 12:53 | 17° $\ominus$ 10'49 |             |
| opposition       | -4973 Jan 30 j 13:13 | 3° $\ominus$ 33'32 | 1°29'16     | conjunction      | -4967 Aug 18 j 23:28 | 17° $\ominus$ 45'18 | 1°47'46     |
| min. Earth dist. | -4973 Jan 31 j 11:56 | 3° $\ominus$ 31'59 | 29.27982 AU | minimum elong    | -4967 Aug 18 j 23:27 | 17° $\ominus$ 45'18 | 1°48'01     |
| direct           | -4973 Apr 21 j 21:20 | 2° $\ominus$ 08'35 |             | max. Earth dist. | -4967 Aug 18 j 00:58 | 17° $\ominus$ 43'11 | 31.31103 AU |
| evening set      | -4973 Jul 21 j 20:18 | 4° $\ominus$ 05'03 |             | morning rise     | -4967 Sep 03 j 06:44 | 18° $\ominus$ 19'29 |             |
| max. Earth dist. | -4973 Aug 05 j 11:49 | 4° $\ominus$ 37'39 | 31.28316 AU | retrograde       | -4967 Nov 28 j 17:52 | 20° $\ominus$ 11'37 |             |
| conjunction      | -4973 Aug 06 j 11:00 | 4° $\ominus$ 39'49 | 1°25'39     | opposition       | -4966 Feb 14 j 23:45 | 18° $\ominus$ 49'54 | 1°56'48     |
| minimum elong    | -4973 Aug 06 j 11:00 | 4° $\ominus$ 39'49 | 1°25'55     | min. Earth dist. | -4966 Feb 15 j 21:37 | 18° $\ominus$ 48'24 | 29.31287 AU |
| morning rise     | -4973 Aug 21 j 21:53 | 5° $\ominus$ 14'17 |             | direct           | -4966 May 07 j 12:00 | 17° $\ominus$ 25'10 |             |
| retrograde       | -4973 Nov 16 j 05:11 | 7° $\ominus$ 06'09 |             | evening set      | -4966 Aug 05 j 23:05 | 19° $\ominus$ 21'18 |             |
| opposition       | -4972 Feb 02 j 00:42 | 5° $\ominus$ 44'31 | 1°33'38     | max. Earth dist. | -4966 Aug 20 j 11:15 | 19° $\ominus$ 53'41 | 31.31200 AU |
| min. Earth dist. | -4972 Feb 02 j 23:08 | 5° $\ominus$ 42'59 | 29.28817 AU | conjunction      | -4966 Aug 21 j 09:01 | 19° $\ominus$ 55'44 | 1°50'56     |
| direct           | -4972 Apr 23 j 10:32 | 4° $\ominus$ 19'38 |             | minimum elong    | -4966 Aug 21 j 09:00 | 19° $\ominus$ 55'44 | 1°51'12     |
| evening set      | -4972 Jul 23 j 07:20 | 6° $\ominus$ 16'06 |             | morning rise     | -4966 Sep 05 j 15:46 | 20° $\ominus$ 29'53 |             |
| conjunction      | -4972 Aug 07 j 21:12 | 6° $\ominus$ 50'49 | 1°29'41     | retrograde       | -4966 Dec 01 j 03:23 | 22° $\ominus$ 22'03 |             |
| minimum elong    | -4972 Aug 07 j 21:11 | 6° $\ominus$ 50'49 | 1°29'58     | opposition       | -4965 Feb 17 j 11:40 | 21° $\ominus$ 00'17 | 2°00'07     |
| max. Earth dist. | -4972 Aug 06 j 21:12 | 6° $\ominus$ 48'34 | 31.29108 AU | min. Earth dist. | -4965 Feb 18 j 08:10 | 20° $\ominus$ 58'53 | 29.31378 AU |
| morning rise     | -4972 Aug 23 j 07:34 | 7° $\ominus$ 25'14 |             | direct           | -4965 May 10 j 00:14 | 19° $\ominus$ 35'33 |             |
| retrograde       | -4972 Nov 17 j 16:44 | 9° $\ominus$ 17'10 |             | evening set      | -4965 Aug 08 j 09:18 | 21° $\ominus$ 31'37 |             |
|                  |                      |                    |             | conjunction      | -4965 Aug 23 j 18:33 | 22° $\ominus$ 05'59 | 1°53'57     |
|                  |                      |                    |             | minimum elong    | -4965 Aug 23 j 18:33 | 22° $\ominus$ 05'59 | 1°54'11     |

Attention, astronomical year style is used: The year -4965 in astronomical counting style is the year 4966 BCE in historical counting style.

|                  |                      |                    |             |                  |                      |                    |             |
|------------------|----------------------|--------------------|-------------|------------------|----------------------|--------------------|-------------|
| max. Earth dist. | -4965 Aug 22 j 21:00 | 22° $\Omega$ 03'58 | 31.31297 AU | min. Earth dist. | -4958 Mar 05 j 15:59 | 6° $\Omega$ 11'30  | 29.33247 AU |
| morning rise     | -4965 Sep 08 j 00:49 | 22° $\Omega$ 40'06 |             | direct           | -4958 May 25 j 10:25 | 4° $\Omega$ 48'18  |             |
| retrograde       | -4965 Dec 03 j 13:52 | 24° $\Omega$ 32'20 |             | evening set      | -4958 Aug 23 j 06:33 | 6° $\Omega$ 44'05  |             |
| opposition       | -4964 Feb 19 j 23:30 | 23° $\Omega$ 10'30 | 2°03'14     |                  |                      |                    |             |
| min. Earth dist. | -4964 Feb 20 j 19:52 | 23° $\Omega$ 09'07 | 29.31519 AU | conjunction      | -4958 Sep 07 j 11:57 | 7° $\Omega$ 18'12  | 2°10'13     |
| direct           | -4964 May 11 j 10:49 | 21° $\Omega$ 45'48 |             | minimum elong    | -4958 Sep 07 j 11:57 | 7° $\Omega$ 18'12  | 2°10'27     |
| evening set      | -4964 Aug 09 j 19:22 | 23° $\Omega$ 41'48 |             | max. Earth dist. | -4958 Sep 06 j 19:41 | 7° $\Omega$ 16'40  | 31.33135 AU |
| max. Earth dist. | -4964 Aug 24 j 08:10 | 24° $\Omega$ 14'15 | 31.31466 AU | morning rise     | -4958 Sep 22 j 15:02 | 7° $\Omega$ 52'08  |             |
|                  |                      |                    |             | retrograde       | -4958 Dec 18 j 16:03 | 9° $\Omega$ 45'06  |             |
| conjunction      | -4964 Aug 25 j 04:07 | 24° $\Omega$ 16'08 | 1°56'47     | opposition       | -4957 Mar 07 j 12:53 | 8° $\Omega$ 23'16  | 2°19'58     |
| minimum elong    | -4964 Aug 25 j 04:07 | 24° $\Omega$ 16'08 | 1°57'03     | min. Earth dist. | -4957 Mar 08 j 04:59 | 8° $\Omega$ 22'10  | 29.33331 AU |
| morning rise     | -4964 Sep 09 j 09:46 | 24° $\Omega$ 50'12 |             | direct           | -4957 May 27 j 21:13 | 6° $\Omega$ 59'04  |             |
| retrograde       | -4964 Dec 05 j 00:00 | 26° $\Omega$ 42'30 |             | evening set      | -4957 Aug 25 j 16:19 | 8° $\Omega$ 54'47  |             |
| opposition       | -4963 Feb 21 j 11:30 | 25° $\Omega$ 20'39 | 2°06'11     |                  |                      |                    |             |
| min. Earth dist. | -4963 Feb 22 j 06:54 | 25° $\Omega$ 19'20 | 29.31725 AU | conjunction      | -4957 Sep 09 j 21:17 | 9° $\Omega$ 28'53  | 2°11'49     |
| direct           | -4963 May 13 j 23:12 | 23° $\Omega$ 55'59 |             | minimum elong    | -4957 Sep 09 j 21:17 | 9° $\Omega$ 28'53  | 2°12'01     |
| evening set      | -4963 Aug 12 j 05:25 | 25° $\Omega$ 51'56 |             | max. Earth dist. | -4957 Sep 09 j 05:41 | 9° $\Omega$ 27'25  | 31.33145 AU |
|                  |                      |                    |             | morning rise     | -4957 Sep 24 j 24:00 | 10° $\Omega$ 02'47 |             |
| conjunction      | -4963 Aug 27 j 13:24 | 26° $\Omega$ 26'13 | 1°59'28     | retrograde       | -4957 Dec 21 j 01:57 | 11° $\Omega$ 55'52 |             |
| minimum elong    | -4963 Aug 27 j 13:24 | 26° $\Omega$ 26'13 | 1°59'42     | opposition       | -4956 Mar 09 j 01:07 | 10° $\Omega$ 33'59 | 2°21'35     |
| max. Earth dist. | -4963 Aug 26 j 17:21 | 26° $\Omega$ 24'20 | 31.31714 AU | min. Earth dist. | -4956 Mar 09 j 16:00 | 10° $\Omega$ 32'59 | 29.33260 AU |
| morning rise     | -4963 Sep 11 j 18:40 | 27° $\Omega$ 00'16 |             | direct           | -4956 May 29 j 09:20 | 9° $\Omega$ 09'50  |             |
