Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 1 Attention, astronomical year style is used: The year -3400 in astronomical counting style is the year 3401 BCE in historical counting style.

| Attention, astronom              | ical year style is used: Th                  | e year -3400                       | in astronomical co | ounting style is the year    | r 3401 BCE in historical c                   | ounting style.                       | <i>S</i> -         |
|----------------------------------|--|------------------------------------|--------------------|------------------------------|--|--------------------------------------|--------------------|
|                                  | -3400 Jan 21 j 22:02                         | 0° <b>∡</b> °                      |                    |                              | -3395 Aug 22 j 12:03                         | $\Pi^{\circ}0$                       |                    |
| retrograde                       | -3400 Apr 27 j 18:14                         | 12° <b>₹</b> 11'14                 |                    | retrograde                   | -3395 Oct 17 j 17:06                         | 4° <b>Ⅱ</b> 40'38                    |                    |
| opposition                       | -3400 Jun 27 j 12:04                         | 7° <b>҂</b> 12'07                  | -0°42'56           |                              | -3395 Dec 14 j 04:20                         | 30° <b>₹</b> 8                       |                    |
| min. Earth dist.                 | -3400 Jun 27 j 05:57                         | 7° <b>∡</b> 14'08                  | 4.04370 AU         | opposition                   | -3395 Dec 16 j 08:17                         | 29° <b>8</b> 42'45                   | 0°27'16            |
| direct                           | -3400 Aug 25 j 13:32                         | 2° <b>҂</b> 19′05                  |                    | min. Earth dist.             | -3395 Dec 16 j 09:26                         | 29° <b>8</b> 42'22                   | 4.33536 AU         |
| evening set                      | -3400 Dec 27 j 20:01                         | 21° <b>≯</b> 28'32                 |                    | direct                       | -3394 Feb 15 j 13:40                         | 24° <b>8</b> 39'07                   |                    |
|                                  |  |                                    |                    |                              | -3394 Apr 18 j 21:09                         | $\Pi$ °0                             |                    |
| conjunction                      | -3399 Jan 09 j 21:57                         | 24° <b>₹</b> 35'50                 | -0°49'53           | evening set                  | -3394 Jun 23 j 07:50                         | 12° <b>Ⅱ</b> 42'50                   |                    |
| minimum elong                    | -3399 Jan 09 j 21:53                         | 24° <b>₹</b> 35'48                 | 0°50'01            |                              |  |                                      |                    |
| max. Earth dist.                 | -3399 Jan 10 j 19:14                         | 24° <b>≯</b> ⁴48'33                | 6.01606 AU         | conjunction                  | -3394 Jul 06 j 16:06                         | 15° <b>Ⅱ</b> 37'54                   |                    |
| morning rise                     | -3399 Jan 23 j 02:55                         | 27° <b>∡</b> ⁴44'51                |                    | minimum elong                | -3394 Jul 06 j 16:04                         | 15° <b>Ⅱ</b> 37'53                   | 0°39'48            |
|                                  | -3399 Feb 01 j 16:30                         | 0°₹                                |                    | max. Earth dist.             | -3394 Jul 06 j 02:41                         | 15° <b>Ⅲ</b> 30'33                   | 6.37017 AU         |
| retrograde                       | -3399 Jun 04 j 04:51                         | 18° <b>る</b> 03'06                 |                    | morning rise                 | -3394 Jul 19 j 21:03                         | 18° <b>Ⅱ</b> 31′20                   |                    |
| opposition                       | -3399 Aug 03 j 10:16                         | 13° <b>る</b> 00'12                 |                    |                              | -3394 Sep 16 j 00:22                         | 0°ഇ                                  |                    |
| min. Earth dist.                 | -3399 Aug 02 j 12:19                         |                                    | 4.00595 AU         | retrograde                   | -3394 Nov 17 j 11:51                         | 5°937'35                             |                    |
| direct                           | -3399 Sep 30 j 14:42                         | 8° <b>る</b> 06'14                  |                    | opposition                   | -3393 Jan 16 j 12:35                         | 0°5643'18                            | 1°22'47            |
| evening set                      | -3398 Feb 02 j 07:54                         | 27° <b>පි</b> 26'38                |                    | min. Earth dist.             | -3393 Jan 17 j 04:32                         |                                      | 4.39214 AU         |
|                                  | -3398 Feb 13 j 02:28                         | 0° <b>≈</b>                        |                    | T' .                         | -3393 Jan 22 j 02:05                         | 30°RⅡ<br>250₩40101                   |                    |
|                                  | 2200 F. L. 15 : 17 10                        | 002711                             | 1017126            | direct                       | -3393 Mar 19 j 17:02                         | 25° <b>Ⅱ</b> 40'01                   |                    |
| conjunction minimum elong        | -3398 Feb 15 j 17:10                         | 0°≈37'16<br>0°≈37'15               |                    | avanina aat                  | -3393 May 14 j 20:31                         | 0°ഇ<br>13° <b>ഇ</b> 32'31            |                    |
| •                                | -3398 Feb 15 j 17:08                         |                                    |                    | evening set                  | -3393 Jul 25 j 08:08                         |                                      | 6 20040 ATT        |
| max. Earth dist.<br>morning rise | -3398 Feb 17 j 11:40<br>-3398 Mar 01 j 05:39 | 3°≈49'30                           | 6.01202 AU         | max. Earth dist.             | -3393 Aug 05 j 21:07                         | 16° <b>©</b> 03'57                   | 6.39849 AU         |
| morning rise                     | -3398 Mar 01 j 03:39<br>-3398 Apr 21 j 02:02 | 3 ≈4930<br>15°≈                    |                    | conjunction                  | -3393 Aug 07 j 07:01                         | 16° <b>©</b> 22'33                   | 1°10'34            |
| retrograde                       | -3398 Jul 10 j 22:21                         | 24°≈03'01                          |                    | minimum elong                | -3393 Aug 07 j 06:58                         | 16°S22'32                            | 1°10'41            |
| min. Earth dist.                 | -3398 Sep 07 j 10:15                         |                                    | 4.03760 AU         | morning rise                 | -3393 Aug 20 j 02:50                         | 19° <b>©</b> 11'04                   | 1 10 41            |
| opposition                       | -3398 Sep 07 j 10:13                         | 18°≈57'56                          |                    | morning risc                 | -3393 Oct 13 j 07:22                         | 0°Ω                                  |                    |
| оррозиюн                         | -3398 Oct 12 j 18:16                         | 15°R≈                              | 2 00 11            | retrograde                   | -3393 Dec 18 j 11:12                         | 6° <b>Ω</b> 11'09                    |                    |
| direct                           | -3398 Nov 05 j 17:18                         | 14°≈01'14                          |                    | opposition                   | -3392 Feb 16 j 21:21                         | 1° <b>Ω</b> 19'09                    | 1°54'40            |
|                                  | -3398 Nov 29 j 20:10                         | 15° <b>≈</b>                       |                    | min. Earth dist.             | -3392 Feb 18 j 01:27                         | 1° <b>Ω</b> 10'09                    | 4.39178 AU         |
|                                  | -3397 Feb 25 j 06:41                         | 0° <b>∀</b>                        |                    |                              | -3392 Feb 27 j 07:04                         | 30° <b>R</b> ∽                       | , .,               |
| evening set                      | -3397 Mar 11 j 10:07                         | 3° <b>)</b> €14'35                 |                    | direct                       | -3392 Apr 19 j 13:38                         | 26° <b>©</b> 17'24                   |                    |
| C                                | J  |                                    |                    |                              | -3392 Jun 10 j 04:21                         | $0^{\circ}\Omega$                    |                    |
| conjunction                      | -3397 Mar 25 j 01:47                         | 6° <b>)</b> €25'09                 | -1°15'38           | evening set                  | -3392 Aug 24 j 12:23                         | 14° <b>Ω</b> 10′19                   |                    |
| minimum elong                    | -3397 Mar 25 j 01:50                         | 6° <b>∺</b> 25'11                  | 1°15'40            | •                            | -3392 Aug 28 j 06:28                         | 15° <b>Ω</b>                         |                    |
| max. Earth dist.                 | -3397 Mar 27 j 00:18                         | 6° <b>)</b> 52′15                  | 6.07527 AU         | max. Earth dist.             | -3392 Sep 04 j 09:39                         | 16° <b>Ω</b> 34'52                   | 6.36830 AU         |
| morning rise                     | -3397 Apr 07 j 19:38                         | 9° <b>)</b> 36′37                  |                    |                              |  |                                      |                    |
| retrograde                       | -3397 Aug 15 j 00:00                         | 29° <b>)</b> €07'28                |                    | conjunction                  | -3392 Sep 06 j 04:16                         | 16° <b>Ω</b> 58'31                   | 1°21'37            |
| min. Earth dist.                 | -3397 Oct 12 j 08:43                         | 24° <b>₩</b> 11'54                 | 4.12536 AU         | minimum elong                | -3392 Sep 06 j 04:16                         | 16° <b>Ω</b> 58'31                   | 1°21'42            |
| opposition                       | -3397 Oct 13 j 11:21                         | 24° <b>)</b> €02'48                | -1°34'46           | morning rise                 | -3392 Sep 18 j 17:37                         | 19° <b>Ω</b> 45'37                   |                    |
| direct                           | -3397 Dec 11 j 05:18                         | 19° <b>)</b> 02′46                 |                    |                              | -3392 Nov 07 j 19:53                         | 0° <b>m</b>                          |                    |
|                                  | -3396 Mar 10 j 10:40                         | $0^{\circ}$ Y                      |                    | retrograde                   | -3391 Jan 18 j 06:32                         | 7° <b>m</b> 04'58                    |                    |
| evening set                      | -3396 Apr 15 j 21:24                         | 7° <b>Ƴ</b> 54'19                  |                    | opposition                   | -3391 Mar 20 j 03:16                         | 2° Mp 13'27                          | 1°54'47            |