| retrograde       | -4963 Dec 07 j 11:39 | 28° $\Omega$ 52'40 |             | evening set      | -4956 Aug 27 j 02:05 | 11° $\Omega$ 05'29 |             |
| opposition       | -4962 Feb 23 j 23:33 | 27° $\Omega$ 30'48 | 2°08'58     |                  |                      |                    |             |
| min. Earth dist. | -4962 Feb 24 j 17:51 | 27° $\Omega$ 29'34 | 29.32025 AU | conjunction      | -4956 Sep 11 j 06:32 | 11° $\Omega$ 39'33 | 2°13'14     |
| direct           | -4962 May 16 j 09:19 | 26° $\Omega$ 06'12 |             | minimum elong    | -4956 Sep 11 j 06:32 | 11° $\Omega$ 39'32 | 2°13'27     |
| evening set      | -4962 Aug 14 j 15:16 | 28° $\Omega$ 02'08 |             | max. Earth dist. | -4956 Sep 10 j 14:45 | 11° $\Omega$ 38'03 | 31.33000 AU |
|                  |                      |                    |             | morning rise     | -4956 Sep 26 j 09:00 | 12° $\Omega$ 13'26 |             |
| conjunction      | -4962 Aug 29 j 22:52 | 28° $\Omega$ 36'23 | 2°01'58     | retrograde       | -4956 Dec 22 j 12:47 | 14° $\Omega$ 06'37 |             |
| minimum elong    | -4962 Aug 29 j 22:51 | 28° $\Omega$ 36'23 | 2°02'14     | opposition       | -4955 Mar 11 j 13:41 | 12° $\Omega$ 44'40 | 2°23'00     |
| max. Earth dist. | -4962 Aug 29 j 04:40 | 28° $\Omega$ 34'40 | 31.32041 AU | min. Earth dist. | -4955 Mar 12 j 04:35 | 12° $\Omega$ 43'40 | 29.33058 AU |
| morning rise     | -4962 Sep 14 j 03:30 | 29° $\Omega$ 10'24 |             | direct           | -4955 May 31 j 19:50 | 11° $\Omega$ 20'33 |             |
|                  | -4962 Oct 08 j 07:18 | 0° $\Omega$        |             | evening set      | -4955 Aug 29 j 11:31 | 13° $\Omega$ 16'06 |             |
| retrograde       | -4962 Dec 09 j 21:43 | 1° $\Omega$ 02'54  |             |                  |                      |                    |             |
|                  | -4961 Feb 14 j 16:54 | 30° $\Omega$       |             | conjunction      | -4955 Sep 13 j 15:41 | 13° $\Omega$ 50'08 | 2°14'28     |
| opposition       | -4961 Feb 26 j 11:41 | 29° $\Omega$ 41'02 | 2°11'33     | minimum elong    | -4955 Sep 13 j 15:41 | 13° $\Omega$ 50'08 | 2°14'40     |
| min. Earth dist. | -4961 Feb 27 j 05:47 | 29° $\Omega$ 39'49 | 29.32374 AU | max. Earth dist. | -4955 Sep 13 j 01:30 | 13° $\Omega$ 48'47 | 31.32737 AU |
| direct           | -4961 May 18 j 22:06 | 28° $\Omega$ 16'32 |             | morning rise     | -4955 Sep 28 j 17:44 | 14° $\Omega$ 24'00 |             |
|                  | -4961 Aug 11 j 07:45 | 0° $\Omega$        |             |                  | -4955 Oct 15 j 18:42 | 15° $\Omega$       |             |
| evening set      | -4961 Aug 17 j 01:09 | 0° $\Omega$ 12'25  |             | retrograde       | -4955 Dec 24 j 22:49 | 16° $\Omega$ 17'16 |             |
|                  |                      |                    |             |                  | -4954 Mar 11 j 03:43 | 15° $\Omega$       |             |
| conjunction      | -4961 Sep 01 j 08:02 | 0° $\Omega$ 46'38  | 2°04'18     | opposition       | -4954 Mar 14 j 02:15 | 14° $\Omega$ 55'15 | 2°24'13     |
| minimum elong    | -4961 Sep 01 j 08:02 | 0° $\Omega$ 46'38  | 2°04'32     | min. Earth dist. | -4954 Mar 14 j 16:20 | 14° $\Omega$ 54'18 | 29.32740 AU |
| max. Earth dist. | -4961 Aug 31 j 13:35 | 0° $\Omega$ 44'54  | 31.32404 AU | direct           | -4954 Jun 03 j 07:40 | 13° $\Omega$ 31'08 |             |
| morning rise     | -4961 Sep 16 j 12:26 | 1° $\Omega$ 20'38  |             |                  | -4954 Aug 19 j 10:48 | 15° $\Omega$       |             |
| retrograde       | -4961 Dec 12 j 10:05 | 3° $\Omega$ 13'14  |             | evening set      | -4954 Aug 31 j 21:01 | 15° $\Omega$ 26'35 |             |
| opposition       | -4960 Feb 28 j 23:45 | 1° $\Omega$ 51'24  | 2°13'57     | max. Earth dist. | -4954 Sep 15 j 10:15 | 15° $\Omega$ 59'13 | 31.32391 AU |
| min. Earth dist. | -4960 Feb 29 j 16:26 | 1° $\Omega$ 50'17  | 29.32734 AU |                  |                      |                    |             |
| direct           | -4960 May 20 j 10:16 | 0° $\Omega$ 26'59  |             | conjunction      | -4954 Sep 16 j 00:39 | 16° $\Omega$ 00'35 | 2°15'30     |
| evening set      | -4960 Aug 18 j 10:57 | 2° $\Omega$ 22'51  |             | minimum elong    | -4954 Sep 16 j 00:39 | 16° $\Omega$ 00'35 | 2°15'43     |
|                  |                      |                    |             | morning rise     | -4954 Oct 01 j 02:38 | 16° $\Omega$ 34'26 |             |
| conjunction      | -4960 Sep 02 j 17:26 | 2° $\Omega$ 57'02  | 2°06'27     | retrograde       | -4954 Dec 27 j 10:26 | 18° $\Omega$ 27'48 |             |
| minimum elong    | -4960 Sep 02 j 17:25 | 2° $\Omega$ 57'02  | 2°06'42     | opposition       | -4953 Mar 16 j 14:41 | 17° $\Omega$ 05'41 | 2°25'14     |
| max. Earth dist. | -4960 Sep 02 j 00:24 | 2° $\Omega$ 55'26  | 31.32732 AU | min. Earth dist. | -4953 Mar 17 j 03:42 | 17° $\Omega$ 04'48 | 29.32390 AU |
| morning rise     | -4960 Sep 17 j 21:14 | 3° $\Omega$ 31'00  |             | direct           | -4953 Jun 05 j 17:30 | 15° $\Omega$ 41'34 |             |
| retrograde       | -4960 Dec 13 j 20:04 | 5° $\Omega$ 23'45  |             | evening set      | -4953 Sep 03 j 06:11 | 17° $\Omega$ 36'55 |             |
| opposition       | -4959 Mar 02 j 12:01 | 4° $\Omega$ 01'55  | 2°16'09     |                  |                      |                    |             |
| min. Earth dist. | -4959 Mar 03 j 05:15 | 4° $\Omega$ 00'45  | 29.33036 AU | conjunction      | -4953 Sep 18 j 09:39 | 18° $\Omega$ 10'53 | 2°16'21     |
| direct           | -4959 May 22 j 22:07 | 2° $\Omega$ 37'35  |             | minimum elong    | -4953 Sep 18 j 09:39 | 18° $\Omega$ 10'53 | 2°16'32     |
| evening set      | -4959 Aug 20 j 20:51 | 4° $\Omega$ 33'26  |             | max. Earth dist. | -4953 Sep 17 j 21:11 | 18° $\Omega$ 09'43 | 31.32031 AU |
| max. Earth dist. | -4959 Sep 04 j 09:48 | 5° $\Omega$ 05'59  | 31.32995 AU | morning rise     | -4953 Oct 03 j 11:15 | 18° $\Omega$ 44'44 |             |
|                  |                      |                    |             | retrograde       | -4953 Dec 29 j 20:40 | 20° $\Omega$ 38'10 |             |
| conjunction      | -4959 Sep 05 j 02:42 | 5° $\Omega$ 07'34  | 2°08'26     | opposition       | -4952 Mar 18 j 03:13 | 19° $\Omega$ 15'58 | 2°26'02     |
| minimum elong    | -4959 Sep 05 j 02:42 | 5° $\Omega$ 07'34  | 2°08'39     | min. Earth dist. | -4952 Mar 18 j 15:48 | 19° $\Omega$ 15'07 | 29.32041 AU |
| morning rise     | -4959 Sep 20 j 06:11 | 5° $\Omega$ 41'31  |             | direct           | -4952 Jun 07 j 06:33 | 17° $\Omega$ 51'53 |             |
| retrograde       | -4959 Dec 16 j 06:06 | 7° $\Omega$ 34'22  |             | evening set      | -4952 Sep 04 j 15:28 | 19° $\Omega$ 47'07 |             |
| opposition       | -4958 Mar 05 j 00:21 | 6° $\Omega$ 12'33  | 2°18'09     |                  |                      |                    |             |

Attention, astronomical year style is used: The year -4952 in astronomical counting style is the year 4953 BCE in historical counting style.

|                  |                      |           |             |                  |                      |           |             |
|------------------|----------------------|-----------|-------------|------------------|----------------------|-----------|-------------|
| conjunction      | -4952 Sep 19 j 18:25 | 20°Ω21'04 | 2°17'00     | retrograde       | -4945 Jan 14 j 00:21 | 5°♊50'58  |             |
| minimum elong    | -4952 Sep 19 j 18:25 | 20°Ω21'04 | 2°17'12     | opposition       | -4945 Apr 03 j 19:50 | 4°♊28'30  | 2°25'46     |
| max. Earth dist. | -4952 Sep 19 j 06:04 | 20°Ω19'54 | 31.31716 AU | min. Earth dist. | -4945 Apr 04 j 01:23 | 4°♊28'08  | 29.31117 AU |
| morning rise     | -4952 Oct 04 j 19:56 | 20°Ω54'54 |             | direct           | -4945 Jun 23 j 14:41 | 3°♊04'54  |             |
| retrograde       | -4952 Dec 31 j 09:13 | 22°Ω48'26 |             | evening set      | -4945 Sep 20 j 07:08 | 4°♊59'37  |             |
| opposition       | -4951 Mar 20 j 15:38 | 21°Ω26'09 | 2°26'38     |                  |                      |           |             |
| min. Earth dist. | -4951 Mar 21 j 02:16 | 21°Ω25'26 | 29.31769 AU | conjunction      | -4945 Oct 05 j 08:35 | 5°♊33'30  | 2°16'04     |
| direct           | -4951 Jun 09 j 18:26 | 20°Ω02'05 |             | minimum elong    | -4945 Oct 05 j 08:35 | 5°♊33'30  | 2°16'11     |
| evening set      | -4951 Sep 07 j 00:36 | 21°Ω57'15 |             | max. Earth dist. | -4945 Oct 05 j 02:43 | 5°♊32'56  | 31.30799 AU |
|                  |                      |           |             | morning rise     | -4945 Oct 20 j 09:34 | 6°♊07'20  |             |
| conjunction      | -4951 Sep 22 j 03:21 | 22°Ω31'11 | 2°17'28     | retrograde       | -4944 Jan 16 j 12:56 | 8°♊01'49  |             |
| minimum elong    | -4951 Sep 22 j 03:21 | 22°Ω31'11 | 2°17'38     | opposition       | -4944 Apr 05 j 08:43 | 6°♊39'18  | 2°24'54     |
| max. Earth dist. | -4951 Sep 21 j 16:49 | 22°Ω30'11 | 31.31486 AU | min. Earth dist. | -4944 Apr 05 j 13:21 | 6°♊38'59  | 29.30785 AU |
| morning rise     | -4951 Oct 07 j 04:33 | 23°Ω05'00 |             | direct           | -4944 Jun 25 j 00:18 | 5°♊15'45  |             |
| retrograde       | -4950 Jan 02 j 19:21 | 24°Ω58'39 |             | evening set      | -4944 Sep 21 j 16:09 | 7°♊10'23  |             |
| opposition       | -4950 Mar 23 j 04:20 | 23°Ω36'19 | 2°27'01     |                  |                      |           |             |
| min. Earth dist. | -4950 Mar 23 j 14:48 | 23°Ω35'37 | 29.31593 AU | conjunction      | -4944 Oct 06 j 17:39 | 7°♊44'16  | 2°15'09     |
| direct           | -4950 Jun 12 j 05:44 | 22°Ω12'19 |             | minimum elong    | -4944 Oct 06 j 17:39 | 7°♊44'16  | 2°15'17     |
| evening set      | -4950 Sep 09 j 09:37 | 24°Ω07'23 |             | max. Earth dist. | -4944 Oct 06 j 13:22 | 7°♊43'51  | 31.30385 AU |
|                  |                      |           |             | morning rise     | -4944 Oct 21 j 18:29 | 8°♊18'07  |             |
| conjunction      | -4950 Sep 24 j 12:04 | 24°Ω41'18 | 2°17'44     | retrograde       | -4943 Jan 17 j 23:49 | 10°♊12'43 |             |
| minimum elong    | -4950 Sep 24 j 12:04 | 24°Ω41'18 | 2°17'54     | opposition       | -4943 Apr 07 j 21:44 | 8°♊50'09  | 2°23'49     |
| max. Earth dist. | -4950 Sep 24 j 02:24 | 24°Ω40'23 | 31.31366 AU | min. Earth dist. | -4943 Apr 08 j 02:13 | 8°♊49'50  | 29.30290 AU |
| morning rise     | -4950 Oct 09 j 13:14 | 25°Ω15'06 |             | direct           | -4943 Jun 27 j 12:38 | 7°♊26'39  |             |
| retrograde       | -4949 Jan 05 j 05:55 | 27°Ω08'52 |             | evening set      | -4943 Sep 24 j 01:20 | 9°♊21'10  |             |
| opposition       | -4949 Mar 25 j 16:50 | 25°Ω46'31 | 2°27'11     |                  |                      |           |             |
| min. Earth dist. | -4949 Mar 26 j 01:09 | 25°Ω45'57 | 29.31504 AU | conjunction      | -4943 Oct 09 j 02:39 | 9°♊55'03  | 2°14'02     |
| direct           | -4949 Jun 14 j 18:19 | 24°Ω22'35 |             | minimum elong    | -4943 Oct 09 j 02:39 | 9°♊55'03  | 2°14'09     |
| evening set      | -4949 Sep 11 j 18:43 | 26°Ω17'34 |             | max. Earth dist. | -4943 Oct 08 j 22:11 | 9°♊54'38  | 31.29834 AU |
|                  |                      |           |             | morning rise     | -4943 Oct 24 j 03:42 | 10°♊28'55 |             |
| conjunction      | -4949 Sep 26 j 20:55 | 26°Ω51'29 | 2°17'47     | retrograde       | -4942 Jan 20 j 13:10 | 12°♊23'38 |             |
| minimum elong    | -4949 Sep 26 j 20:55 | 26°Ω51'29 | 2°17'56     | opposition       | -4942 Apr 10 j 10:39 | 11°♊00'59 | 2°22'31     |
| max. Earth dist. | -4949 Sep 26 j 12:11 | 26°Ω50'40 | 31.31302 AU | min. Earth dist. | -4942 Apr 10 j 13:33 | 11°♊00'47 | 29.29671 AU |
| morning rise     | -4949 Oct 11 j 21:58 | 27°Ω25'18 |             | direct           | -4942 Jun 29 j 23:56 | 9°♊37'30  |             |
| retrograde       | -4948 Jan 07 j 16:39 | 29°Ω19'12 |             | evening set      | -4942 Sep 26 j 10:12 | 11°♊31'56 |             |
| opposition       | -4948 Mar 27 j 05:24 | 27°Ω56'48 | 2°27'09     |                  |                      |           |             |
| min. Earth dist. | -4948 Mar 27 j 13:43 | 27°Ω56'15 | 29.31464 AU | conjunction      | -4942 Oct 11 j 11:35 | 12°♊05'49 | 2°12'44     |
| direct           | -4948 Jun 16 j 05:21 | 26°Ω32'57 |             | minimum elong    | -4942 Oct 11 j 11:36 | 12°♊05'49 | 2°12'51     |
| evening set      | -4948 Sep 13 j 03:47 | 28°Ω27'53 |             | max. Earth dist. | -4942 Oct 11 j 08:29 | 12°♊05'31 | 31.29157 AU |
|                  |                      |           |             | morning rise     | -4942 Oct 26 j 12:42 | 12°♊39'42 |             |
| conjunction      | -4948 Sep 28 j 05:49 | 29°Ω01'47 | 2°17'39     | retrograde       | -4941 Jan 22 j 23:52 | 14°♊34'32 |             |
| minimum elong    | -4948 Sep 28 j 05:50 | 29°Ω01'47 | 2°17'49     | opposition       | -4941 Apr 12 j 23:39 | 13°♊11'46 | 2°21'02     |
| max. Earth dist. | -4948 Sep 27 j 22:27 | 29°Ω01'05 | 31.31272 AU | min. Earth dist. | -4941 Apr 13 j 02:47 | 13°♊11'34 | 29.28950 AU |
| morning rise     | -4948 Oct 13 j 06:44 | 29°Ω35'36 |             | direct           | -4941 Jul 02 j 11:10 | 11°♊48'19 |             |
|                  | -4948 Oct 24 j 14:43 | 0°♊       |             | evening set      | -4941 Sep 28 j 19:08 | 13°♊42'38 |             |
| retrograde       | -4947 Jan 09 j 02:54 | 1°♊29'38  |             |                  |                      |           |             |
| opposition       | -4947 Mar 29 j 18:07 | 0°♊07'14  | 2°26'54     | conjunction      | -4941 Oct 13 j 20:30 | 14°♊16'31 | 2°11'15     |
| min. Earth dist. | -4947 Mar 30 j 00:45 | 0°♊06'47  | 29.31414 AU | minimum elong    | -4941 Oct 13 j 20:30 | 14°♊16'31 | 2°11'20     |
|                  | -4947 Apr 03 j 05:41 | 30°♋Ω     |             | max. Earth dist. | -4941 Oct 13 j 18:11 | 14°♊16'18 | 31.28422 AU |
| direct           | -4947 Jun 18 j 17:33 | 28°Ω43'29 |             | morning rise     | -4941 Oct 28 j 21:47 | 14°♊50'25 |             |
|                  | -4947 Aug 28 j 07:54 | 0°♊       |             | retrograde       | -4940 Jan 25 j 11:00 | 16°♊45'20 |             |
| evening set      | -4947 Sep 15 j 12:51 | 0°♊38'20  |             | opposition       | -4940 Apr 14 j 12:21 | 15°♊22'30 | 2°19'21     |
|                  |                      |           |             | min. Earth dist. | -4940 Apr 14 j 13:29 | 15°♊22'25 | 29.28197 AU |
| conjunction      | -4947 Sep 30 j 14:34 | 1°♊12'13  | 2°17'19     | direct           | -4940 Jul 04 j 00:11 | 13°♊59'03 |             |
| minimum elong    | -4947 Sep 30 j 14:34 | 1°♊12'13  | 2°17'28     | evening set      | -4940 Sep 30 j 04:01 | 15°♊53'16 |             |
| max. Earth dist. | -4947 Sep 30 j 07:22 | 1°♊11'32  | 31.31203 AU |                  |                      |           |             |
| morning rise     | -4947 Oct 15 j 15:32 | 1°♊46'03  |             | conjunction      | -4940 Oct 15 j 05:21 | 16°♊27'09 | 2°09'35     |
| retrograde       | -4946 Jan 11 j 14:06 | 3°♊40'14  |             | minimum elong    | -4940 Oct 15 j 05:22 | 16°♊27'10 | 2°09'40     |
| opposition       | -4946 Apr 01 j 07:03 | 2°♊17'48  | 2°26'26     | max. Earth dist. | -4940 Oct 15 j 03:53 | 16°♊27'01 | 31.27676 AU |
| min. Earth dist. | -4946 Apr 01 j 13:23 | 2°♊17'23  | 29.31320 AU | morning rise     | -4940 Oct 30 j 06:50 | 17°♊01'05 |             |
| direct           | -4946 Jun 21 j 03:22 | 0°♊54'08  |             | retrograde       | -4939 Jan 26 j 22:29 | 18°♊56'07 |             |
| evening set      | -4946 Sep 17 j 21:55 | 2°♊48'55  |             | opposition       | -4939 Apr 17 j 01:24 | 17°♊33'10 | 2°17'28     |
|                  |                      |           |             | min. Earth dist. | -4939 Apr 17 j 02:18 | 17°♊33'07 | 29.27480 AU |
| conjunction      | -4946 Oct 02 j 23:38 | 3°♊22'48  | 2°16'48     | direct           | -4939 Jul 06 j 11:42 | 16°♊09'47 |             |
| minimum elong    | -4946 Oct 02 j 23:39 | 3°♊22'48  | 2°16'56     | evening set      | -4939 Oct 02 j 12:42 | 18°♊03'52 |             |
| max. Earth dist. | -4946 Oct 02 j 18:12 | 3°♊22'17  | 31.31062 AU |                  |                      |           |             |
| morning rise     | -4946 Oct 18 j 00:26 | 3°♊56'38  |             | conjunction      | -4939 Oct 17 j 14:11 | 18°♊37'46 | 2°07'44     |

Attention, astronomical year style is used: The year -4939 in astronomical counting style is the year 4940 BCE in historical counting style.