|                                  |  | ••                                 |                    | min. Earth dist.             | -3391 Mar 21 j 10:05                         | 2° m, 03'38                          | 4.33433 AU         |
| conjunction                      | -3396 Apr 29 j 16:04                         | 11° <b>Y</b> 01'36                 |                    |                              | -3391 Apr 07 j 06:31                         | 30°R <b>Ω</b>                        |                    |
| minimum elong                    | -3396 Apr 29 j 16:08                         | 11° <b>Υ</b> 01'38                 |                    | direct                       | -3391 May 21 j 12:50                         | 27° <b>Ω</b> 14'10                   |                    |
| max. Earth dist.                 | -3396 May 01 j 03:21                         | 11° <b>Υ</b> 21'37                 | 6.18055 AU         |                              | -3391 Jul 04 j 08:32                         | 0° m)                                |                    |
| morning rise                     | -3396 May 13 j 10:34                         | 14° <b>Y</b> 08'36                 |                    | evening set                  | -3391 Sep 24 j 14:34                         | 15° Mp 18'34                         | ( 20772 AII        |
|                                  | -3396 Aug 05 j 18:07                         | 0°8                                |                    | max. Earth dist.             | -3391 Oct 05 j 11:14                         | 17° <b>m</b> 45'53                   | 6.28773 AU         |
| retrograde                       | -3396 Sep 16 j 02:51                         | 2° <b>႘</b> 39'44<br>30°ℝ <b>Ƴ</b> |                    |                              | 2201 0-4 07:02:20                            | 100 m 00142                          | 1900122            |
| opposition                       | -3396 Oct 27 j 07:15                         | 30 K I<br>27° <b>Υ</b> 37'58       | 0020121            | conjunction<br>minimum elong | -3391 Oct 07 j 03:30                         | 18° Mp 08'43                         | 1°09'23<br>1°09'25 |
| opposition<br>min. Earth dist.   | -3396 Nov 14 j 13:25<br>-3396 Nov 13 j 22:12 | 27° <b>Υ</b> 43'06                 |                    | morning rise                 | -3391 Oct 07 j 03:32<br>-3391 Oct 19 j 15:24 | 18° My 08'44<br>20° My 58'33         | 1 09 23            |
| direct                           | -3395 Jan 13 j 11:11                         | 22° <b>Y</b> 35'29                 | 4.23088 AU         | morning risc                 | -3391 Oct 19 j 13:24<br>-3391 Dec 01 j 00:45 | 0° <b>⊽</b>                          |                    |
| direct                           | -3395 Mar 27 j 22:55                         | 0° <b>8</b>                        |                    | retrograde                   | -3390 Feb 20 j 18:40                         | ა <del></del><br>8° <b>ჲ</b> 59'06   |                    |
| evening set                      | -3395 May 20 j 22:24                         | 11° <b>8</b> 00'35                 |                    | opposition                   | -3390 Apr 22 j 19:49                         | ა <b>=</b> 3900<br>4° <b>⊆</b> 06'17 | 1°20'48            |
| 2.0000                           | 55,5 May 20 j 22.27                          | 11 000 33                          |                    | min. Earth dist.             | -3390 Apr 23 j 21:53                         | 3° <b>₽</b> 57'59                    | 4.23504 AU         |
| conjunction                      | -3395 Jun 03 j 14:06                         | 14° <b>8</b> 02'03                 | -0°03'27           | Darui dist.                  | -3390 May 31 j 00:08                         | 30°R, Mp                             | 5501710            |
| minimum elong                    | -3395 Jun 03 j 14:06                         | 14° <b>8</b> 02'03                 |                    | direct                       | -3390 Jun 23 j 09:36                         | 29° m 09'53                          |                    |
| behind sun begin                 | -3395 Jun 03 j 05:52                         | 13° <b>8</b> 57'30                 | <del></del>        |                              | -3390 Jul 16 j 15:24                         | 0ಂ <b>ರ</b>                          |                    |
| behind sun end                   | -3395 Jun 03 j 22:20                         | 14° <b>8</b> 06'36                 |                    | evening set                  | -3390 Oct 26 j 10:01                         | 17° <b>≏</b> 34'29                   |                    |
| max. Earth dist.                 | -3395 Jun 04 j 00:15                         | 14° <b>8</b> 07'40                 | 6.29024 AU         | max. Earth dist.             | -3390 Nov 06 j 21:57                         | 20° <b>♀</b> 14'20                   | 6.17871 AU         |
|                                  | -3395 Jun 07 j 22:34                         | 15° <b>8</b>                       |                    |                              | - 3  |                                      |                    |
| morning rise                     | -3395 Jun 17 j 04:00                         | 17° <b>8</b> 02'24                 |                    | conjunction                  | -3390 Nov 08 j 00:43                         | 20° <b>ഫ</b> 29'53                   | 0°35'38            |
| asc. node                        | -3395 Jul 03 j 09:33                         | 20° <b>8</b> 33'55                 |                    | minimum elong                | -3390 Nov 08 j 00:46                         | 20° <b>≏</b> 29'55                   | 0°35'36            |
|                                  |  |                                    |                    |                              |  |                                      |                    |

| Attantian astronom  | ical year style is used: Th  | 2200 :  | m aatromamiaal aas  | untina atrila ia tha riaan   | 2201 DCE in historical a   | auntina atula  |  |
|---|--|---|---|--|--|--|--|
|   | -3390 Nov 20 j 16:10   | 23° <b>£</b> 25'53  | n astronomicai cot  | min. Earth dist.   |  |  | 4.24991 AU   |
| morning rise  | -  |   |   | IIIII. Eartii dist.  | -3384 Nov 18 j 12:13   |  | 4.24991 AU   |
| . 1   | -3390 Dec 20 j 00:54   | 0°M   |   | T' .   | -3384 Dec 06 j 19:23   | 30°RΥ  |  |
| retrograde  | -3389 Mar 28 j 01:56   | 12°M21'38   | 0010150   | direct   | -3383 Jan 18 j 03:26   | 27° <b>Y</b> 15′15   |  |
| opposition  | -3389 May 28 j 02:50   | 7°M25'53  | 0°18'58   | _  | -3383 Mar 01 j 22:33   | 0°8  |  |
| min. Earth dist.  | -3389 May 28 j 13:05   | 7° <b>M</b> 22'34   | 4.12344 AU  | asc. node  | -3383 May 13 j 06:59   | 12° <b>8</b> 55'45   |  |
| direct  | -3389 Jul 27 j 08:05   | 2°M31'56  |   |  | -3383 May 22 j 19:37   | 15° <b>8</b>   |  |
| desc. node  | -3389 Sep 11 j 01:24   | 5° <b>™</b> 45'06   |   | evening set  | -3383 May 25 j 16:20   | 15° <b>8</b> 37'42   |  |
|   | -3389 Oct 31 j 20:49   | 15° <b>™</b>  |   |  |  |  |  |
| evening set   | -3389 Nov 28 j 17:00   | 21°M21'16   |   | conjunction  | -3383 Jun 08 j 07:26   | 18° <b>8</b> 38'26   | 0°03'01  |
|   |  |   |   | minimum elong  | -3383 Jun 08 j 07:25   | 18° <b>8</b> 38'25   | 0°03'06  |
| conjunction   | -3389 Dec 11 j 12:56   | 24°M23'22   | -0°11'08  | behind sun begin   | -3383 Jun 07 j 23:11   | 18° <b>8</b> 33'53   |  |
| minimum elong   | -3389 Dec 11 j 12:55   | 24°M23'22   | 0°11'13   | behind sun end   | -3383 Jun 08 j 15:39   | 18° <b>8</b> 42'57   |  |
| behind sun begin  | -3389 Dec 11 j 06:54   | 24° <b>M</b> ₊19'49   |   | max. Earth dist.   | -3383 Jun 08 j 15:13   | 18° <b>8</b> 42'43   | 6.30134 AU   |
| behind sun end  | -3389 Dec 11 j 18:57   | 24°M26'55   |   | morning rise   | -3383 Jun 21 j 20:10   | 21° <b>8</b> 37'52   |  |
| max. Earth dist.  | -3389 Dec 11 j 10:43   | 24°M22'04   | 6.07515 AU  | Č  | -3383 Jul 31 j 21:46   | $\Pi^{\circ}0$   |  |
| morning rise  | -3389 Dec 24 j 11:04   | 27°M26'50   |   | retrograde   | -3383 Oct 22 j 01:18   | 9° <b>Ⅱ</b> 11'05  |  |
| 3   | -3388 Jan 04 j 09:32   | 0° <b>⊼</b> ¹   |   | opposition   | -3383 Dec 20 j 17:39   | 4° <b>Ⅱ</b> 13'45  | 0°36'02  |
| retrograde  | -3388 May 03 j 00:02   | 17° <b>х</b> 16′10  |   | min. Earth dist.   | -3383 Dec 20 j 20:40   | 4° <b>Ⅱ</b> 12'46  | 4.34371 AU   |
| opposition  | -3388 Jul 02 j 15:39   | 12°×716'30  | -0°52'32  | iiiii. Eurui dist.   | -3382 Jan 27 j 22:35   | 30°R <b>8</b>  | 4.54571710   |
| min. Earth dist.  | -3388 Jul 02 j 07:58   | 12°×10'30   | 4.03703 AU  | direct   | -3382 Feb 20 j 02:25   | 29° <b>8</b> 10'08   |  |
| direct  | -3388 Aug 30 j 14:20   | 7° <b>×</b> <sup>7</sup> 23'29  | 4.03703 AO  | direct   |  | 0° <b>Ⅱ</b>  |  |
|   | • •  | 7 <b>x</b> · 23 29 26° <b>x</b> · 34'30   |   | . ,  | -3382 Mar 15 j 13:00   |  |  |
| evening set   | -3387 Jan 01 j 20:09   | 26° <b>×</b> '34'30   |   | evening set  | -3382 Jun 27 j 21:40   | 17° <b>Ⅱ</b> 12'26   | 6 <b>2 7</b> 5 0 5 1 4 4 4   |
|   |  |   |   | max. Earth dist.   | -3382 Jul 10 j 10:44   | 19°Д57′00  | 6.37505 AU   |
| conjunction   | -3387 Jan 14 j 23:00   | 29° <b>∡</b> ′42′19   |   |  |  | 🗕  |  |
| minimum elong   | -3387 Jan 14 j 22:57   | 29° <b>∡</b> ¹42'17   |   | conjunction  | -3382 Jul 11 j 04:33   | 20° <b>Ⅱ</b> 06'46   | 0°44'59  |
| max. Earth dist.  | -3387 Jan 15 j 23:21   |   | 6.01343 AU  | minimum elong  | -3382 Jul 11 j 04:30   | 20° <b>Ⅱ</b> 06'44   | 0°45'05  |
|   | -3387 Jan 16 j 04:36   | ರ∘ರ   |   | morning rise   | -3382 Jul 24 j 08:23   | 22° <b>∏</b> 59'29   |  |
| morning rise  | -3387 Jan 28 j 05:06   | 2° <b>る</b> 51'54   |   |  | -3382 Aug 26 j 20:00   | $0$ $\circ$ $\odot$  |  |
| retrograde  | -3387 Jun 09 j 08:08   | 23° <b>る</b> 11'10  |   | retrograde   | -3382 Nov 21 j 20:53   | 10° <b>5</b> 04'04   |  |
| opposition  | -3387 Aug 08 j 12:27   | 18° <b>る</b> 07'54  | -1°46'11  | opposition   | -3381 Jan 20 j 22:15   | 5° <b>©</b> 10'10  | 1°28'58  |
| min. Earth dist.  | -3387 Aug 07 j 12:19   | 18° <b>ප</b> 16'00  | 4.00801 AU  | min. Earth dist.   | -3381 Jan 21 j 16:34   | 5° <b>5</b> 04'13  | 4.39362 AU   |
| direct  | -3387 Oct 05 j 14:37   | 13° <b>る</b> 13'41  |   | direct   | -3381 Mar 24 j 05:51   | 0° <b>ഇ</b> 07'01  |  |
|   | -3386 Jan 27 j 12:21   | 0° <b>≈</b> ≈   |   | evening set  | -3381 Jul 29 j 18:55   | 17° <b>©</b> 59'30   |  |
| evening set   | -3386 Feb 07 j 10:56   | 2° <b>≈</b> 33'38   |   | max. Earth dist.   | -3381 Aug 10 j 06:44   | 20°\$30'26   | 6.39652 AU   |
|   |  |   |   |  |  |  | 0.0700   |
|   |  |   |   |  |  |  |  |
| conjunction   | -3386 Feb. 20 i 21:05  | 5°2244'21   | -1°19'01  | conjunction  | -3381 Aug 11 i 16:49   | 2000649109   | 1°13'27  |
| conjunction   | -3386 Feb 20 j 21:05   | 5°≈44'21  |   | conjunction  | -3381 Aug 11 j 16:49   | 20°549'09  | 1°13'27  |
| minimum elong   | -3386 Feb 20 j 21:04   | 5° <b>≈</b> 44'21   | 1°19'07   | minimum elong  | -3381 Aug 11 j 16:47   | 20°949'07  | 1°13'27<br>1°13'34   |
| minimum elong<br>max. Earth dist.   | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05   | 5°≈44'21<br>6°≈09'51  |   | -  | -3381 Aug 11 j 16:47<br>-3381 Aug 24 j 11:22   | 20°549'07<br>23°537'15   |  |
| minimum elong   | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29   | 5°≈44'21<br>6°≈09'51<br>8°≈56'39  | 1°19'07   | minimum elong<br>morning rise  | -3381 Aug 11 j 16:47<br>-3381 Aug 24 j 11:22<br>-3381 Sep 23 j 17:02   | 20°€49'07<br>23°€37'15<br>0°Ω  |  |
| minimum elong<br>max. Earth dist.<br>morning rise   | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11   | 5°≈44'21<br>6°≈09'51<br>8°≈56'39<br>15°≈  | 1°19'07   | minimum elong<br>morning rise<br>retrograde  | -3381 Aug 11 j 16:47<br>-3381 Aug 24 j 11:22<br>-3381 Sep 23 j 17:02<br>-3381 Dec 22 j 20:30   | 20°S49'07<br>23°S37'15<br>0°Ω<br>10°Ω38'47   | 1°13'34  |