|                  |                      |                                   |             |                  |                      |                          |             |
|------------------|----------------------|-----------------------------------|-------------|------------------|----------------------|--------------------------|-------------|
| minimum elong    | -4939 Oct 17 j 14:11 | 18° $\mathring{M}$ 37'46          | 2°07'47     | opposition       | -4932 May 02 j 20:22 | 2° $\mathring{A}$ 50'42  | 1°58'50     |
| max. Earth dist. | -4939 Oct 17 j 14:28 | 18° $\mathring{M}$ 37'48          | 31.27000 AU | min. Earth dist. | -4932 May 02 j 14:31 | 2° $\mathring{A}$ 51'06  | 29.23606 AU |
| morning rise     | -4939 Nov 01 j 15:46 | 19° $\mathring{M}$ 11'43          |             | direct           | -4932 Jul 21 j 14:12 | 1° $\mathring{A}$ 27'45  |             |
| retrograde       | -4938 Jan 29 j 08:45 | 21° $\mathring{M}$ 06'53          |             | evening set      | -4932 Oct 17 j 03:06 | 3° $\mathring{A}$ 21'17  |             |
| opposition       | -4938 Apr 19 j 14:19 | 19° $\mathring{M}$ 43'52          | 2°15'23     |                  |                      |                          |             |
| min. Earth dist. | -4938 Apr 19 j 13:08 | 19° $\mathring{M}$ 43'57          | 29.26834 AU | conjunction      | -4932 Nov 01 j 05:40 | 3° $\mathring{A}$ 55'20  | 1°49'40     |
| direct           | -4938 Jul 09 j 00:11 | 18° $\mathring{M}$ 20'31          |             | minimum elong    | -4932 Nov 01 j 05:41 | 3° $\mathring{A}$ 55'20  | 1°49'41     |
| evening set      | -4938 Oct 04 j 21:36 | 20° $\mathring{M}$ 14'31          |             | max. Earth dist. | -4932 Nov 01 j 12:13 | 3° $\mathring{A}$ 55'57  | 31.23109 AU |
|                  |                      |                                   |             | morning rise     | -4932 Nov 16 j 09:23 | 4° $\mathring{A}$ 29'30  |             |
| conjunction      | -4938 Oct 19 j 23:02 | 20° $\mathring{M}$ 48'26          | 2°05'41     | retrograde       | -4931 Feb 13 j 20:12 | 6° $\mathring{A}$ 25'39  |             |
| minimum elong    | -4938 Oct 19 j 23:03 | 20° $\mathring{M}$ 48'26          | 2°05'45     | opposition       | -4931 May 05 j 09:30 | 5° $\mathring{A}$ 02'17  | 1°55'26     |
| max. Earth dist. | -4938 Oct 19 j 23:39 | 20° $\mathring{M}$ 48'29          | 31.26402 AU | min. Earth dist. | -4931 May 05 j 01:56 | 5° $\mathring{A}$ 02'47  | 29.22793 AU |
| morning rise     | -4938 Nov 04 j 01:00 | 21° $\mathring{M}$ 22'24          |             | direct           | -4931 Jul 24 j 03:17 | 3° $\mathring{A}$ 39'21  |             |
| retrograde       | -4937 Jan 31 j 19:44 | 23° $\mathring{M}$ 17'42          |             | evening set      | -4931 Oct 19 j 12:12 | 5° $\mathring{A}$ 32'47  |             |
| opposition       | -4937 Apr 22 j 03:10 | 21° $\mathring{M}$ 54'38          | 2°13'06     |                  |                      |                          |             |
| min. Earth dist. | -4937 Apr 22 j 01:23 | 21° $\mathring{M}$ 54'45          | 29.26283 AU | conjunction      | -4931 Nov 03 j 14:58 | 6° $\mathring{A}$ 06'52  | 1°46'25     |
| direct           | -4937 Jul 11 j 09:55 | 20° $\mathring{M}$ 31'20          |             | minimum elong    | -4931 Nov 03 j 14:58 | 6° $\mathring{A}$ 06'52  | 1°46'24     |
| evening set      | -4937 Oct 07 j 06:19 | 22° $\mathring{M}$ 25'15          |             | max. Earth dist. | -4931 Nov 03 j 21:43 | 6° $\mathring{A}$ 07'30  | 31.22222 AU |
|                  |                      |                                   |             | morning rise     | -4931 Nov 18 j 19:10 | 6° $\mathring{A}$ 41'05  |             |
| conjunction      | -4937 Oct 22 j 08:03 | 22° $\mathring{M}$ 59'12          | 2°03'27     | retrograde       | -4930 Feb 16 j 09:12 | 8° $\mathring{A}$ 37'20  |             |
| minimum elong    | -4937 Oct 22 j 08:04 | 22° $\mathring{M}$ 59'12          | 2°03'30     | opposition       | -4930 May 07 j 22:48 | 7° $\mathring{A}$ 13'52  | 1°51'53     |
| max. Earth dist. | -4937 Oct 22 j 10:49 | 22° $\mathring{M}$ 59'27          | 31.25889 AU | min. Earth dist. | -4930 May 07 j 15:33 | 7° $\mathring{A}$ 14'21  | 29.21833 AU |
| morning rise     | -4937 Nov 06 j 10:06 | 23° $\mathring{M}$ 33'12          |             | direct           | -4930 Jul 26 j 14:49 | 5° $\mathring{A}$ 50'57  |             |
| retrograde       | -4936 Feb 03 j 05:45 | 25° $\mathring{M}$ 28'38          |             | evening set      | -4930 Oct 21 j 21:17 | 7° $\mathring{A}$ 44'16  |             |
| opposition       | -4936 Apr 23 j 16:06 | 24° $\mathring{M}$ 05'31          | 2°10'38     |                  |                      |                          |             |
| min. Earth dist. | -4936 Apr 23 j 13:04 | 24° $\mathring{M}$ 05'44          | 29.25783 AU | conjunction      | -4930 Nov 06 j 00:29 | 8° $\mathring{A}$ 18'22  | 1°43'01     |
| direct           | -4936 Jul 12 j 21:04 | 22° $\mathring{M}$ 42'18          |             | minimum elong    | -4930 Nov 06 j 00:30 | 8° $\mathring{A}$ 18'22  | 1°43'01     |
| evening set      | -4936 Oct 08 j 15:09 | 24° $\mathring{M}$ 36'08          |             | max. Earth dist. | -4930 Nov 06 j 08:34 | 8° $\mathring{A}$ 19'08  | 31.21206 AU |
|                  |                      |                                   |             | morning rise     | -4930 Nov 21 j 05:01 | 8° $\mathring{A}$ 52'37  |             |
| conjunction      | -4936 Oct 23 j 16:50 | 25° $\mathring{M}$ 10'06          | 2°01'03     | retrograde       | -4929 Feb 18 j 19:51 | 10° $\mathring{A}$ 48'57 |             |
| minimum elong    | -4936 Oct 23 j 16:51 | 25° $\mathring{M}$ 10'06          | 2°01'06     | opposition       | -4929 May 10 j 11:41 | 9° $\mathring{A}$ 25'23  | 1°48'10     |
| max. Earth dist. | -4936 Oct 23 j 19:40 | 25° $\mathring{M}$ 10'22          | 31.25419 AU | min. Earth dist. | -4929 May 10 j 02:57 | 9° $\mathring{A}$ 25'58  | 29.20744 AU |
| morning rise     | -4936 Nov 07 j 19:20 | 25° $\mathring{M}$ 44'08          |             | direct           | -4929 Jul 29 j 03:36 | 8° $\mathring{A}$ 02'27  |             |
| retrograde       | -4935 Feb 04 j 18:43 | 27° $\mathring{M}$ 39'43          |             | evening set      | -4929 Oct 24 j 06:26 | 9° $\mathring{A}$ 55'39  |             |
| opposition       | -4935 Apr 26 j 05:08 | 26° $\mathring{M}$ 16'35          | 2°07'57     |                  |                      |                          |             |
| min. Earth dist. | -4935 Apr 26 j 00:49 | 26° $\mathring{M}$ 16'52          | 29.25320 AU | conjunction      | -4929 Nov 08 j 09:48 | 10° $\mathring{A}$ 29'47 | 1°39'28     |
| direct           | -4935 Jul 15 j 06:31 | 24° $\mathring{M}$ 53'26          |             | minimum elong    | -4929 Nov 08 j 09:49 | 10° $\mathring{A}$ 29'47 | 1°39'26     |
| evening set      | -4935 Oct 10 j 23:58 | 26° $\mathring{M}$ 47'12          |             | max. Earth dist. | -4929 Nov 08 j 17:43 | 10° $\mathring{A}$ 30'32 | 31.20084 AU |
|                  |                      |                                   |             | morning rise     | -4929 Nov 23 j 14:56 | 11° $\mathring{A}$ 04'05 |             |
| conjunction      | -4935 Oct 26 j 01:57 | 27° $\mathring{M}$ 21'11          | 1°58'28     | retrograde       | -4928 Feb 21 j 07:23 | 13° $\mathring{A}$ 00'30 |             |
| minimum elong    | -4935 Oct 26 j 01:58 | 27° $\mathring{M}$ 21'11          | 1°58'29     | opposition       | -4928 May 12 j 00:47 | 11° $\mathring{A}$ 36'48 | 1°44'18     |
| max. Earth dist. | -4935 Oct 26 j 06:39 | 27° $\mathring{M}$ 21'37          | 31.24952 AU | min. Earth dist. | -4928 May 11 j 15:48 | 11° $\mathring{A}$ 37'24 | 29.19598 AU |
| morning rise     | -4935 Nov 10 j 04:36 | 27° $\mathring{M}$ 55'15          |             | direct           | -4928 Jul 30 j 14:21 | 10° $\mathring{A}$ 13'52 |             |
| retrograde       | -4934 Feb 07 j 05:54 | 29° $\mathring{M}$ 51'00          |             | evening set      | -4928 Oct 25 j 15:18 | 12° $\mathring{A}$ 06'56 |             |
| opposition       | -4934 Apr 28 j 18:14 | 28° $\mathring{M}$ 27'48          | 2°05'06     |                  |                      |                          |             |
| min. Earth dist. | -4934 Apr 28 j 13:33 | 28° $\mathring{M}$ 28'07          | 29.24832 AU | conjunction      | -4928 Nov 09 j 19:08 | 12° $\mathring{A}$ 41'06 | 1°35'46     |
| direct           | -4934 Jul 17 j 17:43 | 27° $\mathring{M}$ 04'45          |             | minimum elong    | -4928 Nov 09 j 19:09 | 12° $\mathring{A}$ 41'06 | 1°35'45     |
| evening set      | -4934 Oct 13 j 08:55 | 28° $\mathring{M}$ 58'26          |             | max. Earth dist. | -4928 Nov 10 j 05:07 | 12° $\mathring{A}$ 42'03 | 31.18930 AU |
|                  |                      |                                   |             | morning rise     | -4928 Nov 25 j 00:32 | 13° $\mathring{A}$ 15'26 |             |
| conjunction      | -4934 Oct 28 j 11:01 | 29° $\mathring{M}$ 32'26          | 1°55'42     | retrograde       | -4927 Feb 22 j 17:23 | 15° $\mathring{A}$ 11'56 |             |
| minimum elong    | -4934 Oct 28 j 11:01 | 29° $\mathring{M}$ 32'26          | 1°55'44     | opposition       | -4927 May 14 j 13:48 | 13° $\mathring{A}$ 48'08 | 1°40'17     |
| max. Earth dist. | -4934 Oct 28 j 15:50 | 29° $\mathring{M}$ 32'53          | 31.24449 AU | min. Earth dist. | -4927 May 14 j 03:38 | 13° $\mathring{A}$ 48'49 | 29.18445 AU |
|                  | -4934 Nov 09 j 15:36 | 0° $\mathring{A}$                 |             | direct           | -4927 Aug 02 j 02:38 | 12° $\mathring{A}$ 25'11 |             |
| morning rise     | -4934 Nov 12 j 14:07 | 0° $\mathring{A}$ 06'32           |             | evening set      | -4927 Oct 28 j 00:25 | 14° $\mathring{A}$ 18'09 |             |
| retrograde       | -4933 Feb 09 j 19:40 | 2° $\mathring{A}$ 02'25           |             |                  |                      |                          |             |
| opposition       | -4933 May 01 j 07:15 | 0° $\mathring{A}$ 39'11           | 2°02'03     | conjunction      | -4927 Nov 12 j 04:26 | 14° $\mathring{A}$ 52'20 | 1°31'57     |
| min. Earth dist. | -4933 May 01 j 01:00 | 0° $\mathring{A}$ 39'37           | 29.24281 AU | minimum elong    | -4927 Nov 12 j 04:27 | 14° $\mathring{A}$ 52'20 | 1°31'53     |
|                  | -4933 May 26 j 12:03 | 30° $\mathring{R}$ $\mathring{M}$ |             | max. Earth dist. | -4927 Nov 12 j 14:28 | 14° $\mathring{A}$ 53'17 | 31.17816 AU |
| direct           | -4933 Jul 20 j 03:48 | 29° $\mathring{M}$ 16'11          |             | morning rise     | -4927 Nov 27 j 10:28 | 15° $\mathring{A}$ 26'43 |             |
|                  | -4933 Sep 10 j 03:56 | 0° $\mathring{A}$                 |             | retrograde       | -4926 Feb 25 j 06:09 | 17° $\mathring{A}$ 23'19 |             |
| evening set      | -4933 Oct 15 j 17:58 | 1° $\mathring{A}$ 09'48           |             | opposition       | -4926 May 17 j 02:43 | 15° $\mathring{A}$ 59'25 | 1°36'07     |
|                  |                      |                                   |             | min. Earth dist. | -4926 May 16 j 15:18 | 16° $\mathring{A}$ 00'11 | 29.17372 AU |
| conjunction      | -4933 Oct 30 j 20:18 | 1° $\mathring{A}$ 43'50           | 1°52'46     | direct           | -4926 Aug 04 j 12:29 | 14° $\mathring{A}$ 36'28 |             |
| minimum elong    | -4933 Oct 30 j 20:19 | 1° $\mathring{A}$ 43'50           | 1°52'46     | evening set      | -4926 Oct 30 j 09:25 | 16° $\mathring{A}$ 29'21 |             |
| max. Earth dist. | -4933 Oct 31 j 02:11 | 1° $\mathring{A}$ 44'23           | 31.23838 AU |                  |                      |                          |             |
| morning rise     | -4933 Nov 14 j 23:40 | 2° $\mathring{A}$ 17'58           |             | conjunction      | -4926 Nov 14 j 13:56 | 17° $\mathring{A}$ 03'34 | 1°27'59     |
| retrograde       | -4932 Feb 12 j 07:11 | 4° $\mathring{A}$ 14'00           |             | minimum elong    | -4926 Nov 14 j 13:57 | 17° $\mathring{A}$ 03'34 | 1°27'56     |

Attention, astronomical year style is used: The year -4926 in astronomical counting style is the year 4927 BCE in historical counting style.