| minimum elong<br>max. Earth dist.<br>morning rise<br>retrograde   | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20   | 5°≈44'21<br>6°≈09'51<br>8°≈56'39<br>15°≈<br>29°≈05'58   | 1°19'07<br>6.01829 AU   | minimum elong<br>morning rise<br>retrograde<br>opposition  | -3381 Aug 11 j 16:47<br>-3381 Aug 24 j 11:22<br>-3381 Sep 23 j 17:02<br>-3381 Dec 22 j 20:30<br>-3380 Feb 21 j 09:20   | 20°\$49'07<br>23°\$37'15<br>0°Ω<br>10°Ω38'47<br>5°Ω46'57   | 1°13'34<br>1°56'42   |
| minimum elong<br>max. Earth dist.<br>morning rise<br>retrograde<br>min. Earth dist.   | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31   | 5°≈44'21<br>6°≈09'51<br>8°≈56'39<br>15°≈<br>29°≈05'58<br>24°≈11'00  | 1°19'07<br>6.01829 AU<br>4.04737 AU   | minimum elong<br>morning rise<br>retrograde<br>opposition<br>min. Earth dist.  | -3381 Aug 11 j 16:47<br>-3381 Aug 24 j 11:22<br>-3381 Sep 23 j 17:02<br>-3381 Dec 22 j 20:30<br>-3380 Feb 21 j 09:20<br>-3380 Feb 22 j 13:02   | 20°\$49'07<br>23°\$37'15<br>0°\$\Omega\$100'\Omega\$38'47<br>5°\$\Omega\$46'57<br>5°\$\Omega\$38'05  | 1°13'34  |
| minimum elong<br>max. Earth dist.<br>morning rise<br>retrograde<br>min. Earth dist.<br>opposition   | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31<br>-3386 Sep 13 j 14:33   | 5°≈44'21<br>6°≈09'51<br>8°≈56'39<br>15°≈<br>29°≈05'58<br>24°≈11'00<br>24°≈00'46   | 1°19'07<br>6.01829 AU<br>4.04737 AU   | minimum elong<br>morning rise<br>retrograde<br>opposition  | -3381 Aug 11 j 16:47<br>-3381 Aug 24 j 11:22<br>-3381 Sep 23 j 17:02<br>-3381 Dec 22 j 20:30<br>-3380 Feb 21 j 09:20<br>-3380 Feb 22 j 13:02<br>-3380 Apr 24 j 00:56   | 20°\$49'07<br>23°\$37'15<br>0°\$\Omega\$<br>10°\$\Omega\$38'47<br>5°\$\Omega\$46'57<br>5°\$\Omega\$38'05<br>0°\$\Omega\$45'34  | 1°13'34<br>1°56'42   |
| minimum elong<br>max. Earth dist.<br>morning rise<br>retrograde<br>min. Earth dist.   | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31<br>-3386 Sep 13 j 14:33<br>-3386 Nov 10 j 17:14   | 5°&44'21 6°&09'51 8°&56'39 15°& 29°&05'58 24°&11'00 24°&00'46 19°&03'34   | 1°19'07<br>6.01829 AU<br>4.04737 AU   | minimum elong<br>morning rise<br>retrograde<br>opposition<br>min. Earth dist.<br>direct  | -3381 Aug 11 j 16:47<br>-3381 Aug 24 j 11:22<br>-3381 Sep 23 j 17:02<br>-3381 Dec 22 j 20:30<br>-3380 Feb 21 j 09:20<br>-3380 Feb 22 j 13:02<br>-3380 Apr 24 j 00:56<br>-3380 Aug 12 j 01:44   | 20°\$49'07<br>23°\$37'15<br>0°\$\Omega\$100'\$\Omega\$38'47<br>5°\$\Omega\$46'57<br>5°\$\Omega\$38'05<br>0°\$\Omega\$45'34<br>15°\$\Omega\$  | 1°13'34<br>1°56'42   |
| minimum elong<br>max. Earth dist.<br>morning rise<br>retrograde<br>min. Earth dist.<br>opposition   | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31<br>-3386 Sep 13 j 14:33   | 5°≈44'21<br>6°≈09'51<br>8°≈56'39<br>15°≈<br>29°≈05'58<br>24°≈11'00<br>24°≈00'46   | 1°19'07<br>6.01829 AU<br>4.04737 AU   | minimum elong<br>morning rise<br>retrograde<br>opposition<br>min. Earth dist.  | -3381 Aug 11 j 16:47<br>-3381 Aug 24 j 11:22<br>-3381 Sep 23 j 17:02<br>-3381 Dec 22 j 20:30<br>-3380 Feb 21 j 09:20<br>-3380 Feb 22 j 13:02<br>-3380 Apr 24 j 00:56   | 20°\$49'07<br>23°\$37'15<br>0°\$\Omega\$<br>10°\$\Omega\$38'47<br>5°\$\Omega\$46'57<br>5°\$\Omega\$38'05<br>0°\$\Omega\$45'34  | 1°13'34<br>1°56'42   |
| minimum elong<br>max. Earth dist.<br>morning rise<br>retrograde<br>min. Earth dist.<br>opposition   | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31<br>-3386 Sep 13 j 14:33<br>-3386 Nov 10 j 17:14   | 5°&44'21 6°&09'51 8°&56'39 15°& 29°&05'58 24°&11'00 24°&00'46 19°&03'34   | 1°19'07<br>6.01829 AU<br>4.04737 AU   | minimum elong<br>morning rise<br>retrograde<br>opposition<br>min. Earth dist.<br>direct  | -3381 Aug 11 j 16:47<br>-3381 Aug 24 j 11:22<br>-3381 Sep 23 j 17:02<br>-3381 Dec 22 j 20:30<br>-3380 Feb 21 j 09:20<br>-3380 Feb 22 j 13:02<br>-3380 Apr 24 j 00:56<br>-3380 Aug 12 j 01:44   | 20°\$49'07<br>23°\$37'15<br>0°\$\Omega\$100'\$\Omega\$38'47<br>5°\$\Omega\$46'57<br>5°\$\Omega\$38'05<br>0°\$\Omega\$45'34<br>15°\$\Omega\$18'\$\Omega\$39'16  | 1°13'34<br>1°56'42   |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31<br>-3386 Sep 13 j 14:33<br>-3386 Nov 10 j 17:14<br>-3385 Feb 07 j 08:43   | 5°≈44'21<br>6°≈09'51<br>8°≈56'39<br>15°≈<br>29°≈05'58<br>24°≈11'00<br>24°≈00'46<br>19°≈03'34<br>0°¥   | 1°19'07<br>6.01829 AU<br>4.04737 AU   | minimum elong<br>morning rise<br>retrograde<br>opposition<br>min. Earth dist.<br>direct  | -3381 Aug 11 j 16:47<br>-3381 Aug 24 j 11:22<br>-3381 Sep 23 j 17:02<br>-3381 Dec 22 j 20:30<br>-3380 Feb 21 j 09:20<br>-3380 Feb 22 j 13:02<br>-3380 Apr 24 j 00:56<br>-3380 Aug 12 j 01:44<br>-3380 Aug 28 j 21:56   | 20°\$49'07<br>23°\$37'15<br>0°\$\Omega\$100'\$\Omega\$38'47<br>5°\$\Omega\$46'57<br>5°\$\Omega\$38'05<br>0°\$\Omega\$45'34<br>15°\$\Omega\$18'\$\Omega\$39'16  | 1°13'34<br>1°56'42<br>4.38690 AU   |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31<br>-3386 Sep 13 j 14:33<br>-3386 Nov 10 j 17:14<br>-3385 Feb 07 j 08:43   | 5°≈44'21<br>6°≈09'51<br>8°≈56'39<br>15°≈<br>29°≈05'58<br>24°≈11'00<br>24°≈00'46<br>19°≈03'34<br>0°¥   | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10   | minimum elong<br>morning rise<br>retrograde<br>opposition<br>min. Earth dist.<br>direct  | -3381 Aug 11 j 16:47<br>-3381 Aug 24 j 11:22<br>-3381 Sep 23 j 17:02<br>-3381 Dec 22 j 20:30<br>-3380 Feb 21 j 09:20<br>-3380 Feb 22 j 13:02<br>-3380 Apr 24 j 00:56<br>-3380 Aug 12 j 01:44<br>-3380 Aug 28 j 21:56   | 20°\$49'07<br>23°\$37'15<br>0°\$\Omega\$100'\$\Omega\$38'47<br>5°\$\Omega\$46'57<br>5°\$\Omega\$38'05<br>0°\$\Omega\$45'34<br>15°\$\Omega\$18'\$\Omega\$39'16  | 1°13'34<br>1°56'42<br>4.38690 AU   |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction  | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31<br>-3386 Sep 13 j 14:33<br>-3386 Nov 10 j 17:14<br>-3385 Feb 07 j 08:43<br>-3385 Mar 16 j 12:26   | 5°≈44'21<br>6°≈09'51<br>8°≈56'39<br>15°≈<br>29°≈05'58<br>24°≈11'00<br>24°≈00'46<br>19°≈03'34<br>0°¥<br>8°¥14'33   | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10   | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist. conjunction  | -3381 Aug 11 j 16:47<br>-3381 Aug 24 j 11:22<br>-3381 Sep 23 j 17:02<br>-3381 Dec 22 j 20:30<br>-3380 Feb 21 j 09:20<br>-3380 Feb 22 j 13:02<br>-3380 Apr 24 j 00:56<br>-3380 Aug 12 j 01:44<br>-3380 Aug 28 j 21:56<br>-3380 Sep 08 j 18:06   | 20°\$49'07<br>23°\$37'15<br>0°\$\Omega\$10°\$\Omega\$38'47<br>5°\$\Omega\$46'57<br>5°\$\Omega\$38'05<br>0°\$\Omega\$45'34<br>15°\$\Omega\$18*\$\Omega\$39'16<br>21°\$\Omega\$03'35   | 1°13'34<br>1°56'42<br>4.38690 AU<br>6.36091 AU   |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set   | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31<br>-3386 Sep 13 j 14:33<br>-3386 Nov 10 j 17:14<br>-3385 Feb 07 j 08:43<br>-3385 Mar 16 j 12:26<br>-3385 Mar 30 j 04:57<br>-3385 Mar 30 j 05:00   | 5°≈44'21<br>6°≈09'51<br>8°≈56'39<br>15°≈<br>29°≈05'58<br>24°≈11'00<br>24°≈00'46<br>19°≈03'34<br>0°¥<br>8°¥14'33<br>11°¥24'54<br>11°¥24'55   | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10   | minimum elong<br>morning rise<br>retrograde<br>opposition<br>min. Earth dist.<br>direct<br>evening set<br>max. Earth dist.   | -3381 Aug 11 j 16:47<br>-3381 Aug 24 j 11:22<br>-3381 Sep 23 j 17:02<br>-3381 Dec 22 j 20:30<br>-3380 Feb 21 j 09:20<br>-3380 Feb 22 j 13:02<br>-3380 Apr 24 j 00:56<br>-3380 Aug 12 j 01:44<br>-3380 Aug 28 j 21:56<br>-3380 Sep 08 j 18:06<br>-3380 Sep 10 j 12:58<br>-3380 Sep 10 j 12:58   | 20°\$49'07 23°\$37'15 0°\$\Omega\$ 10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$18°\$\Omega\$39'16 21°\$\Omega\$03'35 21°\$\Omega\$27'26 21°\$\Omega\$27'27   | 1°13'34<br>1°56'42<br>4.38690 AU<br>6.36091 AU<br>1°21'18  |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist.   | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31<br>-3386 Sep 13 j 14:33<br>-3386 Nov 10 j 17:14<br>-3385 Feb 07 j 08:43<br>-3385 Mar 16 j 12:26<br>-3385 Mar 30 j 04:57<br>-3385 Mar 30 j 05:00<br>-3385 Apr 01 j 03:48   | 5°≈44'21<br>6°≈09'51<br>8°≈56'39<br>15°≈<br>29°≈05'58<br>24°≈11'00<br>24°≈00'46<br>19°≈03'34<br>0° \text{\tin\text{\tex | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03  | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong   | -3381 Aug 11 j 16:47<br>-3381 Aug 24 j 11:22<br>-3381 Sep 23 j 17:02<br>-3381 Dec 22 j 20:30<br>-3380 Feb 21 j 09:20<br>-3380 Feb 22 j 13:02<br>-3380 Apr 24 j 00:56<br>-3380 Aug 12 j 01:44<br>-3380 Aug 28 j 21:56<br>-3380 Sep 08 j 18:06<br>-3380 Sep 10 j 12:58<br>-3380 Sep 23 j 01:53   | 20°\$49'07 23°\$37'15 0°\$\Omega\$ 10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$18°\$\Omega\$39'16 21°\$\Omega\$03'35 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38  | 1°13'34<br>1°56'42<br>4.38690 AU<br>6.36091 AU<br>1°21'18  |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong  | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31<br>-3386 Sep 13 j 14:33<br>-3386 Nov 10 j 17:14<br>-3385 Feb 07 j 08:43<br>-3385 Mar 16 j 12:26<br>-3385 Mar 30 j 04:57<br>-3385 Mar 30 j 05:00<br>-3385 Apr 01 j 03:48<br>-3385 Apr 12 j 23:04   | 5°≈44'21<br>6°≈09'51<br>8°≈56'39<br>15°≈<br>29°≈05'58<br>24°≈11'00<br>24°≈00'46<br>19°≈03'34<br>0° \text{\tin\text{\tex | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03  | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  | -3381 Aug 11 j 16:47<br>-3381 Aug 24 j 11:22<br>-3381 Sep 23 j 17:02<br>-3381 Dec 22 j 20:30<br>-3380 Feb 21 j 09:20<br>-3380 Feb 22 j 13:02<br>-3380 Apr 24 j 00:56<br>-3380 Aug 12 j 01:44<br>-3380 Aug 28 j 21:56<br>-3380 Sep 08 j 18:06<br>-3380 Sep 10 j 12:58<br>-3380 Sep 23 j 01:53<br>-3380 Oct 19 j 20:08   | 20°\$49'07 23°\$37'15 0°\$\Omega\$ 10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$18°\$\Omega\$39'16 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38 0°\$\Omega\$  | 1°13'34<br>1°56'42<br>4.38690 AU<br>6.36091 AU<br>1°21'18  |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist. morning rise  | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31<br>-3386 Sep 13 j 14:33<br>-3386 Nov 10 j 17:14<br>-3385 Feb 07 j 08:43<br>-3385 Mar 16 j 12:26<br>-3385 Mar 30 j 04:57<br>-3385 Mar 30 j 05:00<br>-3385 Apr 01 j 03:48<br>-3385 Apr 12 j 23:04<br>-3385 Jun 29 j 11:27   | 5°≈44'21<br>6°≈09'51<br>8°≈56'39<br>15°≈<br>29°≈05'58<br>24°≈11'00<br>24°≈00'46<br>19°≈03'34<br>0° \text{\text{8}} \text{\text{14'33}}<br>11°\text{\text{24'54}} \text{11}°\text{\text{24'55}} \text{11}°\text{\text{52'05}} \text{14'\text{\text{35'55}}} 0°\text{\text{\text{7}}}   | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03  | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde  | -3381 Aug 11 j 16:47 -3381 Aug 24 j 11:22 -3381 Sep 23 j 17:02 -3381 Dec 22 j 20:30 -3380 Feb 21 j 09:20 -3380 Feb 22 j 13:02 -3380 Apr 24 j 00:56 -3380 Aug 12 j 01:44 -3380 Aug 28 j 21:56 -3380 Sep 08 j 18:06  -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 23 j 01:53 -3380 Oct 19 j 20:08 -3379 Jan 22 j 22:14  | 20°\$49'07 23°\$37'15 0°\$\Omega\$ 10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$16 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38 0°\$\Omega\$11°\$\Omega\$7'57   | 1°13'34<br>1°56'42<br>4.38690 AU<br>6.36091 AU<br>1°21'18<br>1°21'22   |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist.   | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31<br>-3386 Sep 13 j 14:33<br>-3386 Nov 10 j 17:14<br>-3385 Feb 07 j 08:43<br>-3385 Mar 16 j 12:26<br>-3385 Mar 30 j 04:57<br>-3385 Mar 30 j 05:00<br>-3385 Apr 01 j 03:48<br>-3385 Apr 12 j 23:04<br>-3385 Jun 29 j 11:27<br>-3385 Aug 19 j 17:02   | 5°≈44'21<br>6°≈09'51<br>8°≈56'39<br>15°≈<br>29°≈05'58<br>24°≈11'00<br>24°≈00'46<br>19°≈03'34<br>0°¥<br>8°¥14'33<br>11°¥24'54<br>11°¥24'55<br>11°¥52'05<br>14°¥35'55<br>0°♀<br>3°♀59'09  | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03  | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition   | -3381 Aug 11 j 16:47 -3381 Aug 24 j 11:22 -3381 Sep 23 j 17:02 -3381 Dec 22 j 20:30 -3380 Feb 21 j 09:20 -3380 Feb 22 j 13:02 -3380 Apr 24 j 00:56 -3380 Aug 12 j 01:44 -3380 Aug 28 j 21:56 -3380 Sep 08 j 18:06 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 23 j 01:53 -3380 Oct 19 j 20:08 -3379 Jan 22 j 22:14 -3379 Mar 24 j 19:23  | 20°\$49'07 23°\$37'15 0°\$\Omega\$15 0°\$\Omega\$10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$16 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38 0°\$\Omega\$11°\$\Omega\$37'57 6°\$\Omega\$46'20  | 1°13'34<br>1°56'42<br>4.38690 AU<br>6.36091 AU<br>1°21'18<br>1°21'22   |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde  | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31<br>-3386 Sep 13 j 14:33<br>-3386 Nov 10 j 17:14<br>-3385 Feb 07 j 08:43<br>-3385 Mar 16 j 12:26<br>-3385 Mar 30 j 04:57<br>-3385 Mar 30 j 05:00<br>-3385 Apr 01 j 03:48<br>-3385 Apr 12 j 23:04<br>-3385 Jun 29 j 11:27<br>-3385 Aug 19 j 17:02<br>-3385 Oct 10 j 02:53   | 5°≈44'21 6°≈09'51 8°≈56'39 15°≈ 29°≈05'58 24°≈11'00 24°≈00'46 19°≈03'34 0° ₩ 8° ₩ 14'33 11° ₩ 24'54 11° ₩ 224'55 11° ₩ 52'05 14° ₩ 35'55 0° Ψ 3° Ψ 59'09 30° R ₩  | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03<br>6.08783 AU  | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist.  | -3381 Aug 11 j 16:47 -3381 Aug 24 j 11:22 -3381 Sep 23 j 17:02 -3381 Dec 22 j 20:30 -3380 Feb 21 j 09:20 -3380 Feb 22 j 13:02 -3380 Apr 24 j 00:56 -3380 Aug 12 j 01:44 -3380 Aug 28 j 21:56 -3380 Sep 08 j 18:06 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 23 j 01:53 -3380 Oct 19 j 20:08 -3379 Jan 22 j 22:14 -3379 Mar 24 j 19:23 -3379 Mar 26 j 02:27   | 20°\$49'07 23°\$37'15 0°\$\Omega\$ 10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$16 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38 0°\$\Omega\$10°\$\Omega\$37'57 6°\$\Omega\$46'20 6°\$\Omega\$36'28  | 1°13'34<br>1°56'42<br>4.38690 AU<br>6.36091 AU<br>1°21'18<br>1°21'22   |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist.   | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31<br>-3386 Sep 13 j 14:33<br>-3386 Nov 10 j 17:14<br>-3385 Feb 07 j 08:43<br>-3385 Mar 16 j 12:26<br>-3385 Mar 30 j 04:57<br>-3385 Mar 30 j 05:00<br>-3385 Apr 01 j 03:48<br>-3385 Apr 12 j 23:04<br>-3385 Aug 19 j 17:02<br>-3385 Oct 10 j 02:53<br>-3385 Oct 17 j 02:15   | 5°≈44'21 6°≈09'51 8°≈56'39 15°≈ 29°≈05'58 24°≈11'00 24°≈00'46 19°≈03'34 0° ₩ 8° ₩ 14'33 11° ₩ 24'54 11° ₩ 24'55 11° ₩ 52'05 14° ₩ 35'55 0° Ψ 3° Ψ 59'09 30° ℝ ₩ 29° ₩ 03'26   | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03<br>6.08783 AU  | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct   | -3381 Aug 11 j 16:47 -3381 Aug 24 j 11:22 -3381 Sep 23 j 17:02 -3381 Dec 22 j 20:30 -3380 Feb 21 j 09:20 -3380 Feb 22 j 13:02 -3380 Apr 24 j 00:56 -3380 Aug 12 j 01:44 -3380 Aug 28 j 21:56 -3380 Sep 08 j 18:06 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 23 j 01:53 -3380 Oct 19 j 20:08 -3379 Jan 22 j 22:14 -3379 Mar 24 j 19:23 -3379 Mar 26 j 02:27 -3379 May 26 j 04:25   | 20°\$49'07 23°\$37'15 0°\$\Omega\$ 10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$16 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38 0°\$\Omega\$10°\$\Omega\$36'28 1°\$\Omega\$47'26  | 1°13'34<br>1°56'42<br>4.38690 AU<br>6.36091 AU<br>1°21'18<br>1°21'22   |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde  min. Earth dist. opposition   | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31<br>-3386 Sep 13 j 14:33<br>-3386 Nov 10 j 17:14<br>-3385 Feb 07 j 08:43<br>-3385 Mar 16 j 12:26<br>-3385 Mar 30 j 04:57<br>-3385 Mar 30 j 05:00<br>-3385 Apr 01 j 03:48<br>-3385 Apr 12 j 23:04<br>-3385 Aug 19 j 17:02<br>-3385 Oct 10 j 02:53<br>-3385 Oct 17 j 02:15<br>-3385 Oct 18 j 03:31   | 5°≈44'21 6°≈09'51 8°≈56'39 15°≈ 29°≈05'58 24°≈11'00 24°≈00'46 19°≈03'34 0°  | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03<br>6.08783 AU  | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set   | -3381 Aug 11 j 16:47 -3381 Aug 24 j 11:22 -3381 Sep 23 j 17:02 -3381 Dec 22 j 20:30 -3380 Feb 21 j 09:20 -3380 Feb 22 j 13:02 -3380 Apr 24 j 00:56 -3380 Aug 12 j 01:44 -3380 Aug 28 j 21:56 -3380 Sep 08 j 18:06 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 23 j 01:53 -3380 Oct 19 j 20:08 -3379 Jan 22 j 22:14 -3379 Mar 24 j 19:23 -3379 Mar 26 j 02:27 -3379 May 26 j 04:25 -3379 Sep 29 j 00:32   | 20°\$49'07 23°\$37'15 0°\$\Omega\$ 10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$16 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38 0°\$\Omega\$10'\$\Omega\$36'28 1°\$\Omega\$46'20 6°\$\Omega\$36'28 1°\$\Omega\$47'26 19°\$\Omega\$5'06  | 1°13'34<br>1°56'42<br>4.38690 AU<br>6.36091 AU<br>1°21'18<br>1°21'22<br>1°51'58<br>4.32484 AU                          |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist.   | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31<br>-3386 Sep 13 j 14:33<br>-3386 Nov 10 j 17:14<br>-3385 Feb 07 j 08:43<br>-3385 Mar 16 j 12:26<br>-3385 Mar 30 j 04:57<br>-3385 Mar 30 j 05:00<br>-3385 Apr 01 j 03:48<br>-3385 Apr 12 j 23:04<br>-3385 Aug 19 j 17:02<br>-3385 Oct 10 j 02:53<br>-3385 Oct 17 j 02:15<br>-3385 Oct 18 j 03:31<br>-3385 Dec 16 j 00:16   | 5°≈44'21 6°≈09'51 8°≈56'39 15°≈ 29°≈05'58 24°≈11'00 24°≈00'46 19°≈03'34 0°  | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03<br>6.08783 AU  | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct   | -3381 Aug 11 j 16:47 -3381 Aug 24 j 11:22 -3381 Sep 23 j 17:02 -3381 Dec 22 j 20:30 -3380 Feb 21 j 09:20 -3380 Feb 22 j 13:02 -3380 Apr 24 j 00:56 -3380 Aug 12 j 01:44 -3380 Aug 28 j 21:56 -3380 Sep 08 j 18:06 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 23 j 01:53 -3380 Oct 19 j 20:08 -3379 Jan 22 j 22:14 -3379 Mar 24 j 19:23 -3379 Mar 26 j 02:27 -3379 May 26 j 04:25   | 20°\$49'07 23°\$37'15 0°\$\Omega\$ 10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$16 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38 0°\$\Omega\$10°\$\Omega\$36'28 1°\$\Omega\$47'26  | 1°13'34<br>1°56'42<br>4.38690 AU<br>6.36091 AU<br>1°21'18<br>1°21'22   |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct   | -3386 Feb 20 j 21:04 -3386 Feb 22 j 16:05 -3386 Mar 06 j 10:29 -3386 Apr 01 j 21:11 -3386 Jul 15 j 21:20 -3386 Sep 12 j 08:31 -3386 Sep 13 j 14:33 -3386 Nov 10 j 17:14 -3385 Feb 07 j 08:43 -3385 Mar 16 j 12:26  -3385 Mar 30 j 04:57 -3385 Mar 30 j 05:00 -3385 Apr 01 j 03:48 -3385 Apr 12 j 23:04 -3385 Apr 12 j 23:04 -3385 Aug 19 j 17:02 -3385 Oct 10 j 02:53 -3385 Oct 17 j 02:15 -3385 Oct 18 j 03:31 -3385 Dec 16 j 00:16 -3384 Feb 18 j 14:24  | 5°≈44'21 6°≈09'51 8°≈56'39 15°≈ 29°≈05'58 24°≈11'00 24°≈00'46 19°≈03'34 0°  | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03<br>6.08783 AU  | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set max. Earth dist.  | -3381 Aug 11 j 16:47 -3381 Aug 24 j 11:22 -3381 Sep 23 j 17:02 -3381 Dec 22 j 20:30 -3380 Feb 21 j 09:20 -3380 Feb 22 j 13:02 -3380 Apr 24 j 00:56 -3380 Aug 12 j 01:44 -3380 Aug 28 j 21:56 -3380 Sep 08 j 18:06  -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 23 j 01:53 -3380 Oct 19 j 20:08 -3379 Jan 22 j 22:14 -3379 Mar 24 j 19:23 -3379 Mar 26 j 02:27 -3379 Sep 29 j 00:32 -3379 Oct 09 j 22:48   | 20°\$49'07 23°\$37'15 0°\$\Omega\$ 10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$16 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38 0°\$\Omega\$10°\$\Omega\$36'28 1°\$\Omega\$46'20 6°\$\Omega\$36'28 1°\$\Omega\$47'26 19°\$\Omega\$5'06 22°\$\Omega\$21'41   | 1°13'34<br>1°56'42<br>4.38690 AU<br>6.36091 AU<br>1°21'18<br>1°21'22<br>1°51'58<br>4.32484 AU<br>6.27701 AU            |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde  min. Earth dist. opposition   | -3386 Feb 20 j 21:04<br>-3386 Feb 22 j 16:05<br>-3386 Mar 06 j 10:29<br>-3386 Apr 01 j 21:11<br>-3386 Jul 15 j 21:20<br>-3386 Sep 12 j 08:31<br>-3386 Sep 13 j 14:33<br>-3386 Nov 10 j 17:14<br>-3385 Feb 07 j 08:43<br>-3385 Mar 16 j 12:26<br>-3385 Mar 30 j 04:57<br>-3385 Mar 30 j 05:00<br>-3385 Apr 01 j 03:48<br>-3385 Apr 12 j 23:04<br>-3385 Aug 19 j 17:02<br>-3385 Oct 10 j 02:53<br>-3385 Oct 17 j 02:15<br>-3385 Oct 18 j 03:31<br>-3385 Dec 16 j 00:16   | 5°≈44'21 6°≈09'51 8°≈56'39 15°≈ 29°≈05'58 24°≈11'00 24°≈00'46 19°≈03'34 0°  | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03<br>6.08783 AU  | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction  | -3381 Aug 11 j 16:47 -3381 Aug 24 j 11:22 -3381 Sep 23 j 17:02 -3381 Dec 22 j 20:30 -3380 Feb 21 j 09:20 -3380 Feb 22 j 13:02 -3380 Apr 24 j 00:56 -3380 Aug 12 j 01:44 -3380 Aug 28 j 21:56 -3380 Sep 08 j 18:06  -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 23 j 01:53 -3380 Oct 19 j 20:08 -3379 Jan 22 j 22:14 -3379 Mar 24 j 19:23 -3379 Mar 26 j 02:27 -3379 May 26 j 04:25 -3379 Sep 29 j 00:32 -3379 Oct 09 j 22:48  | 20°\$49'07 23°\$37'15 0°\$\Omega\$7'15 0°\$\Omega\$10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$16 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38 0°\$\Omega\$11°\$\Omega\$37'57 6°\$\Omega\$46'20 6°\$\Omega\$36'28 1°\$\Omega\$47'26 19°\$\Omega\$53'06 22°\$\Omega\$21'41  | 1°13'34<br>1°56'42<br>4.38690 AU<br>6.36091 AU<br>1°21'18<br>1°21'22<br>1°51'58<br>4.32484 AU<br>6.27701 AU<br>1°05'49 |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde  min. Earth dist. opposition direct  evening set   | -3386 Feb 20 j 21:04 -3386 Feb 22 j 16:05 -3386 Mar 06 j 10:29 -3386 Apr 01 j 21:11 -3386 Jul 15 j 21:20 -3386 Sep 12 j 08:31 -3386 Sep 12 j 08:31 -3386 Nov 10 j 17:14 -3385 Feb 07 j 08:43 -3385 Mar 30 j 04:57 -3385 Mar 30 j 04:57 -3385 Mar 30 j 05:00 -3385 Apr 01 j 03:48 -3385 Apr 12 j 23:04 -3385 Apr 12 j 23:04 -3385 Apr 12 j 23:04 -3385 Oct 10 j 02:53 -3385 Oct 17 j 02:15 -3385 Oct 18 j 03:31 -3385 Dec 16 j 00:16 -3384 Feb 18 j 14:24 -3384 Apr 20 j 20:20  | 5°≈44'21 6°≈09'51 8°≈56'39 15°≈ 29°≈05'58 24°≈11'00 24°≈00'46 19°≈03'34 0° \times 8° \times 14'33  11°\times 24'54 11°\times 24'55 11°\times 24'55 11°\times 24'55 10°\times 35'55 0°\times 30°\times 35'55'55 10°\times 30°\times 35'55'55'55'55'55'55'55'55'55'55'55'55'5   | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03<br>6.08783 AU<br>4.13929 AU<br>-1°28'18                                      | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction min. Earth dist.   | -3381 Aug 11 j 16:47 -3381 Aug 24 j 11:22 -3381 Sep 23 j 17:02 -3381 Dec 22 j 20:30 -3380 Feb 21 j 09:20 -3380 Feb 22 j 13:02 -3380 Apr 24 j 00:56 -3380 Aug 12 j 01:44 -3380 Aug 28 j 21:56 -3380 Sep 08 j 18:06  -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 23 j 01:53 -3380 Oct 19 j 20:08 -3379 Jan 22 j 22:14 -3379 Mar 24 j 19:23 -3379 Mar 26 j 02:27 -3379 May 26 j 04:25 -3379 Oct 09 j 22:48  -3379 Oct 11 j 13:28 -3379 Oct 11 j 13:31  | 20°\$49'07 23°\$37'15 0°\$\Omega\$7'15 0°\$\Omega\$10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$16 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38 0°\$\Omega\$110°\$\Omega\$37'57 6°\$\Omega\$46'20 6°\$\Omega\$36'28 1°\$\Omega\$46'20 6°\$\Omega\$36'28 1°\$\Omega\$45'40 22°\$\Omega\$43'40 22°\$\Omega\$43'41   | 1°13'34<br>1°56'42<br>4.38690 AU<br>6.36091 AU<br>1°21'18<br>1°21'22<br>1°51'58<br>4.32484 AU<br>6.27701 AU            |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction   | -3386 Feb 20 j 21:04 -3386 Feb 22 j 16:05 -3386 Mar 06 j 10:29 -3386 Apr 01 j 21:11 -3386 Jul 15 j 21:20 -3386 Sep 12 j 08:31 -3386 Sep 12 j 08:31 -3386 Nov 10 j 17:14 -3385 Feb 07 j 08:43 -3385 Mar 16 j 12:26  -3385 Mar 30 j 04:57 -3385 Mar 30 j 05:00 -3385 Apr 01 j 03:48 -3385 Apr 12 j 23:04 -3385 Apr 12 j 23:04 -3385 Aug 19 j 17:02 -3385 Oct 10 j 02:53 -3385 Oct 17 j 02:15 -3385 Oct 18 j 03:31 -3385 Dec 16 j 00:16 -3384 Feb 18 j 14:24 -3384 May 04 j 14:51   | 5°≈44'21 6°≈09'51 8°≈56'39 15°≈ 29°≈05'58 24°≈11'00 24°≈00'46 19°≈03'34 0°  | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03<br>6.08783 AU<br>4.13929 AU<br>-1°28'18                                      | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction  | -3381 Aug 11 j 16:47 -3381 Aug 24 j 11:22 -3381 Sep 23 j 17:02 -3381 Dec 22 j 20:30 -3380 Feb 21 j 09:20 -3380 Feb 22 j 13:02 -3380 Apr 24 j 00:56 -3380 Aug 12 j 01:44 -3380 Aug 28 j 21:56 -3380 Sep 08 j 18:06  -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 23 j 01:53 -3380 Oct 19 j 20:08 -3379 Jan 22 j 22:14 -3379 Mar 24 j 19:23 -3379 Mar 26 j 02:27 -3379 May 26 j 04:25 -3379 Sep 29 j 00:32 -3379 Oct 09 j 22:48  | 20°\$49'07 23°\$37'15 0°\$\Omega\$7'15 0°\$\Omega\$10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$16 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38 0°\$\Omega\$110"\$\Omega\$37'57 6°\$\Omega\$46'20 6°\$\Omega\$36'28 1°\$\Omega\$46'20 6°\$\Omega\$36'28 1°\$\Omega\$47'46 22°\$\Omega\$43'40 22°\$\Omega\$43'40   | 1°13'34<br>1°56'42<br>4.38690 AU<br>6.36091 AU<br>1°21'18<br>1°21'22<br>1°51'58<br>4.32484 AU<br>6.27701 AU<br>1°05'49 |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde  min. Earth dist. opposition direct  evening set   | -3386 Feb 20 j 21:04 -3386 Feb 22 j 16:05 -3386 Mar 06 j 10:29 -3386 Apr 01 j 21:11 -3386 Jul 15 j 21:20 -3386 Sep 12 j 08:31 -3386 Sep 12 j 08:31 -3386 Nov 10 j 17:14 -3385 Feb 07 j 08:43 -3385 Mar 16 j 12:26 -3385 Mar 30 j 04:57 -3385 Mar 30 j 05:00 -3385 Apr 01 j 03:48 -3385 Apr 12 j 23:04 -3385 Apr 12 j 23:04 -3385 Aug 19 j 17:02 -3385 Oct 10 j 02:53 -3385 Oct 17 j 02:15 -3385 Oct 17 j 02:15 -3385 Dec 16 j 00:16 -3384 Feb 18 j 14:24 -3384 May 04 j 14:51 -3384 May 04 j 14:51   | 5°≈44'21 6°≈09'51 8°≈56'39 15°≈ 29°≈05'58 24°≈11'00 24°≈00'46 19°≈03'34 0° \times 8° \times 14'33  11°\times 24'54 11°\times 24'55 11°\times 24'55 11°\times 24'55 10°\times 35'55 0°\times 30°\times 35'55'55 10°\times 30°\times 35'55'55'55'55'55'55'55'55'55'55'55'55'5   | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03<br>6.08783 AU<br>4.13929 AU<br>-1°28'18                                      | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction min. Earth dist.   | -3381 Aug 11 j 16:47 -3381 Aug 24 j 11:22 -3381 Sep 23 j 17:02 -3381 Dec 22 j 20:30 -3380 Feb 21 j 09:20 -3380 Feb 22 j 13:02 -3380 Apr 24 j 00:56 -3380 Aug 12 j 01:44 -3380 Aug 28 j 21:56 -3380 Sep 08 j 18:06  -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 23 j 01:53 -3380 Oct 19 j 20:08 -3379 Jan 22 j 22:14 -3379 Mar 24 j 19:23 -3379 Mar 26 j 02:27 -3379 May 26 j 04:25 -3379 Oct 09 j 22:48  -3379 Oct 11 j 13:28 -3379 Oct 11 j 13:31  | 20°\$49'07 23°\$37'15 0°\$\Omega\$7'15 0°\$\Omega\$10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$16 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38 0°\$\Omega\$110°\$\Omega\$37'57 6°\$\Omega\$46'20 6°\$\Omega\$36'28 1°\$\Omega\$46'20 6°\$\Omega\$36'28 1°\$\Omega\$45'40 22°\$\Omega\$43'40 22°\$\Omega\$43'41   | 1°13'34<br>1°56'42<br>4.38690 AU<br>6.36091 AU<br>1°21'18<br>1°21'22<br>1°51'58<br>4.32484 AU<br>6.27701 AU<br>1°05'49 |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction   | -3386 Feb 20 j 21:04 -3386 Feb 22 j 16:05 -3386 Mar 06 j 10:29 -3386 Apr 01 j 21:11 -3386 Jul 15 j 21:20 -3386 Sep 12 j 08:31 -3386 Sep 12 j 08:31 -3386 Nov 10 j 17:14 -3385 Feb 07 j 08:43 -3385 Mar 16 j 12:26  -3385 Mar 30 j 04:57 -3385 Mar 30 j 05:00 -3385 Apr 01 j 03:48 -3385 Apr 12 j 23:04 -3385 Apr 12 j 23:04 -3385 Aug 19 j 17:02 -3385 Oct 10 j 02:53 -3385 Oct 17 j 02:15 -3385 Oct 18 j 03:31 -3385 Dec 16 j 00:16 -3384 Feb 18 j 14:24 -3384 May 04 j 14:51   | 5°≈44'21 6°≈09'51 8°≈56'39 15°≈ 29°≈05'58 24°≈11'00 24°≈00'46 19°≈03'34 0°  | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03<br>6.08783 AU<br>4.13929 AU<br>-1°28'18                                      | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction min. Earth dist.   | -3381 Aug 11 j 16:47 -3381 Aug 24 j 11:22 -3381 Sep 23 j 17:02 -3381 Dec 22 j 20:30 -3380 Feb 21 j 09:20 -3380 Feb 22 j 13:02 -3380 Apr 24 j 00:56 -3380 Aug 12 j 01:44 -3380 Aug 28 j 21:56 -3380 Sep 08 j 18:06  -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 23 j 01:53 -3380 Oct 19 j 20:08 -3379 Jan 22 j 22:14 -3379 Mar 24 j 19:23 -3379 Mar 26 j 02:27 -3379 Mar 26 j 02:27 -3379 Oct 09 j 22:48  -3379 Oct 11 j 13:28 -3379 Oct 11 j 13:31 -3379 Oct 24 j 01:31   | 20°\$49'07 23°\$37'15 0°\$\Omega\$7'15 0°\$\Omega\$10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$16 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38 0°\$\Omega\$110"\$\Omega\$37'57 6°\$\Omega\$46'20 6°\$\Omega\$36'28 1°\$\Omega\$46'20 6°\$\Omega\$36'28 1°\$\Omega\$47'46 22°\$\Omega\$43'40 22°\$\Omega\$43'40   | 1°13'34<br>1°56'42<br>4.38690 AU<br>6.36091 AU<br>1°21'18<br>1°21'22<br>1°51'58<br>4.32484 AU<br>6.27701 AU<br>1°05'49 |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde  min. Earth dist. opposition direct  evening set  conjunction minimum elong                                    | -3386 Feb 20 j 21:04 -3386 Feb 22 j 16:05 -3386 Mar 06 j 10:29 -3386 Apr 01 j 21:11 -3386 Jul 15 j 21:20 -3386 Sep 12 j 08:31 -3386 Sep 12 j 08:31 -3386 Nov 10 j 17:14 -3385 Feb 07 j 08:43 -3385 Mar 16 j 12:26 -3385 Mar 30 j 04:57 -3385 Mar 30 j 05:00 -3385 Apr 01 j 03:48 -3385 Apr 12 j 23:04 -3385 Apr 12 j 23:04 -3385 Aug 19 j 17:02 -3385 Oct 10 j 02:53 -3385 Oct 17 j 02:15 -3385 Oct 17 j 02:15 -3385 Dec 16 j 00:16 -3384 Feb 18 j 14:24 -3384 May 04 j 14:51 -3384 May 04 j 14:51   | 5°≈44'21 6°≈09'51 8°≈56'39 15°≈ 29°≈05'58 24°≈11'00 24°≈00'46 19°≈03'34 0°  | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03<br>6.08783 AU<br>4.13929 AU<br>-1°28'18                                      | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise   | -3381 Aug 11 j 16:47 -3381 Aug 24 j 11:22 -3381 Sep 23 j 17:02 -3381 Dec 22 j 20:30 -3380 Feb 21 j 09:20 -3380 Feb 22 j 13:02 -3380 Apr 24 j 00:56 -3380 Aug 12 j 01:44 -3380 Aug 28 j 21:56 -3380 Sep 08 j 18:06 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 23 j 01:53 -3380 Oct 19 j 20:08 -3379 Jan 22 j 22:14 -3379 Mar 24 j 19:23 -3379 Mar 26 j 02:27 -3379 Mar 26 j 02:27 -3379 Sep 29 j 00:32 -3379 Oct 11 j 13:28 -3379 Oct 11 j 13:28 -3379 Oct 11 j 13:31 -3379 Nov 13 j 01:02  | 20°\$49'07 23°\$37'15 0°\$\Omega\$7'15 0°\$\Omega\$10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$16 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38 0°\$\Omega\$10°\$\Omega\$37'57 6°\$\Omega\$46'20 6°\$\Omega\$36'28 1°\$\Omega\$47'26 19°\$\Omega\$53'06 22°\$\Omega\$21'41 22°\$\Omega\$43'40 22°\$\Omega\$43'40 0°\$\Omega\$   | 1°13'34<br>1°56'42<br>4.38690 AU<br>6.36091 AU<br>1°21'18<br>1°21'22<br>1°51'58<br>4.32484 AU<br>6.27701 AU<br>1°05'49 |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist.                    | -3386 Feb 20 j 21:04 -3386 Feb 22 j 16:05 -3386 Mar 06 j 10:29 -3386 Apr 01 j 21:11 -3386 Jul 15 j 21:20 -3386 Sep 12 j 08:31 -3386 Sep 12 j 08:31 -3386 Nov 10 j 17:14 -3385 Feb 07 j 08:43 -3385 Mar 16 j 12:26 -3385 Mar 30 j 04:57 -3385 Mar 30 j 05:00 -3385 Apr 01 j 03:48 -3385 Apr 12 j 23:04 -3385 Apr 12 j 23:04 -3385 Aug 19 j 17:02 -3385 Oct 10 j 02:53 -3385 Oct 17 j 02:15 -3385 Oct 18 j 03:31 -3385 Dec 16 j 00:16 -3384 Feb 18 j 14:24 -3384 May 04 j 14:51 -3384 May 04 j 14:51 -3384 May 04 j 14:51 -3384 May 04 j 14:54 -3384 May 04 j 14:51  | 5°≈44'21 6°≈09'51 8°≈56'39 15°≈ 29°≈05'58 24°≈11'00 24°≈00'46 19°≈03'34 0°  | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03<br>6.08783 AU<br>4.13929 AU<br>-1°28'18                                      | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise  conjunction minimum elong morning rise  retrograde   | -3381 Aug 11 j 16:47 -3381 Aug 24 j 11:22 -3381 Sep 23 j 17:02 -3381 Dec 22 j 20:30 -3380 Feb 21 j 09:20 -3380 Feb 22 j 13:02 -3380 Apr 24 j 00:56 -3380 Aug 12 j 01:44 -3380 Aug 28 j 21:56 -3380 Sep 08 j 18:06 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 23 j 01:53 -3380 Oct 19 j 20:08 -3379 Jan 22 j 22:14 -3379 Mar 24 j 19:23 -3379 Mar 26 j 02:27 -3379 May 26 j 04:25 -3379 Oct 09 j 22:48 -3379 Oct 11 j 13:28 -3379 Oct 11 j 13:31 -3379 Nov 13 j 01:02 -3378 Feb 25 j 12:42  | 20°\$49'07 23°\$37'15 0°\$\Omega\$7'15 0°\$\Omega\$10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$16 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38 0°\$\Omega\$10°\$\Omega\$3'57 6°\$\Omega\$46'20 6°\$\Omega\$36'28 1°\$\Omega\$47'26 19°\$\Omega\$53'06 22°\$\Omega\$21'41 22°\$\Omega\$43'40 22°\$\Omega\$43'40 0°\$\Omega\$13°\$\Omega\$40'12                                      | 1°13'34  1°56'42 4.38690 AU  6.36091 AU  1°21'18 1°21'22  1°51'58 4.32484 AU  6.27701 AU 1°05'49 1°05'50               |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist.                    | -3386 Feb 20 j 21:04 -3386 Feb 22 j 16:05 -3386 Mar 06 j 10:29 -3386 Apr 01 j 21:11 -3386 Jul 15 j 21:20 -3386 Sep 12 j 08:31 -3386 Sep 13 j 14:33 -3386 Nov 10 j 17:14 -3385 Feb 07 j 08:43 -3385 Mar 16 j 12:26 -3385 Mar 30 j 04:57 -3385 Mar 30 j 05:00 -3385 Apr 01 j 03:48 -3385 Apr 12 j 23:04 -3385 Oct 10 j 02:53 -3385 Oct 17 j 02:15 -3385 Oct 17 j 02:15 -3385 Oct 18 j 03:31 -3385 Oct 18 j 03:31 -3385 Dec 16 j 00:16 -3384 Feb 18 j 14:24 -3384 May 04 j 14:51 -3384 May 04 j 14:54 -3384 May 05 j 21:36 -3384 May 18 j 09:14 -3384 Jul 10 j 18:55 | 5°≈44'21 6°≈09'51 8°≈56'39 15°≈ 29°≈05'58 24°≈11'00 24°≈00'46 19°≈03'34 0°   8°   | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03<br>6.08783 AU<br>4.13929 AU<br>-1°28'18                                      | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition minimum elong morning rise  | -3381 Aug 11 j 16:47 -3381 Aug 24 j 11:22 -3381 Sep 23 j 17:02 -3381 Dec 22 j 20:30 -3380 Feb 21 j 09:20 -3380 Feb 22 j 13:02 -3380 Apr 24 j 00:56 -3380 Aug 12 j 01:44 -3380 Aug 28 j 21:56 -3380 Sep 08 j 18:06 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 23 j 01:53 -3380 Sep 23 j 01:53 -3380 Oct 19 j 20:08 -3379 Jan 22 j 22:14 -3379 Mar 24 j 19:23 -3379 Mar 26 j 02:27 -3379 May 26 j 04:25 -3379 Sep 29 j 00:32 -3379 Oct 09 j 22:48 -3379 Oct 11 j 13:28 -3379 Oct 11 j 13:31 -3379 Oct 11 j 13:31 -3379 Nov 13 j 01:02 -3378 Feb 25 j 12:42 -3378 Apr 27 j 15:51 -3378 Apr 28 j 15:02 | 20°\$49'07 23°\$37'15 0°\$\Omega\$7'15 0°\$\Omega\$10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$16 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38 0°\$\Omega\$11°\$\Omega\$3'557 6°\$\Omega\$46'20 6°\$\Omega\$36'28 1°\$\Omega\$47'26 19°\$\Omega\$53'06 22°\$\Omega\$21'41 22°\$\Omega\$43'40 22°\$\Omega\$43'40 0°\$\Omega\$13°\$\Omega\$40'12 8°\$\Omega\$47'01                   | 1°13'34  1°56'42 4.38690 AU  6.36091 AU  1°21'18 1°21'22  1°51'58 4.32484 AU  6.27701 AU 1°05'49 1°05'50               |
| minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde  min. Earth dist. opposition direct  evening set  conjunction minimum elong max. Earth dist. opposition direct | -3386 Feb 20 j 21:04 -3386 Feb 22 j 16:05 -3386 Mar 06 j 10:29 -3386 Apr 01 j 21:11 -3386 Jul 15 j 21:20 -3386 Sep 12 j 08:31 -3386 Sep 12 j 08:31 -3386 Nov 10 j 17:14 -3385 Feb 07 j 08:43 -3385 Mar 16 j 12:26 -3385 Mar 30 j 04:57 -3385 Mar 30 j 05:00 -3385 Apr 01 j 03:48 -3385 Apr 12 j 23:04 -3385 Apr 12 j 23:04 -3385 Aug 19 j 17:02 -3385 Oct 10 j 02:53 -3385 Oct 17 j 02:15 -3385 Oct 18 j 03:31 -3385 Oct 18 j 03:31 -3385 Dec 16 j 00:16 -3384 Feb 18 j 14:24 -3384 May 04 j 14:51 -3384 May 04 j 14:51 -3384 May 04 j 14:54 -3384 May 05 j 21:36 -3384 May 18 j 09:14   | 5°≈44'21 6°≈09'51 8°≈56'39 15°≈ 29°≈05'58 24°≈11'00 24°≈00'46 19°≈03'34 0°   8°   | 1°19'07<br>6.01829 AU<br>4.04737 AU<br>-1°59'10<br>-1°13'01<br>1°13'03<br>6.08783 AU<br>4.13929 AU<br>-1°28'18<br>-0°41'15<br>0°41'12<br>6.19471 AU | minimum elong morning rise  retrograde opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise  retrograde opposition minimum elong morning rise  retrograde opposition minimum elong morning rise | -3381 Aug 11 j 16:47 -3381 Aug 24 j 11:22 -3381 Sep 23 j 17:02 -3381 Dec 22 j 20:30 -3380 Feb 21 j 09:20 -3380 Feb 22 j 13:02 -3380 Apr 24 j 00:56 -3380 Aug 12 j 01:44 -3380 Aug 28 j 21:56 -3380 Sep 08 j 18:06 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 10 j 12:58 -3380 Sep 23 j 01:53 -3380 Oct 19 j 20:08 -3379 Jan 22 j 22:14 -3379 Mar 24 j 19:23 -3379 Mar 26 j 02:27 -3379 May 26 j 04:25 -3379 Oct 09 j 22:48 -3379 Oct 11 j 13:28 -3379 Oct 11 j 13:31 -3379 Nov 13 j 01:02 -3378 Feb 25 j 12:42 -3378 Apr 27 j 15:51   | 20°\$49'07 23°\$37'15 0°\$\Omega\$7'15 0°\$\Omega\$10°\$\Omega\$38'47 5°\$\Omega\$46'57 5°\$\Omega\$38'05 0°\$\Omega\$45'34 15°\$\Omega\$16 21°\$\Omega\$27'26 21°\$\Omega\$27'27 24°\$\Omega\$14'38 0°\$\Omega\$11°\$\Omega\$37'57 6°\$\Omega\$46'20 6°\$\Omega\$36'28 1°\$\Omega\$47'26 19°\$\Omega\$53'06 22°\$\Omega\$21'41 22°\$\Omega\$43'40 22°\$\Omega\$43'40 0°\$\Omega\$13°\$\Omega\$40'12 8°\$\Omega\$47'01 8°\$\Omega\$39'37 | 1°13'34  1°56'42 4.38690 AU  6.36091 AU  1°21'18 1°21'22  1°51'58 4.32484 AU  6.27701 AU 1°05'49 1°05'50               |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 3

Attention, astronomical year style is used: The year -3378 in astronomical counting style is the year 3379 BCE in historical counting style.