|                  |                      |                       |             |                  |                      |                       |             |
|------------------|----------------------|-----------------------|-------------|------------------|----------------------|-----------------------|-------------|
| max. Earth dist. | -4926 Nov 15 j 01:51 | 17° <u>0</u> 04'42    | 31.16782 AU | min. Earth dist. | -4919 Jun 01 j 04:34 | 1° <u>ℳ</u> 23'19     | 29.11394 AU |
| morning rise     | -4926 Nov 29 j 20:21 | 17° <u>0</u> 38'00    |             |                  | -4919 Aug 14 j 15:18 | 30° <u>℞</u> <u>0</u> |             |
| retrograde       | -4925 Feb 27 j 16:42 | 19° <u>0</u> 34'43    |             | direct           | -4919 Aug 19 j 16:39 | 29° <u>0</u> 59'34    |             |
| opposition       | -4925 May 19 j 15:39 | 18° <u>0</u> 10'43    | 1°31'48     |                  | -4919 Aug 24 j 16:45 | 0° <u>ℳ</u>           |             |
| min. Earth dist. | -4925 May 19 j 03:38 | 18° <u>0</u> 11'32    | 29.16379 AU | evening set      | -4919 Nov 14 j 02:59 | 1° <u>ℳ</u> 52'07     |             |
| direct           | -4925 Aug 06 j 23:29 | 16° <u>0</u> 47'49    |             |                  |                      |                       |             |
| evening set      | -4925 Nov 01 j 18:32 | 18° <u>0</u> 40'37    |             | conjunction      | -4919 Nov 29 j 10:26 | 2° <u>ℳ</u> 26'37     | 0°56'52     |
|                  |                      |                       |             | minimum elong    | -4919 Nov 29 j 10:27 | 2° <u>ℳ</u> 26'37     | 0°56'44     |
| conjunction      | -4925 Nov 16 j 23:20 | 19° <u>0</u> 14'52    | 1°23'53     | max. Earth dist. | -4919 Nov 30 j 04:04 | 2° <u>ℳ</u> 28'17     | 31.10843 AU |
| minimum elong    | -4925 Nov 16 j 23:21 | 19° <u>0</u> 14'52    | 1°23'48     | morning rise     | -4919 Dec 14 j 20:33 | 3° <u>ℳ</u> 01'24     |             |
| max. Earth dist. | -4925 Nov 17 j 11:41 | 19° <u>0</u> 16'02    | 31.15851 AU | retrograde       | -4918 Mar 15 j 10:21 | 4° <u>ℳ</u> 59'01     |             |
| morning rise     | -4925 Dec 02 j 06:18 | 19° <u>0</u> 49'21    |             | opposition       | -4918 Jun 04 j 10:11 | 3° <u>ℳ</u> 34'42     | 0°58'08     |
| retrograde       | -4924 Mar 01 j 06:04 | 21° <u>0</u> 46'11    |             | min. Earth dist. | -4918 Jun 03 j 16:53 | 3° <u>ℳ</u> 35'53     | 29.10353 AU |
| opposition       | -4924 May 21 j 04:25 | 20° <u>0</u> 22'08    | 1°27'21     | direct           | -4918 Aug 22 j 05:14 | 2° <u>ℳ</u> 12'06     |             |
| min. Earth dist. | -4924 May 20 j 14:32 | 20° <u>0</u> 23'05    | 29.15488 AU | evening set      | -4918 Nov 16 j 12:50 | 4° <u>ℳ</u> 04'35     |             |
| direct           | -4924 Aug 08 j 09:04 | 18° <u>0</u> 59'16    |             |                  |                      |                       |             |
| evening set      | -4924 Nov 03 j 03:41 | 20° <u>0</u> 52'01    |             | conjunction      | -4918 Dec 01 j 20:39 | 4° <u>ℳ</u> 39'08     | 0°52'01     |
|                  |                      |                       |             | minimum elong    | -4918 Dec 01 j 20:39 | 4° <u>ℳ</u> 39'08     | 0°51'54     |
| conjunction      | -4924 Nov 18 j 08:54 | 21° <u>0</u> 26'19    | 1°19'40     | max. Earth dist. | -4918 Dec 02 j 13:40 | 4° <u>ℳ</u> 40'44     | 31.09754 AU |
| minimum elong    | -4924 Nov 18 j 08:54 | 21° <u>0</u> 26'19    | 1°19'36     | morning rise     | -4918 Dec 17 j 07:30 | 5° <u>ℳ</u> 13'58     |             |
| max. Earth dist. | -4924 Nov 18 j 22:34 | 21° <u>0</u> 27'36    | 31.15004 AU | retrograde       | -4917 Mar 17 j 23:27 | 7° <u>ℳ</u> 11'40     |             |
| morning rise     | -4924 Dec 03 j 16:22 | 22° <u>0</u> 00'50    |             | opposition       | -4917 Jun 06 j 23:07 | 5° <u>ℳ</u> 47'16     | 0°52'55     |
| retrograde       | -4923 Mar 03 j 18:03 | 23° <u>0</u> 57'49    |             | min. Earth dist. | -4917 Jun 06 j 05:15 | 5° <u>ℳ</u> 48'29     | 29.09207 AU |
| opposition       | -4923 May 23 j 17:28 | 22° <u>0</u> 33'43    | 1°22'47     | direct           | -4917 Aug 24 j 15:39 | 4° <u>ℳ</u> 24'38     |             |
| min. Earth dist. | -4923 May 23 j 03:37 | 22° <u>0</u> 34'40    | 29.14675 AU | evening set      | -4917 Nov 18 j 22:33 | 6° <u>ℳ</u> 17'03     |             |
| direct           | -4923 Aug 10 j 18:50 | 21° <u>0</u> 10'55    |             |                  |                      |                       |             |
| evening set      | -4923 Nov 05 j 12:48 | 23° <u>0</u> 03'37    |             | conjunction      | -4917 Dec 04 j 06:55 | 6° <u>ℳ</u> 51'38     | 0°47'06     |
|                  |                      |                       |             | minimum elong    | -4917 Dec 04 j 06:55 | 6° <u>ℳ</u> 51'38     | 0°46'57     |
| conjunction      | -4923 Nov 20 j 18:30 | 23° <u>0</u> 37'57    | 1°15'19     | max. Earth dist. | -4917 Dec 05 j 01:14 | 6° <u>ℳ</u> 53'22     | 31.08558 AU |
| minimum elong    | -4923 Nov 20 j 18:30 | 23° <u>0</u> 37'57    | 1°15'13     | morning rise     | -4917 Dec 19 j 18:13 | 7° <u>ℳ</u> 26'31     |             |
| max. Earth dist. | -4923 Nov 21 j 09:18 | 23° <u>0</u> 39'21    | 31.14232 AU | retrograde       | -4916 Mar 19 j 09:17 | 9° <u>ℳ</u> 24'17     |             |
| morning rise     | -4923 Dec 06 j 02:29 | 24° <u>0</u> 12'32    |             | opposition       | -4916 Jun 08 j 11:58 | 7° <u>ℳ</u> 59'47     | 0°47'37     |
| retrograde       | -4922 Mar 06 j 07:54 | 26° <u>0</u> 09'39    |             | min. Earth dist. | -4916 Jun 07 j 18:02 | 8° <u>ℳ</u> 01'01     | 29.07976 AU |
| opposition       | -4922 May 26 j 06:22 | 24° <u>0</u> 45'31    | 1°18'04     | direct           | -4916 Aug 26 j 03:03 | 6° <u>ℳ</u> 37'08     |             |
| min. Earth dist. | -4922 May 25 j 14:40 | 24° <u>0</u> 46'35    | 29.13907 AU | evening set      | -4916 Nov 20 j 08:23 | 8° <u>ℳ</u> 29'28     |             |
| direct           | -4922 Aug 13 j 07:06 | 23° <u>0</u> 22'46    |             |                  |                      |                       |             |
| evening set      | -4922 Nov 07 j 22:16 | 25° <u>0</u> 15'26    |             | conjunction      | -4916 Dec 05 j 17:11 | 9° <u>ℳ</u> 04'05     | 0°42'07     |
|                  |                      |                       |             | minimum elong    | -4916 Dec 05 j 17:11 | 9° <u>ℳ</u> 04'05     | 0°41'58     |
| conjunction      | -4922 Nov 23 j 04:16 | 25° <u>0</u> 49'49    | 1°10'52     | max. Earth dist. | -4916 Dec 06 j 11:39 | 9° <u>ℳ</u> 05'50     | 31.07333 AU |
| minimum elong    | -4922 Nov 23 j 04:17 | 25° <u>0</u> 49'49    | 1°10'46     | morning rise     | -4916 Dec 21 j 05:08 | 9° <u>ℳ</u> 39'01     |             |
| max. Earth dist. | -4922 Nov 23 j 19:20 | 25° <u>0</u> 51'14    | 31.13466 AU | retrograde       | -4915 Mar 21 j 22:28 | 11° <u>ℳ</u> 36'51    |             |
| morning rise     | -4922 Dec 08 j 12:53 | 26° <u>0</u> 24'26    |             | min. Earth dist. | -4915 Jun 10 j 05:21 | 10° <u>ℳ</u> 13'34    | 29.06753 AU |
| retrograde       | -4921 Mar 08 j 21:56 | 28° <u>0</u> 21'42    |             | opposition       | -4915 Jun 11 j 00:44 | 10° <u>ℳ</u> 12'14    | 0°42'15     |
| opposition       | -4921 May 28 j 19:15 | 26° <u>0</u> 57'32    | 1°13'15     | direct           | -4915 Aug 28 j 12:57 | 8° <u>ℳ</u> 49'32     |             |
| min. Earth dist. | -4921 May 28 j 03:54 | 26° <u>0</u> 58'34    | 29.13136 AU | evening set      | -4915 Nov 22 j 18:12 | 10° <u>ℳ</u> 41'48    |             |
| direct           | -4921 Aug 15 j 17:37 | 25° <u>0</u> 34'50    |             |                  |                      |                       |             |
| evening set      | -4921 Nov 10 j 07:42 | 27° <u>0</u> 27'29    |             | conjunction      | -4915 Dec 08 j 03:28 | 11° <u>ℳ</u> 16'28    | 0°37'04     |
|                  |                      |                       |             | minimum elong    | -4915 Dec 08 j 03:29 | 11° <u>ℳ</u> 16'28    | 0°36'54     |
| conjunction      | -4921 Nov 25 j 14:16 | 28° <u>0</u> 01'54    | 1°06'18     | max. Earth dist. | -4915 Dec 08 j 22:55 | 11° <u>ℳ</u> 18'18    | 31.06123 AU |
| minimum elong    | -4921 Nov 25 j 14:17 | 28° <u>0</u> 01'54    | 1°06'10     | morning rise     | -4915 Dec 23 j 16:01 | 11° <u>ℳ</u> 51'26    |             |
| max. Earth dist. | -4921 Nov 26 j 06:45 | 28° <u>0</u> 03'27    | 31.12681 AU | retrograde       | -4914 Mar 24 j 09:59 | 13° <u>ℳ</u> 49'21    |             |
| morning rise     | -4921 Dec 10 j 23:17 | 28° <u>0</u> 36'35    |             | opposition       | -4914 Jun 13 j 13:32 | 12° <u>ℳ</u> 24'38    | 0°36'49     |
|                  | -4920 Jan 24 j 03:55 | 0° <u>ℳ</u>           |             | min. Earth dist. | -4914 Jun 12 j 18:26 | 12° <u>ℳ</u> 25'57    | 29.05580 AU |
| retrograde       | -4920 Mar 10 j 09:44 | 0° <u>ℳ</u> 33'58     |             | direct           | -4914 Aug 30 j 23:07 | 11° <u>ℳ</u> 01'54    |             |
|                  | -4920 Apr 27 j 07:43 | 30° <u>℞</u> <u>0</u> |             | evening set      | -4914 Nov 25 j 04:08 | 12° <u>ℳ</u> 54'07    |             |
| opposition       | -4920 May 30 j 08:10 | 29° <u>0</u> 09'46    | 1°08'18     |                  |                      |                       |             |
| min. Earth dist. | -4920 May 29 j 15:23 | 29° <u>0</u> 10'55    | 29.12307 AU | conjunction      | -4914 Dec 10 j 13:58 | 13° <u>ℳ</u> 28'48    | 0°31'58     |
| direct           | -4920 Aug 17 j 05:50 | 27° <u>0</u> 47'07    |             | minimum elong    | -4914 Dec 10 j 13:59 | 13° <u>ℳ</u> 28'48    | 0°31'49     |
| evening set      | -4920 Nov 11 j 17:18 | 29° <u>0</u> 39'43    |             | max. Earth dist. | -4914 Dec 11 j 10:27 | 13° <u>ℳ</u> 30'44    | 31.05002 AU |
|                  | -4920 Nov 20 j 18:24 | 0° <u>ℳ</u>           |             | morning rise     | -4914 Dec 26 j 03:01 | 14° <u>ℳ</u> 03'49    |             |
|                  |                      |                       |             |                  | -4913 Jan 22 j 14:37 | 15° <u>ℳ</u>          |             |
| conjunction      | -4920 Nov 27 j 00:08 | 0° <u>ℳ</u> 14'11     | 1°01'37     | retrograde       | -4913 Mar 26 j 23:25 | 16° <u>ℳ</u> 01'47    |             |
| minimum elong    | -4920 Nov 27 j 00:08 | 0° <u>ℳ</u> 14'11     | 1°01'31     |                  | -4913 Jun 01 j 21:55 | 15° <u>℞</u> <u>ℳ</u> |             |
| max. Earth dist. | -4920 Nov 27 j 16:13 | 0° <u>ℳ</u> 15'42     | 31.11814 AU | min. Earth dist. | -4913 Jun 15 j 05:07 | 14° <u>ℳ</u> 38'26    | 29.04508 AU |
| morning rise     | -4920 Dec 12 j 09:51 | 0° <u>ℳ</u> 48'55     |             | opposition       | -4913 Jun 16 j 01:58 | 14° <u>ℳ</u> 37'00    | 0°31'20     |
| retrograde       | -4919 Mar 12 j 22:51 | 2° <u>ℳ</u> 46'26     |             | direct           | -4913 Sep 02 j 10:59 | 13° <u>ℳ</u> 14'15    |             |
| opposition       | -4919 Jun 01 j 21:17 | 1° <u>ℳ</u> 22'11     | 1°03'16     |                  | -4913 Nov 24 j 15:57 | 15° <u>ℳ</u>          |             |

Attention, astronomical year style is used: The year -4913 in astronomical counting style is the year 4914 BCE in historical counting style.

|                  |                      |                    |             |                  |                      |                    |             |
|------------------|----------------------|--------------------|-------------|------------------|----------------------|--------------------|-------------|
| evening set      | -4913 Nov 27 j 14:13 | 15° <b>ℓ</b> 06'26 |             | evening set      | -4907 Dec 10 j 04:46 | 28° <b>ℓ</b> 23'25 |             |
| conjunction      | -4913 Dec 13 j 00:24 | 15° <b>ℓ</b> 41'09 | 0°26'49     | conjunction      | -4907 Dec 25 j 17:59 | 28° <b>ℓ</b> 58'24 | -0°04'53    |
| minimum elong    | -4913 Dec 13 j 00:24 | 15° <b>ℓ</b> 41'09 | 0°26'38     | minimum elong    | -4907 Dec 25 j 17:59 | 28° <b>ℓ</b> 58'24 | 0°05'07     |
| max. Earth dist. | -4913 Dec 13 j 21:04 | 15° <b>ℓ</b> 43'06 | 31.03984 AU | behind sun begin | -4907 Dec 25 j 11:43 | 28° <b>ℓ</b> 57'50 |             |
| morning rise     | -4913 Dec 28 j 14:06 | 16° <b>ℓ</b> 16'13 |             | behind sun end   | -4907 Dec 26 j 00:16 | 28° <b>ℓ</b> 58'58 |             |
| retrograde       | -4912 Mar 28 j 12:54 | 18° <b>ℓ</b> 14'17 |             | max. Earth dist. | -4907 Dec 26 j 17:51 | 29° <b>ℓ</b> 00'39 | 30.99403 AU |
| opposition       | -4912 Jun 17 j 14:42 | 16° <b>ℓ</b> 49'25 | 0°25'48     | morning rise     | -4906 Jan 10 j 11:01 | 29° <b>ℓ</b> 33'45 |             |
| min. Earth dist. | -4912 Jun 16 j 18:01 | 16° <b>ℓ</b> 50'50 | 29.03558 AU |                  | -4906 Jan 22 j 15:59 | 0° <b>♊</b>        |             |
| direct           | -4912 Sep 03 j 20:47 | 15° <b>ℓ</b> 26'40 |             | retrograde       | -4906 Apr 11 j 19:36 | 1° <b>♊</b> 32'21  |             |
| evening set      | -4912 Nov 29 j 00:04 | 17° <b>ℓ</b> 18'49 |             | opposition       | -4906 Jul 01 j 18:13 | 0° <b>♊</b> 07'22  | -0°08'04    |
|                  |                      |                    |             | min. Earth dist. | -4906 Jun 30 j 18:29 | 0° <b>♊</b> 09'00  | 28.98994 AU |
| conjunction      | -4912 Dec 14 j 10:55 | 17° <b>ℓ</b> 53'35 | 0°21'38     |                  | -4906 Jul 06 j 05:16 | 30° <b>♋</b>       |             |
| minimum elong    | -4912 Dec 14 j 10:55 | 17° <b>ℓ</b> 53'35 | 0°21'28     | direct           | -4906 Sep 17 j 15:42 | 28° <b>ℓ</b> 44'43 |             |
| max. Earth dist. | -4912 Dec 15 j 09:16 | 17° <b>ℓ</b> 55'41 | 31.03099 AU |                  | -4906 Nov 25 j 03:53 | 0° <b>♊</b>        |             |
| morning rise     | -4912 Dec 30 j 01:03 | 18° <b>ℓ</b> 28'42 |             | evening set      | -4906 Dec 12 j 15:53 | 0° <b>♊</b> 36'54  |             |
| retrograde       | -4911 Mar 31 j 01:28 | 20° <b>ℓ</b> 26'50 |             | conjunction      | -4906 Dec 28 j 05:34 | 1° <b>♊</b> 11'56  | -0°10'10    |
| min. Earth dist. | -4911 Jun 19 j 05:00 | 19° <b>ℓ</b> 03'28 | 29.02719 AU | minimum elong    | -4906 Dec 28 j 05:33 | 1° <b>♊</b> 11'56  | 0°10'22     |
| opposition       | -4911 Jun 20 j 03:17 | 19° <b>ℓ</b> 01'56 | 0°20'14     | behind sun begin | -4906 Dec 28 j 00:27 | 1° <b>♊</b> 11'28  |             |
| direct           | -4911 Sep 06 j 08:56 | 17° <b>ℓ</b> 39'12 |             | behind sun end   | -4906 Dec 28 j 10:40 | 1° <b>♊</b> 12'24  |             |
| evening set      | -4911 Dec 01 j 10:24 | 19° <b>ℓ</b> 31'20 |             | max. Earth dist. | -4906 Dec 29 j 05:32 | 1° <b>♊</b> 14'11  | 30.98490 AU |
| conjunction      | -4911 Dec 16 j 21:34 | 20° <b>ℓ</b> 06'08 | 0°16'24     | morning rise     | -4905 Jan 12 j 23:07 | 1° <b>♊</b> 47'20  |             |
| minimum elong    | -4911 Dec 16 j 21:34 | 20° <b>ℓ</b> 06'08 | 0°16'12     | retrograde       | -4905 Apr 14 j 07:10 | 3° <b>♊</b> 46'00  |             |
| max. Earth dist. | -4911 Dec 17 j 19:37 | 20° <b>ℓ</b> 08'13 | 31.02313 AU | min. Earth dist. | -4905 Jul 03 j 08:01 | 2° <b>♊</b> 22'32  | 28.98027 AU |
| morning rise     | -4910 Jan 01 j 12:28 | 20° <b>ℓ</b> 41'18 |             | opposition       | -4905 Jul 04 j 06:45 | 2° <b>♊</b> 20'58  | -0°13'44    |
| retrograde       | -4910 Apr 02 j 15:49 | 22° <b>ℓ</b> 39'32 |             | direct           | -4905 Sep 20 j 01:56 | 0° <b>♊</b> 58'18  |             |
| opposition       | -4910 Jun 22 j 15:50 | 21° <b>ℓ</b> 14'36 | 0°14'36     | evening set      | -4905 Dec 15 j 02:56 | 2° <b>♊</b> 50'29  |             |
| min. Earth dist. | -4910 Jun 21 j 17:36 | 21° <b>ℓ</b> 16'07 | 29.01981 AU |                  |                      |                    |             |
| direct           | -4910 Sep 08 j 19:32 | 19° <b>ℓ</b> 51'53 |             | conjunction      | -4905 Dec 30 j 17:11 | 3° <b>♊</b> 25'33  | -0°15'26    |
| evening set      | -4910 Dec 03 j 20:40 | 21° <b>ℓ</b> 44'01 |             | minimum elong    | -4905 Dec 30 j 17:11 | 3° <b>♊</b> 25'33  | 0°15'40     |
|                  |                      |                    |             | behind sun begin | -4905 Dec 30 j 15:42 | 3° <b>♊</b> 25'25  |             |
| conjunction      | -4910 Dec 19 j 08:30 | 22° <b>ℓ</b> 18'53 | 0°11'08     | behind sun end   | -4905 Dec 30 j 18:40 | 3° <b>♊</b> 25'41  |             |
| minimum elong    | -4910 Dec 19 j 08:30 | 22° <b>ℓ</b> 18'53 | 0°10'57     | max. Earth dist. | -4905 Dec 31 j 17:31 | 3° <b>♊</b> 27'50  | 30.97481 AU |
| behind sun begin | -4910 Dec 19 j 03:36 | 22° <b>ℓ</b> 18'26 |             | morning rise     | -4904 Jan 15 j 11:13 | 4° <b>♊</b> 00'59  |             |
| behind sun end   | -4910 Dec 19 j 13:24 | 22° <b>ℓ</b> 19'19 |             | retrograde       | -4904 Apr 15 j 20:42 | 5° <b>♊</b> 59'42  |             |
| max. Earth dist. | -4910 Dec 20 j 08:14 | 22° <b>ℓ</b> 21'07 | 31.01601 AU | opposition       | -4904 Jul 05 j 19:13 | 4° <b>♊</b> 34'37  | -0°19'23    |
| morning rise     | -4909 Jan 03 j 23:48 | 22° <b>ℓ</b> 54'06 |             | min. Earth dist. | -4904 Jul 04 j 19:26 | 4° <b>♊</b> 36'15  | 28.96971 AU |
| retrograde       | -4909 Apr 05 j 04:21 | 24° <b>ℓ</b> 52'25 |             | direct           | -4904 Sep 21 j 13:50 | 3° <b>♊</b> 11'54  |             |
| min. Earth dist. | -4909 Jun 24 j 05:31 | 23° <b>ℓ</b> 29'02 | 29.01280 AU | evening set      | -4904 Dec 16 j 14:01 | 5° <b>♊</b> 04'05  |             |
| opposition       | -4909 Jun 25 j 04:22 | 23° <b>ℓ</b> 27'28 | 0°08'58     |                  |                      |                    |             |