| Attention, astronom  | acal year style is used: Th  | ie year -33/8 i  | n astronomicai co   | unting style is the year   | 3379 BCE in historical c  | ounting style.   |   |
|--|--|--|---|--|---|--|---|
| conjunction  | -3378 Nov 12 j 13:56   | 25° <b>≙</b> 13'17   | 0°29'38   | max. Earth dist.   | -3372 May 10 j 17:24  | 20° <b>Ƴ</b> 50'34   | 6.20645 AU  |
| minimum elong  | -3378 Nov 12 j 13:58   | 25° <b>≙</b> 13'19   | 0°29'34   | morning rise   | -3372 May 23 j 06:25  | 23° <b>Y</b> 39'54   |   |
| max. Earth dist.   | -3378 Nov 11 j 14:38   | 24° <b>≏</b> 59'44   | 6.16792 AU  |  | -3372 Jun 21 j 11:07  | $9^{\circ}$ 8  |   |
| morning rise   | -3378 Nov 25 j 06:00   | 28° <b>₽</b> 10′02   |   | retrograde   | -3372 Sep 25 j 01:54  | 11° <b>8</b> 57'06   |   |
|  | -3378 Dec 03 j 05:12   | $0^{\circ}$ M  |   | opposition   | -3372 Nov 23 j 12:24  | 6° <b>8</b> 56'23  |   |
|  | -3377 Feb 22 j 21:36   | 15° <b>™</b>   |   | min. Earth dist.   | -3372 Nov 23 j 01:44  |  | 4.26117 AU  |
| retrograde   | -3377 Apr 02 j 02:48   | 17° <b>M</b> 11'54   |   | direct   | -3371 Jan 22 j 19:11  | 1° <b>8</b> 53'29  |   |
|  | -3377 May 10 j 13:09   | 15°RM  |   | asc. node  | -3371 Mar 23 j 06:44  | 6° <b>8</b> 55'36  |   |
| opposition   | -3377 Jun 02 j 02:19   | 12° <b>M</b> ₊15'37  |   | _  | -3371 May 06 j 00:47  | 15° <b>8</b>   |   |
| min. Earth dist.   | -3377 Jun 02 j 11:06   |  | 4.11374 AU  | evening set  | -3371 May 30 j 09:58  | 20° <b>8</b> 13'47   |   |
| desc. node   | -3377 Jul 22 j 17:47   | 7°M30'35   |   |  | 2271 1 12:00.00   | 220 12144  | 0000110   |
| direct   | -3377 Aug 01 j 04:38   | 7°M21'51   |   | conjunction  | -3371 Jun 13 j 00:06  | 23° <b>8</b> 13'44   |   |
|  | -3377 Oct 12 j 20:36   | 15°M   |   | minimum elong  | -3371 Jun 13 j 00:05  | 23° <b>8</b> 13'44   | 0°09'24   |
| evening set  | -3377 Dec 03 j 09:56   | 26°M12'53  |   | behind sun begin   | -3371 Jun 12 j 17:14  | 23° <b>8</b> 09'57   |   |
| agnismation  | 2277 Dec. 16 : 06:40   | 29°M15'40  | 0017144   | behind sun end<br>max. Earth dist.   | -3371 Jun 13 j 06:56<br>-3371 Jun 13 j 04:08  | 23° <b>8</b> 17'30   | 6.31128 AU  |
| conjunction  | -3377 Dec 16 j 06:40   | 29°M15'39  |   |  | -   | 26° <b>8</b> 12'21   | 6.31128 AU  |
| minimum elong<br>max. Earth dist.  | -3377 Dec 16 j 06:38<br>-3377 Dec 16 j 07:24   |  | 6.06739 AU  | morning rise   | -3371 Jun 26 j 11:54<br>-3371 Jul 14 j 01:13  | 26 <b>3</b> 12 21<br>0° <b>Ⅱ</b>   |   |
| max. Earth dist.   | -3377 Dec 10 j 07:24<br>-3377 Dec 19 j 09:22   | 0° <b>√</b>  | 0.00739 AU  | retrograde   | -3371 Oct 26 j 09:17  | 0 Ⅱ<br>13°Ⅱ40'59   |   |
| morning rise   | -3377 Dec 19 j 05:22<br>-3377 Dec 29 j 05:49   | 2° <b>∡</b> 19'55  |   | opposition   | -3371 Oct 20 j 09:17<br>-3371 Dec 25 j 02:55  | 8° <b>Ⅱ</b> 44′09  | 0044133   |
| retrograde   | -3376 May 08 j 00:51   | 22°×13'43  |   | min. Earth dist.   | -3371 Dec 25 j 02:33  | 8° <b>П</b> 42'33  | 4.35182 AU  |
| opposition   | -3376 Jul 07 j 16:15   | 17° × 13'33  | -1°01'30  | direct   | -3370 Feb 24 j 15:15  | 3° <b>Ⅱ</b> 40′29  | 4.33162 AC  |
| min. Earth dist.   | -3376 Jul 07 j 05:45   |  | 4.03219 AU  | evening set  | -3370 Jul 02 j 10:45  | 21° <b>II</b> 41'16  |   |
| direct   | -3376 Sep 04 j 10:44   | 12°×720'30   | 4.03217 AC  | evening set  | -5570 Jul 02 j 10.45  | 21 11 10   |   |
| uncer  | -3376 Dec 31 j 04:50   | 0°중  |   | conjunction  | -3370 Jul 15 j 16:29  | 24° <b>∏</b> 34'51   | 0°49'59   |
| evening set  | -3375 Jan 06 j 17:46   | 1° <b>る</b> 32'44  |   | minimum elong  | -3370 Jul 15 j 16:26  | 24° <b>I</b> 34'49   | 0°50'06   |
| evening sec  | 3373 Juli 00 j 17.10   | 1 032 11   |   | max. Earth dist.   | -3370 Jul 14 j 21:34  | 24° <b>∏</b> 24'29   | 6.38066 AU  |
| conjunction  | -3375 Jan 19 j 21:28   | 4° <b>ප</b> 41'00  | -0°59'56  | morning rise   | -3370 Jul 28 j 18:49  | 27° <b>I</b> I26'46  | 0.50000110  |
| minimum elong  | -3375 Jan 19 j 21:25   | 4° <b>ප</b> 40'58  |   |  | -3370 Aug 09 j 15:07  | 0ංම<br>  |   |
| max. Earth dist.   | -3375 Jan 20 j 23:41   | 4° <b>ප</b> 56'40  |   | retrograde   | -3370 Nov 26 j 04:15  | 14°529'26  |   |
| morning rise   | -3375 Feb 02 j 04:33   | 7° <b>る</b> 51'04  |   | opposition   | -3369 Jan 25 j 07:32  |  | 1°34'35   |
| retrograde   | -3375 Jun 14 j 08:37   | 28° <b>ප</b> 11'10   |   | min. Earth dist.   | -3369 Jan 26 j 02:56  | 9° <b>5</b> 29'38  | 4.39638 AU  |
| min. Earth dist.   | -3375 Aug 12 j 10:35   |  | 4.00965 AU  | direct   | -3369 Mar 28 j 17:09  | 4° <b>©</b> 32'59  |   |
| opposition   | -3375 Aug 13 j 11:26   | 23° <b>る</b> 07'31   | -1°50'37  | evening set  | -3369 Aug 03 j 04:28  | 22°524'40  |   |
| direct   | -3375 Oct 10 j 13:19   | 18° <b>る</b> 12'56   |   | max. Earth dist.   | -3369 Aug 14 j 12:08  | 24°953'32  | 6.39576 AU  |
|  | -3374 Jan 10 j 06:51   | 0° <b>≈</b>  |   |  |   |  |   |
| evening set  | -3374 Feb 12 j 11:29   | 7° <b>≈</b> 32'57  |   | conjunction  | -3369 Aug 16 j 01:03  | 25° <b>©</b> 13'50   | 1°15'53   |
|  |  |  |   | minimum elong  | -3369 Aug 16 j 01:01  | 25° <b>©</b> 13'49   | 1°16'00   |
| conjunction  | -3374 Feb 25 j 22:45   | 10° <b>≈</b> 43'55   | -1°19'59  | morning rise   | -3369 Aug 28 j 18:42  | 28°601'33  |   |
| minimum elong  | -3374 Feb 25 j 22:44   | 10° <b>≈</b> 43'55   | 1920/05   |  |   | 20 -01 33  |   |
| max. Earth dist.   |  | 10   | 1°20'05   |  | -3369 Sep 06 j 20:54  | $0^{\circ}\Omega$  |   |
| morning rise   | -3374 Feb 27 j 19:52   | 11°≈10'36  | 6.02319 AU  |  | -3369 Sep 06 j 20:54<br>-3369 Dec 20 j 13:49  | 0° <b>Ω</b><br>15° <b>Ω</b>  |   |
|  | -3374 Mar 11 j 12:52   |  |   | retrograde   |   | 0°Ω<br>15°Ω<br>15°Ω04'18   |   |
|  | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47   | 11°≈10'36<br>13°≈56'19<br>15°≈   |   | retrograde   | -3369 Dec 20 j 13:49<br>-3369 Dec 27 j 06:55<br>-3368 Jan 03 j 00:07  | 0° N<br>15° N<br>15° N04'18<br>15° RN  |   |
|  | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47<br>-3374 May 30 j 03:42   | 11°≈10'36<br>13°≈56'19<br>15°≈<br>0°¥  |   | opposition   | -3369 Dec 20 j 13:49<br>-3369 Dec 27 j 06:55<br>-3368 Jan 03 j 00:07<br>-3368 Feb 25 j 20:38  | 0°N<br>15°N<br>15°N04'18<br>15°RN<br>10°N12'34   | 1°58'04   |
| retrograde   | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47<br>-3374 May 30 j 03:42<br>-3374 Jul 20 j 18:51   | 11°≈10'36<br>13°≈56'19<br>15°≈<br>0° <del>X</del><br>4° <del>X</del> 01'56   |   | opposition<br>min. Earth dist.   | -3369 Dec 20 j 13:49<br>-3369 Dec 27 j 06:55<br>-3368 Jan 03 j 00:07<br>-3368 Feb 25 j 20:38<br>-3368 Feb 27 j 01:43  | 0°N<br>15°N<br>15°N04'18<br>15°RN<br>10°N12'34<br>10°N03'16  | 1°58'04<br>4.38255 AU   |
| C  | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47<br>-3374 May 30 j 03:42<br>-3374 Jul 20 j 18:51<br>-3374 Sep 10 j 14:57   | 11°≈10'36<br>13°≈56'19<br>15°≈<br>0° €<br>4° € 01'56<br>30° ₹≈   | 6.02319 AU  | opposition   | -3369 Dec 20 j 13:49<br>-3369 Dec 27 j 06:55<br>-3368 Jan 03 j 00:07<br>-3368 Feb 25 j 20:38<br>-3368 Feb 27 j 01:43<br>-3368 Apr 28 j 13:03  | 0°Ω<br>15°Ω<br>15°Ω04'18<br>15°RΩ<br>10°Ω12'34<br>10°Ω03'16<br>5°Ω11'24  |   |
| min. Earth dist.   | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47<br>-3374 May 30 j 03:42<br>-3374 Jul 20 j 18:51<br>-3374 Sep 10 j 14:57<br>-3374 Sep 17 j 04:20   | 11°≈10'36<br>13°≈56'19<br>15°≈<br>0° ₩<br>4° ₩ 01'56<br>30° №≈<br>29°≈06'47  | 6.02319 AU<br>4.05516 AU  | opposition<br>min. Earth dist.<br>direct   | -3369 Dec 20 j 13:49<br>-3369 Dec 27 j 06:55<br>-3368 Jan 03 j 00:07<br>-3368 Feb 25 j 20:38<br>-3368 Feb 27 j 01:43<br>-3368 Apr 28 j 13:03<br>-3368 Jul 25 j 16:00  | 0° N<br>15° N<br>15° N04'18<br>15° R N<br>10° N12'34<br>10° N03'16<br>5° N11'24<br>15° N   |   |
| min. Earth dist.   | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47<br>-3374 May 30 j 03:42<br>-3374 Jul 20 j 18:51<br>-3374 Sep 10 j 14:57<br>-3374 Sep 17 j 04:20<br>-3374 Sep 18 j 09:44   | 11°≈10'36<br>13°≈56'19<br>15°≈<br>0° ₩<br>4° ₩ 01'56<br>30° R≈<br>29°≈06'47<br>28°≈56'46   | 6.02319 AU<br>4.05516 AU  | opposition<br>min. Earth dist.<br>direct   | -3369 Dec 20 j 13:49<br>-3369 Dec 27 j 06:55<br>-3368 Jan 03 j 00:07<br>-3368 Feb 25 j 20:38<br>-3368 Feb 27 j 01:43<br>-3368 Apr 28 j 13:03<br>-3368 Jul 25 j 16:00<br>-3368 Sep 02 j 05:48  | 0° N<br>15° N<br>15° N04'18<br>15° RN<br>10° N12'34<br>10° N03'16<br>5° N11'24<br>15° N<br>23° N05'41  | 4.38255 AU  |
| min. Earth dist.   | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47<br>-3374 May 30 j 03:42<br>-3374 Jul 20 j 18:51<br>-3374 Sep 10 j 14:57<br>-3374 Sep 17 j 04:20<br>-3374 Sep 18 j 09:44<br>-3374 Nov 15 j 13:11   | 11°≈10'36<br>13°≈56'19<br>15°≈<br>0° ₩<br>4° ₩01'56<br>30° R≈<br>29°≈06'47<br>28°≈56'46<br>23°≈59'11   | 6.02319 AU<br>4.05516 AU  | opposition<br>min. Earth dist.<br>direct   | -3369 Dec 20 j 13:49<br>-3369 Dec 27 j 06:55<br>-3368 Jan 03 j 00:07<br>-3368 Feb 25 j 20:38<br>-3368 Feb 27 j 01:43<br>-3368 Apr 28 j 13:03<br>-3368 Jul 25 j 16:00  | 0° N<br>15° N<br>15° N04'18<br>15° RN<br>10° N12'34<br>10° N03'16<br>5° N11'24<br>15° N  |   |
| min. Earth dist.<br>opposition<br>direct   | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47<br>-3374 May 30 j 03:42<br>-3374 Jul 20 j 18:51<br>-3374 Sep 10 j 14:57<br>-3374 Sep 17 j 04:20<br>-3374 Nov 15 j 13:11<br>-3373 Jan 17 j 14:09   | 11°≈10'36<br>13°≈56'19<br>15°≈<br>0° ₩<br>4° ₩01'56<br>30° R≈<br>29°≈06'47<br>28°≈56'46<br>23°≈59'11<br>0° ₩   | 6.02319 AU<br>4.05516 AU  | opposition<br>min. Earth dist.<br>direct<br>evening set<br>max. Earth dist.  | -3369 Dec 20 j 13:49<br>-3369 Dec 27 j 06:55<br>-3368 Jan 03 j 00:07<br>-3368 Feb 25 j 20:38<br>-3368 Feb 27 j 01:43<br>-3368 Apr 28 j 13:03<br>-3368 Jul 25 j 16:00<br>-3368 Sep 02 j 05:48<br>-3368 Sep 13 j 02:20  | 0° N<br>15° N<br>15° N04'18<br>15° RN<br>10° N12'34<br>10° N03'16<br>5° N11'24<br>15° N<br>23° N05'41<br>25° N30'27  | 4.38255 AU<br>6.35307 AU  |
| min. Earth dist.   | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47<br>-3374 May 30 j 03:42<br>-3374 Jul 20 j 18:51<br>-3374 Sep 10 j 14:57<br>-3374 Sep 17 j 04:20<br>-3374 Sep 18 j 09:44<br>-3374 Nov 15 j 13:11   | 11°≈10'36<br>13°≈56'19<br>15°≈<br>0° ₩<br>4° ₩01'56<br>30° R≈<br>29°≈06'47<br>28°≈56'46<br>23°≈59'11   | 6.02319 AU<br>4.05516 AU  | opposition min. Earth dist. direct evening set max. Earth dist. conjunction  | -3369 Dec 20 j 13:49<br>-3369 Dec 27 j 06:55<br>-3368 Jan 03 j 00:07<br>-3368 Feb 25 j 20:38<br>-3368 Feb 27 j 01:43<br>-3368 Apr 28 j 13:03<br>-3368 Jul 25 j 16:00<br>-3368 Sep 02 j 05:48<br>-3368 Sep 13 j 02:20  | 0° N<br>15° N<br>15° N04'18<br>15° RN<br>10° N12'34<br>10° N03'16<br>5° N11'24<br>15° N<br>23° N05'41<br>25° N30'27  | 4.38255 AU<br>6.35307 AU<br>1°20'31   |
| min. Earth dist. opposition direct evening set   | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47<br>-3374 May 30 j 03:42<br>-3374 Jul 20 j 18:51<br>-3374 Sep 10 j 14:57<br>-3374 Sep 17 j 04:20<br>-3374 Sep 18 j 09:44<br>-3374 Nov 15 j 13:11<br>-3373 Jan 17 j 14:09<br>-3373 Mar 21 j 13:04   | 11°≈10'36<br>13°≈56'19<br>15°≈<br>0° ₩<br>4° ₩01'56<br>30° R≈<br>29°≈06'47<br>28°≈56'46<br>23°≈59'11<br>0° ₩<br>13° ₩08'50                             | 6.02319 AU<br>4.05516 AU<br>-1°57'20  | opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong  | -3369 Dec 20 j 13:49<br>-3369 Dec 27 j 06:55<br>-3368 Jan 03 j 00:07<br>-3368 Feb 25 j 20:38<br>-3368 Feb 27 j 01:43<br>-3368 Apr 28 j 13:03<br>-3368 Jul 25 j 16:00<br>-3368 Sep 02 j 05:48<br>-3368 Sep 13 j 02:20<br>-3368 Sep 14 j 20:23<br>-3368 Sep 14 j 20:24  | 0° Ω<br>15° Ω<br>15° Ω04'18<br>15° RΩ<br>10° Ω12'34<br>10° Ω03'16<br>5° Ω11'24<br>15° Ω<br>23° Ω05'41<br>25° Ω30'27<br>25° Ω53'55<br>25° Ω53'55  | 4.38255 AU<br>6.35307 AU  |
| min. Earth dist. opposition direct evening set conjunction   | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47<br>-3374 May 30 j 03:42<br>-3374 Jul 20 j 18:51<br>-3374 Sep 10 j 14:57<br>-3374 Sep 17 j 04:20<br>-3374 Sep 18 j 09:44<br>-3374 Nov 15 j 13:11<br>-3373 Jan 17 j 14:09<br>-3373 Mar 21 j 13:04   | 11°≈10'36<br>13°≈56'19<br>15°≈<br>0° ℋ<br>4° ℋ01'56<br>30° ℞≈<br>29°≈06'47<br>28°≈56'46<br>23°≈59'11<br>0° ℋ<br>13° ℋ08'50                             | 6.02319 AU<br>4.05516 AU<br>-1°57'20<br>-1°09'56                                  | opposition min. Earth dist. direct evening set max. Earth dist. conjunction  | -3369 Dec 20 j 13:49<br>-3369 Dec 27 j 06:55<br>-3368 Jan 03 j 00:07<br>-3368 Feb 25 j 20:38<br>-3368 Feb 27 j 01:43<br>-3368 Apr 28 j 13:03<br>-3368 Jul 25 j 16:00<br>-3368 Sep 02 j 05:48<br>-3368 Sep 13 j 02:20<br>-3368 Sep 14 j 20:23<br>-3368 Sep 14 j 20:24<br>-3368 Sep 27 j 08:43  | 0° \( \Omega\) 15° \( \Omega\) 15° \( \Omega\) 15° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 11'24 15° \( \Omega\) 23° \( \Omega\) 23° \( \Omega\) 25° \( \Omega\)   | 4.38255 AU<br>6.35307 AU<br>1°20'31   |
| min. Earth dist. opposition direct evening set conjunction minimum elong   | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47<br>-3374 May 30 j 03:42<br>-3374 Jul 20 j 18:51<br>-3374 Sep 10 j 14:57<br>-3374 Sep 17 j 04:20<br>-3374 Sep 18 j 09:44<br>-3374 Nov 15 j 13:11<br>-3373 Jan 17 j 14:09<br>-3373 Mar 21 j 13:04<br>-3373 Apr 04 j 06:03<br>-3373 Apr 04 j 06:07   | 11°≈10'36 13°≈56'19 15°≈ 0° ₩ 4° ₩01'56 30° R≈ 29°≈06'47 28°≈56'46 23°≈59'11 0° ₩ 13° ₩08'50 16° ₩19'00 16° ₩19'02                                     | 6.02319 AU 4.05516 AU -1°57'20 -1°09'56 1°09'59                                   | opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise   | -3369 Dec 20 j 13:49<br>-3369 Dec 27 j 06:55<br>-3368 Jan 03 j 00:07<br>-3368 Feb 25 j 20:38<br>-3368 Feb 27 j 01:43<br>-3368 Apr 28 j 13:03<br>-3368 Jul 25 j 16:00<br>-3368 Sep 02 j 05:48<br>-3368 Sep 13 j 02:20<br>-3368 Sep 14 j 20:23<br>-3368 Sep 14 j 20:24<br>-3368 Sep 27 j 08:43<br>-3368 Oct 03 j 07:22  | 0° N<br>15° N<br>15° N04'18<br>15° RN<br>10° N12'34<br>10° N03'16<br>5° N11'24<br>15° N<br>23° N05'41<br>25° N30'27<br>25° N53'55<br>25° N53'55<br>28° N41'13<br>0° M  | 4.38255 AU<br>6.35307 AU<br>1°20'31   |
| min. Earth dist. opposition direct evening set conjunction minimum elong max. Earth dist.  | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47<br>-3374 May 30 j 03:42<br>-3374 Jul 20 j 18:51<br>-3374 Sep 10 j 14:57<br>-3374 Sep 17 j 04:20<br>-3374 Sep 18 j 09:44<br>-3374 Nov 15 j 13:11<br>-3373 Jan 17 j 14:09<br>-3373 Mar 21 j 13:04<br>-3373 Apr 04 j 06:03<br>-3373 Apr 04 j 06:07<br>-3373 Apr 06 j 02:14   | 11°≈10'36 13°≈56'19 15°≈ 0°  | 6.02319 AU<br>4.05516 AU<br>-1°57'20<br>-1°09'56                                  | opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde  | -3369 Dec 20 j 13:49 -3369 Dec 27 j 06:55 -3368 Jan 03 j 00:07 -3368 Feb 25 j 20:38 -3368 Feb 27 j 01:43 -3368 Apr 28 j 13:03 -3368 Jul 25 j 16:00 -3368 Sep 02 j 05:48 -3368 Sep 13 j 02:20 -3368 Sep 14 j 20:23 -3368 Sep 14 j 20:24 -3368 Sep 27 j 08:43 -3368 Oct 03 j 07:22 -3367 Jan 27 j 10:52   | 0° N 15° N 15° N04'18 15° RN 10° N12'34 10° N03'16 5° N11'24 15° N 23° N05'41 25° N30'27 25° N53'55 28° N41'13 0° m 16° m08'48   | 4.38255 AU 6.35307 AU 1°20'31 1°20'35   |
| min. Earth dist. opposition direct evening set conjunction minimum elong   | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47<br>-3374 May 30 j 03:42<br>-3374 Jul 20 j 18:51<br>-3374 Sep 10 j 14:57<br>-3374 Sep 17 j 04:20<br>-3374 Sep 18 j 09:44<br>-3374 Nov 15 j 13:11<br>-3373 Jan 17 j 14:09<br>-3373 Apr 04 j 06:03<br>-3373 Apr 04 j 06:07<br>-3373 Apr 06 j 02:14<br>-3373 Apr 18 j 00:47   | 11°≈10'36 13°≈56'19 15°≈ 0°  | 6.02319 AU 4.05516 AU -1°57'20 -1°09'56 1°09'59                                   | opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde opposition   | -3369 Dec 20 j 13:49 -3369 Dec 27 j 06:55 -3368 Jan 03 j 00:07 -3368 Feb 25 j 20:38 -3368 Feb 27 j 01:43 -3368 Apr 28 j 13:03 -3368 Jul 25 j 16:00 -3368 Sep 02 j 05:48 -3368 Sep 13 j 02:20 -3368 Sep 14 j 20:23 -3368 Sep 14 j 20:24 -3368 Sep 27 j 08:43 -3368 Oct 03 j 07:22 -3367 Jan 27 j 10:52 -3367 Mar 29 j 10:08  | 0° N 15° N04'18 15° N04'18 15° N12'34 10° N12'34 10° N03'16 5° N11'24 15° N 23° N05'41 25° N30'27 25° N53'55 28° N41'13 0° m 16° m 08'48 11° m 17'04   | 4.38255 AU 6.35307 AU 1°20'31 1°20'35   |
| min. Earth dist. opposition direct evening set conjunction minimum elong max. Earth dist. morning rise   | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47<br>-3374 May 30 j 03:42<br>-3374 Jul 20 j 18:51<br>-3374 Sep 10 j 14:57<br>-3374 Sep 17 j 04:20<br>-3374 Sep 18 j 09:44<br>-3374 Nov 15 j 13:11<br>-3373 Jan 17 j 14:09<br>-3373 Mar 21 j 13:04<br>-3373 Apr 04 j 06:03<br>-3373 Apr 04 j 06:07<br>-3373 Apr 06 j 02:14<br>-3373 Apr 18 j 00:47<br>-3373 Jun 05 j 22:30   | 11°≈10'36 13°≈56'19 15°≈ 0° ₩ 4° ₩01'56 30° №≈ 29°≈06'47 28°≈56'46 23°≈59'11 0° ₩ 13° ₩08'50 16° ₩19'00 16° ₩19'02 16° ₩44'34 19° ₩29'48 0° Ψ          | 6.02319 AU 4.05516 AU -1°57'20 -1°09'56 1°09'59                                   | opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde opposition min. Earth dist.  | -3369 Dec 20 j 13:49 -3369 Dec 27 j 06:55 -3368 Jan 03 j 00:07 -3368 Feb 25 j 20:38 -3368 Feb 27 j 01:43 -3368 Apr 28 j 13:03 -3368 Jul 25 j 16:00 -3368 Sep 02 j 05:48 -3368 Sep 13 j 02:20 -3368 Sep 14 j 20:23 -3368 Sep 14 j 20:24 -3368 Sep 27 j 08:43 -3368 Oct 03 j 07:22 -3367 Jan 27 j 10:52 -3367 Mar 29 j 10:08 -3367 Mar 30 j 16:09   | 0° N 15° N04'18 15° N04'18 15° N12'34 10° N12'34 10° N03'16 5° N11'24 15° N 23° N05'41 25° N30'27 25° N53'55 28° N41'13 0° M 16° M08'48 11° M17'04 11° M07'32  | 4.38255 AU 6.35307 AU 1°20'31 1°20'35   |
| min. Earth dist. opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde  | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47<br>-3374 May 30 j 03:42<br>-3374 Jul 20 j 18:51<br>-3374 Sep 10 j 14:57<br>-3374 Sep 17 j 04:20<br>-3374 Sep 18 j 09:44<br>-3374 Nov 15 j 13:11<br>-3373 Jan 17 j 14:09<br>-3373 Apr 04 j 06:03<br>-3373 Apr 04 j 06:07<br>-3373 Apr 06 j 02:14<br>-3373 Apr 18 j 00:47<br>-3373 Jun 05 j 22:30<br>-3373 Aug 24 j 07:38   | 11°≈10'36 13°≈56'19 15°≈ 0° ₩ 4° ₩01'56 30° R≈ 29°≈06'47 28°≈56'46 23°≈59'11 0° ₩ 13° ₩08'50 16° ₩19'02 16° ₩44'34 19° ₩29'48 0° Ψ 8° Ψ46'39           | 6.02319 AU 4.05516 AU -1°57'20 -1°09'56 1°09'59 6.09778 AU                        | opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct  | -3369 Dec 20 j 13:49 -3369 Dec 27 j 06:55 -3368 Jan 03 j 00:07 -3368 Feb 25 j 20:38 -3368 Feb 27 j 01:43 -3368 Apr 28 j 13:03 -3368 Jul 25 j 16:00 -3368 Sep 02 j 05:48 -3368 Sep 13 j 02:20 -3368 Sep 14 j 20:23 -3368 Sep 14 j 20:24 -3368 Sep 27 j 08:43 -3368 Oct 03 j 07:22 -3367 Jan 27 j 10:52 -3367 Mar 29 j 10:08 -3367 Mar 30 j 16:09 -3367 May 30 j 16:00  | 0° N 15° N04'18 15° N04'18 15° N0 10° N12'34 10° N03'16 5° N11'24 15° N 23° N05'41 25° N30'27 25° N53'55 28° N41'13 0° M 16° M08'48 11° M17'04 11° M07'32 6° M18'34  | 4.38255 AU 6.35307 AU 1°20'31 1°20'35   |
| min. Earth dist. opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde opposition                                     | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47<br>-3374 May 30 j 03:42<br>-3374 Jul 20 j 18:51<br>-3374 Sep 10 j 14:57<br>-3374 Sep 17 j 04:20<br>-3374 Sep 18 j 09:44<br>-3374 Nov 15 j 13:11<br>-3373 Jan 17 j 14:09<br>-3373 Mar 21 j 13:04<br>-3373 Apr 04 j 06:03<br>-3373 Apr 04 j 06:07<br>-3373 Apr 06 j 02:14<br>-3373 Apr 18 j 00:47<br>-3373 Jun 05 j 22:30<br>-3373 Aug 24 j 07:38<br>-3373 Oct 22 j 18:19   | 11°≈10'36 13°≈56'19 15°≈ 0° ₩ 4° ₩01'56 30° R≈ 29°≈06'47 28°≈56'46 23°≈59'11 0° ₩ 13° ₩08'50 16° ₩19'02 16° ₩44'34 19° ₩29'48 0° Ψ 8° Ψ46'39 3° Ψ42'38 | 6.02319 AU  4.05516 AU -1°57'20  -1°09'56 1°09'59 6.09778 AU                      | opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set  | -3369 Dec 20 j 13:49 -3369 Dec 27 j 06:55 -3368 Jan 03 j 00:07 -3368 Feb 25 j 20:38 -3368 Feb 27 j 01:43 -3368 Apr 28 j 13:03 -3368 Jul 25 j 16:00 -3368 Sep 02 j 05:48 -3368 Sep 13 j 02:20 -3368 Sep 14 j 20:23 -3368 Sep 14 j 20:24 -3368 Sep 27 j 08:43 -3368 Oct 03 j 07:22 -3367 Jan 27 j 10:52 -3367 Mar 29 j 10:08 -3367 Mar 30 j 16:09 -3367 May 30 j 16:00 -3367 Oct 03 j 09:43   | 0° \( \Omega\) 15° \( \Omega\) 15° \( \Omega\) 15° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 11'24 15° \( \Omega\) 23° \( \Omega\) 23° \( \Omega\) 23° \( \Omega\) 25° \( \O | 4.38255 AU  6.35307 AU  1°20'31 1°20'35  1°48'31 4.31384 AU                     |
| min. Earth dist. opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde  | -3374 Mar 11 j 12:52 -3374 Mar 16 j 01:47 -3374 May 30 j 03:42 -3374 Jul 20 j 18:51 -3374 Sep 10 j 14:57 -3374 Sep 17 j 04:20 -3374 Sep 18 j 09:44 -3374 Nov 15 j 13:11 -3373 Jan 17 j 14:09 -3373 Mar 21 j 13:04 -3373 Apr 04 j 06:03 -3373 Apr 04 j 06:07 -3373 Apr 06 j 02:14 -3373 Apr 18 j 00:47 -3373 Jun 05 j 22:30 -3373 Aug 24 j 07:38 -3373 Oct 22 j 18:19 -3373 Oct 21 j 18:07  | 11°≈10'36 13°≈56'19 15°≈ 0°  | 6.02319 AU 4.05516 AU -1°57'20 -1°09'56 1°09'59 6.09778 AU                        | opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct  | -3369 Dec 20 j 13:49 -3369 Dec 27 j 06:55 -3368 Jan 03 j 00:07 -3368 Feb 25 j 20:38 -3368 Feb 27 j 01:43 -3368 Apr 28 j 13:03 -3368 Jul 25 j 16:00 -3368 Sep 02 j 05:48 -3368 Sep 13 j 02:20 -3368 Sep 14 j 20:23 -3368 Sep 14 j 20:24 -3368 Sep 27 j 08:43 -3368 Oct 03 j 07:22 -3367 Jan 27 j 10:52 -3367 Mar 29 j 10:08 -3367 Mar 30 j 16:09 -3367 May 30 j 16:00  | 0° N 15° N04'18 15° N04'18 15° N0 10° N12'34 10° N03'16 5° N11'24 15° N 23° N05'41 25° N30'27 25° N53'55 28° N41'13 0° M 16° M08'48 11° M17'04 11° M07'32 6° M18'34  | 4.38255 AU 6.35307 AU 1°20'31 1°20'35   |
| min. Earth dist. opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde opposition min. Earth dist.                    | -3374 Mar 11 j 12:52<br>-3374 Mar 16 j 01:47<br>-3374 May 30 j 03:42<br>-3374 Jul 20 j 18:51<br>-3374 Sep 10 j 14:57<br>-3374 Sep 17 j 04:20<br>-3374 Sep 18 j 09:44<br>-3374 Nov 15 j 13:11<br>-3373 Jan 17 j 14:09<br>-3373 Mar 21 j 13:04<br>-3373 Apr 04 j 06:03<br>-3373 Apr 04 j 06:07<br>-3373 Apr 06 j 02:14<br>-3373 Apr 18 j 00:47<br>-3373 Jun 05 j 22:30<br>-3373 Aug 24 j 07:38<br>-3373 Oct 22 j 18:19<br>-3373 Oct 21 j 18:07<br>-3373 Nov 22 j 15:28 | 11°≈10'36 13°≈56'19 15°≈ 0°  | 6.02319 AU  4.05516 AU -1°57'20  -1°09'56 1°09'59 6.09778 AU                      | opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set max. Earth dist.   | -3369 Dec 20 j 13:49 -3369 Dec 27 j 06:55 -3368 Jan 03 j 00:07 -3368 Feb 25 j 20:38 -3368 Feb 27 j 01:43 -3368 Apr 28 j 13:03 -3368 Jul 25 j 16:00 -3368 Sep 02 j 05:48 -3368 Sep 13 j 02:20 -3368 Sep 14 j 20:23 -3368 Sep 14 j 20:24 -3368 Sep 27 j 08:43 -3368 Oct 03 j 07:22 -3367 Mar 29 j 10:08 -3367 Mar 30 j 16:09 -3367 May 30 j 16:00 -3367 Oct 03 j 09:43 -3367 Oct 14 j 08:42   | 0° \( \Omega\) 15° \( \Omega\) 15° \( \Omega\) 15° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 11'24 15° \( \Omega\) 23° \( \Omega\) 23° \( \Omega\) 25° \( \O | 4.38255 AU  6.35307 AU  1°20'31 1°20'35  1°48'31 4.31384 AU  6.26366 AU         |
| min. Earth dist. opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde opposition                                     | -3374 Mar 11 j 12:52 -3374 Mar 16 j 01:47 -3374 May 30 j 03:42 -3374 Jul 20 j 18:51 -3374 Sep 10 j 14:57 -3374 Sep 17 j 04:20 -3374 Sep 18 j 09:44 -3374 Nov 15 j 13:11 -3373 Jan 17 j 14:09 -3373 Mar 21 j 13:04 -3373 Apr 04 j 06:03 -3373 Apr 04 j 06:07 -3373 Apr 06 j 02:14 -3373 Apr 18 j 00:47 -3373 Apr 18 j 00:47 -3373 Aug 24 j 07:38 -3373 Oct 22 j 18:19 -3373 Oct 21 j 18:07 -3373 Nov 22 j 15:28 -3373 Dec 20 j 17:53                                  | 11°≈10'36 13°≈56'19 15°≈ 0°  | 6.02319 AU  4.05516 AU -1°57'20  -1°09'56 1°09'59 6.09778 AU                      | opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set max. Earth dist.   | -3369 Dec 20 j 13:49 -3369 Dec 27 j 06:55 -3368 Jan 03 j 00:07 -3368 Feb 25 j 20:38 -3368 Feb 27 j 01:43 -3368 Apr 28 j 13:03 -3368 Jul 25 j 16:00 -3368 Sep 02 j 05:48 -3368 Sep 13 j 02:20 -3368 Sep 14 j 20:23 -3368 Sep 14 j 20:23 -3368 Sep 14 j 20:24 -3368 Sep 27 j 08:43 -3368 Oct 03 j 07:22 -3367 Mar 29 j 10:08 -3367 Mar 30 j 16:09 -3367 Oct 03 j 09:43 -3367 Oct 15 j 22:34   | 0° \( \Omega\) 15° \( \Omega\) 15° \( \Omega\) 15° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 11'24 15° \( \Omega\) 23° \( \Omega\) 23° \( \Omega\) 25° \( \Omega\) 26° \( \Omega\) 27° \( \O | 4.38255 AU  6.35307 AU  1°20'31 1°20'35  1°48'31 4.31384 AU  6.26366 AU 1°01'51 |