| direct           | -4909 Sep 11 j 07:59 | 22° <b>ℓ</b> 04'47 |             | conjunction      | -4903 Jan 01 j 04:39 | 5° <b>♊</b> 39'11  | -0°20'42    |
| evening set      | -4909 Dec 06 j 07:11 | 23° <b>ℓ</b> 56'56 |             | minimum elong    | -4903 Jan 01 j 04:38 | 5° <b>♊</b> 39'11  | 0°20'55     |
|                  |                      |                    |             | max. Earth dist. | -4903 Jan 02 j 04:33 | 5° <b>♊</b> 41'26  | 30.96392 AU |
| conjunction      | -4909 Dec 21 j 19:21 | 24° <b>ℓ</b> 31'50 | 0°05'52     | morning rise     | -4903 Jan 16 j 23:20 | 6° <b>♊</b> 14'40  |             |
| minimum elong    | -4909 Dec 21 j 19:22 | 24° <b>ℓ</b> 31'50 | 0°05'39     | retrograde       | -4903 Apr 18 j 09:49 | 8° <b>♊</b> 13'26  |             |
| behind sun begin | -4909 Dec 21 j 13:10 | 24° <b>ℓ</b> 31'16 |             | min. Earth dist. | -4903 Jul 07 j 08:53 | 6° <b>♊</b> 49'50  | 28.95875 AU |
| behind sun end   | -4909 Dec 22 j 01:33 | 24° <b>ℓ</b> 32'24 |             | opposition       | -4903 Jul 08 j 07:47 | 6° <b>♊</b> 48'15  | -0°25'00    |
| max. Earth dist. | -4909 Dec 22 j 18:35 | 24° <b>ℓ</b> 34'01 | 31.00912 AU | direct           | -4903 Sep 23 j 23:40 | 5° <b>♊</b> 25'29  |             |
| morning rise     | -4908 Jan 06 j 11:20 | 25° <b>ℓ</b> 07'06 |             | evening set      | -4903 Dec 19 j 01:10 | 7° <b>♊</b> 17'41  |             |
| retrograde       | -4908 Apr 06 j 18:02 | 27° <b>ℓ</b> 05'31 |             |                  |                      |                    |             |
| opposition       | -4908 Jun 26 j 16:59 | 25° <b>ℓ</b> 40'34 | 0°03'18     | conjunction      | -4902 Jan 03 j 16:27 | 7° <b>♊</b> 52'49  | -0°25'56    |
| min. Earth dist. | -4908 Jun 25 j 17:45 | 25° <b>ℓ</b> 42'10 | 29.00588 AU | minimum elong    | -4902 Jan 03 j 16:27 | 7° <b>♊</b> 52'49  | 0°26'11     |
| direct           | -4908 Sep 12 j 18:09 | 24° <b>ℓ</b> 17'55 |             | max. Earth dist. | -4902 Jan 04 j 17:29 | 7° <b>♊</b> 55'10  | 30.95298 AU |
| evening set      | -4908 Dec 07 j 17:53 | 26° <b>ℓ</b> 10'04 |             | morning rise     | -4902 Jan 19 j 11:31 | 8° <b>♊</b> 28'19  |             |
|                  |                      |                    |             | retrograde       | -4902 Apr 20 j 22:53 | 10° <b>♊</b> 27'07 |             |
| conjunction      | -4908 Dec 23 j 06:37 | 26° <b>ℓ</b> 45'01 | 0°00'31     | opposition       | -4902 Jul 10 j 19:54 | 9° <b>♊</b> 01'53  | -0°30'34    |
| minimum elong    | -4908 Dec 23 j 06:37 | 26° <b>ℓ</b> 45'01 | 0°00'19     | min. Earth dist. | -4902 Jul 09 j 19:57 | 9° <b>♊</b> 03'32  | 28.94797 AU |
| behind sun begin | -4908 Dec 23 j 00:11 | 26° <b>ℓ</b> 44'26 |             | direct           | -4902 Sep 26 j 12:00 | 7° <b>♊</b> 39'04  |             |
| behind sun end   | -4908 Dec 23 j 13:02 | 26° <b>ℓ</b> 45'35 |             | evening set      | -4902 Dec 21 j 12:34 | 9° <b>♊</b> 31'16  |             |
| max. Earth dist. | -4908 Dec 24 j 06:52 | 26° <b>ℓ</b> 47'18 | 31.00190 AU |                  |                      |                    |             |
| morning rise     | -4907 Jan 07 j 23:02 | 27° <b>ℓ</b> 20'20 |             | conjunction      | -4901 Jan 06 j 04:09 | 10° <b>♊</b> 06'26 | -0°31'08    |
| desc. node       | -4907 Jan 26 j 22:30 | 28° <b>ℓ</b> 00'19 |             | minimum elong    | -4901 Jan 06 j 04:09 | 10° <b>♊</b> 06'26 | 0°31'22     |
| retrograde       | -4907 Apr 09 j 05:17 | 29° <b>ℓ</b> 18'51 |             | max. Earth dist. | -4901 Jan 07 j 04:27 | 10° <b>♊</b> 08'43 | 30.94247 AU |
| min. Earth dist. | -4907 Jun 28 j 06:41 | 27° <b>ℓ</b> 55'27 | 28.99836 AU | morning rise     | -4901 Jan 21 j 23:53 | 10° <b>♊</b> 41'59 |             |
| opposition       | -4907 Jun 29 j 05:37 | 27° <b>ℓ</b> 53'52 | -0°02'23    | retrograde       | -4901 Apr 23 j 13:44 | 12° <b>♊</b> 40'48 |             |
| direct           | -4907 Sep 15 j 05:28 | 26° <b>ℓ</b> 31'15 |             | min. Earth dist. | -4901 Jul 12 j 08:35 | 11° <b>♊</b> 17'09 | 28.93799 AU |

Attention, astronomical year style is used: The year -4901 in astronomical counting style is the year 4902 BCE in historical counting style.

|             |           |            |                      |          |
|-------------|-----------|------------|----------------------|----------|
| opposition  | -4901 Jul | 13 j 08:13 | 11° $\nearrow$ 15'30 | -0°36'07 |
| direct      | -4901 Sep | 28 j 23:09 | 9° $\nearrow$ 52'38  |          |
| evening set | -4901 Dec | 23 j 23:45 | 11° $\nearrow$ 44'52 |          |

|                  |           |            |                      |             |
|------------------|-----------|------------|----------------------|-------------|
| conjunction      | -4900 Jan | 08 j 15:56 | 12° $\nearrow$ 20'04 | -0°36'17    |
| minimum elong    | -4900 Jan | 08 j 15:56 | 12° $\nearrow$ 20'04 | 0°36'32     |
| max. Earth dist. | -4900 Jan | 09 j 17:48 | 12° $\nearrow$ 22'30 | 30.93289 AU |
| morning rise     | -4900 Jan | 24 j 11:58 | 12° $\nearrow$ 55'39 |             |
| retrograde       | -4900 Apr | 25 j 02:31 | 14° $\nearrow$ 54'31 |             |
| opposition       | -4900 Jul | 14 j 20:25 | 13° $\nearrow$ 29'10 | -0°41'36    |
| min. Earth dist. | -4900 Jul | 13 j 20:09 | 13° $\nearrow$ 30'51 | 28.92900 AU |
| direct           | -4900 Sep | 30 j 12:04 | 12° $\nearrow$ 06'17 |             |
| evening set      | -4900 Dec | 25 j 11:16 | 13° $\nearrow$ 58'32 |             |

|                  |           |            |                      |             |
|------------------|-----------|------------|----------------------|-------------|
| conjunction      | -4899 Jan | 10 j 03:48 | 14° $\nearrow$ 33'46 | -0°41'23    |
| minimum elong    | -4899 Jan | 10 j 03:47 | 14° $\nearrow$ 33'46 | 0°41'37     |
| max. Earth dist. | -4899 Jan | 11 j 05:03 | 14° $\nearrow$ 36'09 | 30.92457 AU |
| morning rise     | -4899 Jan | 26 j 00:28 | 15° $\nearrow$ 09'23 |             |
| retrograde       | -4899 Apr | 27 j 16:26 | 17° $\nearrow$ 08'18 |             |
| min. Earth dist. | -4899 Jul | 16 j 07:58 | 15° $\nearrow$ 44'38 | 28.92141 AU |
| opposition       | -4899 Jul | 17 j 08:34 | 15° $\nearrow$ 42'56 | -0°47'01    |
| direct           | -4899 Oct | 02 j 22:23 | 14° $\nearrow$ 20'01 |             |
| evening set      | -4899 Dec | 27 j 22:49 | 16° $\nearrow$ 12'18 |             |