| min. Earth dist. opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde opposition min. Earth dist. direct             | -3374 Mar 11 j 12:52 -3374 Mar 16 j 01:47 -3374 May 30 j 03:42 -3374 Jul 20 j 18:51 -3374 Sep 10 j 14:57 -3374 Sep 17 j 04:20 -3374 Sep 18 j 09:44 -3374 Nov 15 j 13:11 -3373 Jan 17 j 14:09 -3373 Apr 04 j 06:03 -3373 Apr 04 j 06:07 -3373 Apr 06 j 02:14 -3373 Apr 18 j 00:47 -3373 Jun 05 j 22:30 -3373 Apr 22 j 18:07 -3373 Nov 22 j 15:28 -3373 Dec 20 j 17:53 -3372 Jan 18 j 04:56  | 11°≈10'36 13°≈56'19 15°≈ 0°  | 6.02319 AU  4.05516 AU -1°57'20  -1°09'56 1°09'59 6.09778 AU                      | opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set max. Earth dist.   | -3369 Dec 20 j 13:49 -3369 Dec 27 j 06:55 -3368 Jan 03 j 00:07 -3368 Feb 25 j 20:38 -3368 Feb 27 j 01:43 -3368 Apr 28 j 13:03 -3368 Jul 25 j 16:00 -3368 Sep 02 j 05:48 -3368 Sep 13 j 02:20 -3368 Sep 14 j 20:23 -3368 Sep 14 j 20:24 -3368 Sep 27 j 08:43 -3368 Oct 03 j 07:22 -3367 Mar 29 j 10:08 -3367 Mar 30 j 16:09 -3367 Oct 03 j 09:43 -3367 Oct 15 j 22:34 -3367 Oct 15 j 22:34   | 0° \( \Omega\) 15° \( \Omega\) 15° \( \Omega\) 15° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 11'24 15° \( \Omega\) 23° \( \Omega\) 23° \( \Omega\) 25° \( \Omega\) 26° \( \Omega\) 26° \( \Omega\) 26° \( \Omega\) 27° \( \O | 4.38255 AU  6.35307 AU  1°20'31 1°20'35  1°48'31 4.31384 AU  6.26366 AU         |
| min. Earth dist. opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde opposition min. Earth dist.                    | -3374 Mar 11 j 12:52 -3374 Mar 16 j 01:47 -3374 May 30 j 03:42 -3374 Jul 20 j 18:51 -3374 Sep 10 j 14:57 -3374 Sep 17 j 04:20 -3374 Sep 18 j 09:44 -3374 Nov 15 j 13:11 -3373 Jan 17 j 14:09 -3373 Mar 21 j 13:04 -3373 Apr 04 j 06:03 -3373 Apr 04 j 06:07 -3373 Apr 06 j 02:14 -3373 Apr 18 j 00:47 -3373 Apr 18 j 00:47 -3373 Aug 24 j 07:38 -3373 Oct 22 j 18:19 -3373 Oct 21 j 18:07 -3373 Nov 22 j 15:28 -3373 Dec 20 j 17:53                                  | 11°≈10'36 13°≈56'19 15°≈ 0°  | 6.02319 AU  4.05516 AU -1°57'20  -1°09'56 1°09'59 6.09778 AU                      | opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set max. Earth dist.  conjunction minimum elong              | -3369 Dec 20 j 13:49 -3369 Dec 27 j 06:55 -3368 Jan 03 j 00:07 -3368 Feb 25 j 20:38 -3368 Feb 27 j 01:43 -3368 Apr 28 j 13:03 -3368 Jul 25 j 16:00 -3368 Sep 02 j 05:48 -3368 Sep 13 j 02:20 -3368 Sep 14 j 20:23 -3368 Sep 14 j 20:24 -3368 Sep 27 j 08:43 -3368 Oct 03 j 07:22 -3367 Mar 29 j 10:08 -3367 Mar 30 j 16:00 -3367 Oct 15 j 22:34 -3367 Oct 15 j 22:34 -3367 Oct 15 j 22:37 -3367 Oct 27 j 20:11  | 0° \( \Omega\) 15° \( \Omega\) 15° \( \Omega\) 15° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 11'24 15° \( \Omega\) 23° \( \Omega\) 23° \( \Omega\) 25° \( \Omega\) 26° \( \Omega\) 27° \( \O | 4.38255 AU  6.35307 AU  1°20'31 1°20'35  1°48'31 4.31384 AU  6.26366 AU 1°01'51 |
| min. Earth dist. opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde opposition min. Earth dist. direct             | -3374 Mar 11 j 12:52 -3374 Mar 16 j 01:47 -3374 May 30 j 03:42 -3374 Jul 20 j 18:51 -3374 Sep 10 j 14:57 -3374 Sep 17 j 04:20 -3374 Sep 18 j 09:44 -3374 Nov 15 j 13:11 -3373 Jan 17 j 14:09 -3373 Apr 04 j 06:03 -3373 Apr 04 j 06:07 -3373 Apr 06 j 02:14 -3373 Apr 18 j 00:47 -3373 Jun 05 j 22:30 -3373 Apr 22 j 18:19 -3373 Oct 22 j 18:19 -3373 Oct 22 j 18:07 -3373 Nov 22 j 15:28 -3373 Dec 20 j 17:53 -3372 Jan 18 j 04:56 -3372 Apr 25 j 17:59             | 11°≈10'36 13°≈56'19 15°≈ 0°  | 6.02319 AU 4.05516 AU -1°57'20 -1°09'56 1°09'59 6.09778 AU -1°21'23 4.15039 AU    | opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set max. Earth dist.  conjunction minimum elong morning rise | -3369 Dec 20 j 13:49 -3369 Dec 27 j 06:55 -3368 Jan 03 j 00:07 -3368 Feb 25 j 20:38 -3368 Feb 27 j 01:43 -3368 Apr 28 j 13:03 -3368 Jul 25 j 16:00 -3368 Sep 02 j 05:48 -3368 Sep 13 j 02:20 -3368 Sep 14 j 20:23 -3368 Sep 14 j 20:24 -3368 Sep 27 j 08:43 -3368 Oct 03 j 07:22 -3367 Jan 27 j 10:52 -3367 Mar 29 j 10:08 -3367 Mar 30 j 16:00 -3367 Oct 03 j 09:43 -3367 Oct 15 j 22:34 -3367 Oct 15 j 22:34 -3367 Oct 15 j 22:37 -3367 Oct 27 j 20:11 -3367 Oct 28 j 10:59 | 0° \( \Omega\) 15° \( \Omega\) 15° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 11'24 15° \( \Omega\) 23° \( \Omega\) 23° \( \Omega\) 25° \( \Omega\) 30° \( \Omega\) 11° \( \Omega\) 11° \( \Omega\) 11° \( \Omega\) 26° \( \Omega\) 11'21 27° \( \Omega\) 17'21 27° \( \Omega\) 17'23 0° \( \Omega\)  | 4.38255 AU  6.35307 AU  1°20'31 1°20'35  1°48'31 4.31384 AU  6.26366 AU 1°01'51 |
| min. Earth dist. opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde opposition min. Earth dist. direct evening set | -3374 Mar 11 j 12:52 -3374 Mar 16 j 01:47 -3374 May 30 j 03:42 -3374 Jul 20 j 18:51 -3374 Sep 10 j 14:57 -3374 Sep 17 j 04:20 -3374 Sep 18 j 09:44 -3374 Nov 15 j 13:11 -3373 Jan 17 j 14:09 -3373 Apr 04 j 06:03 -3373 Apr 04 j 06:07 -3373 Apr 06 j 02:14 -3373 Apr 18 j 00:47 -3373 Jun 05 j 22:30 -3373 Apr 22 j 18:07 -3373 Nov 22 j 15:28 -3373 Dec 20 j 17:53 -3372 Jan 18 j 04:56  | 11°≈10'36 13°≈56'19 15°≈ 0°  | 6.02319 AU  4.05516 AU -1°57'20  -1°09'56 1°09'59 6.09778 AU  -1°21'23 4.15039 AU | opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. direct evening set max. Earth dist.  conjunction minimum elong              | -3369 Dec 20 j 13:49 -3369 Dec 27 j 06:55 -3368 Jan 03 j 00:07 -3368 Feb 25 j 20:38 -3368 Feb 27 j 01:43 -3368 Apr 28 j 13:03 -3368 Jul 25 j 16:00 -3368 Sep 02 j 05:48 -3368 Sep 13 j 02:20 -3368 Sep 14 j 20:23 -3368 Sep 14 j 20:24 -3368 Sep 27 j 08:43 -3368 Oct 03 j 07:22 -3367 Mar 29 j 10:08 -3367 Mar 30 j 16:00 -3367 Oct 15 j 22:34 -3367 Oct 15 j 22:34 -3367 Oct 15 j 22:37 -3367 Oct 27 j 20:11  | 0° \( \Omega\) 15° \( \Omega\) 15° \( \Omega\) 15° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 10° \( \Omega\) 11'24 15° \( \Omega\) 23° \( \Omega\) 25° \( \Omega\) 25° \( \Omega\) 25° \( \Omega\) 25° \( \Omega\) 30'27 25° \( \Omega\) 25° \( \Omega\) 30' \( \Omega\) 11' \( \Omega\) 10° \( \Omega\) 10' \( \Omega\) 10° \( \Omega\) 123   | 4.38255 AU  6.35307 AU  1°20'31 1°20'35  1°48'31 4.31384 AU  6.26366 AU 1°01'51 |

|                              | nical year style is used: Th                 |                                      |            |                                  |  |  | ge 4        |
|------------------------------|--|--------------------------------------|------------|----------------------------------|--|--|-------------|
| min. Earth dist.             | -3366 May 03 j 10:23                         | 13° <b>≏</b> 20'45                   | 4.20860 AU | evening set                      | -3360 Apr 30 j 17:42                         | 22° <b>Y</b> 17'37                       |             |
| direct                       | -3366 Jul 02 j 17:55                         | 8° <b>ჲ</b> 32'15                    |            |                                  |  |  |             |
| evening set                  | -3366 Nov 04 j 11:45                         | 27° <b>Ω</b> 01'43                   |            | conjunction                      | -3360 May 14 j 11:54                         | 25° <b>Y</b> 22'51                       |             |
| max. Earth dist.             | -3366 Nov 16 j 07:03                         | 29° <b>∆</b> 46'42                   | 6.15242 AU | minimum elong                    | -3360 May 14 j 11:56                         | 25° <b>Y</b> 22'52                       |             |
| aaniumatian                  | 2266 Nov. 17: 02:27                          | 29° <b>£</b> 58'42                   | 0°23'24    | max. Earth dist.<br>morning rise | -3360 May 15 j 14:24                         | 25° <b>Y</b> 37'44<br>28° <b>Y</b> 27'25 | 6.22506 AU  |
| conjunction<br>minimum elong | -3366 Nov 17 j 03:37<br>-3366 Nov 17 j 03:38 | 29 <b>2</b> 58'42 29° <b>2</b> 58'43 |            | morning rise                     | -3360 May 28 j 05:14<br>-3360 Jun 04 j 04:10 | 0° <b>8</b>                              |             |
| minimum ciong                | -3366 Nov 17 j 05:50                         | 0°M                                  | 0 23 21    |                                  | -3360 Aug 28 j 20:43                         | 15° <b>8</b>                             |             |
| morning rise                 | -3366 Nov 29 j 20:30                         | 2°M56'29                             |            | retrograde                       | -3360 Sep 29 j 11:27                         | 16° <b>8</b> 35'28                       |             |
| C                            | -3365 Jan 25 j 17:15                         | 15° <b>™</b>                         |            | C                                | -3360 Oct 30 j 21:52                         | 15° <b>₹</b> 8                           |             |
| retrograde                   | -3365 Apr 07 j 03:31                         | 22°M06'18                            |            | opposition                       | -3360 Nov 28 j 00:01                         | 11° <b>8</b> 35'13                       | -0°10'48    |
| desc. node                   | -3365 Jun 01 j 22:52                         | 17° <b>M</b> 49'35                   |            | min. Earth dist.                 | -3360 Nov 27 j 14:21                         |  | 4.27985 AU  |
| opposition                   | -3365 Jun 07 j 02:58                         | 17°M09'31                            |            | direct                           | -3359 Jan 27 j 10:59                         | 6° <b>8</b> 32'05                        |             |
| min. Earth dist.             | -3365 Jun 07 j 08:52                         | 17°M07'36                            | 4.09917 AU | asc. node                        | -3359 Jan 31 j 12:22                         | 6° <b>8</b> 33'40                        |             |
|                              | -3365 Jun 24 j 09:13                         | 15°RM                                |            |                                  | -3359 Apr 17 j 09:28                         | 15° <b>8</b>                             |             |
| direct                       | -3365 Aug 05 j 23:27                         | 12°M15'58                            |            | evening set                      | -3359 Jun 04 j 02:33                         | 24° <b>8</b> 47'27                       |             |
|                              | -3365 Sep 16 j 17:50<br>-3365 Dec 03 j 05:08 | 15° <b>M</b><br>0° <b>∡</b> 7        |            | agniumation                      | -3359 Jun 17 j 15:36                         | 27° <b>8</b> 46'12                       | 0015126     |
| evening set                  | -3365 Dec 08 j 05:23                         | 1° <b>x</b> <sup>1</sup> 10'44       |            | conjunction minimum elong        | -3359 Jun 17 j 15:35                         | 27° <b>8</b> 46'12                       |             |
| evening set                  | -5505 Dec 00 j 05.25                         | 1 × 10 ++                            |            | behind sun begin                 | -3359 Jun 17 j 14:01                         | 27° <b>8</b> 45'20                       | 0 13 32     |
| conjunction                  | -3365 Dec 21 j 02:57                         | 4° <b>∡</b> 14'26                    | -0°24'20   | behind sun end                   | -3359 Jun 17 j 17:09                         | 27° <b>8</b> 47'03                       |             |
| minimum elong                | -3365 Dec 21 j 02:55                         | 4° <b>∡</b> 14'25                    |            | max. Earth dist.                 | -3359 Jun 17 j 16:39                         | 27° <b>8</b> 46'47                       | 6.32868 AU  |
| max. Earth dist.             | -3365 Dec 21 j 06:34                         | 4° <b>∡</b> 16'35                    | 6.05500 AU |                                  | -3359 Jun 27 j 18:35                         | $\Pi$ °0                                 |             |
| morning rise                 | -3364 Jan 03 j 03:14                         | 7° <b>∡</b> 19'41                    |            | morning rise                     | -3359 Jul 01 j 02:06                         | 0° <b>Ⅱ</b> 43'34                        |             |
| retrograde                   | -3364 May 13 j 06:01                         | 27° <b>∡</b> 19'45                   |            | retrograde                       | -3359 Oct 30 j 15:56                         | 18° <b>Ⅱ</b> 05'19                       |             |
| opposition                   | -3364 Jul 12 j 19:37                         | 22° <b>∡</b> 19′01                   |            | opposition                       | -3359 Dec 29 j 10:39                         | 13° <b>Ⅱ</b> 09'00                       | 0°52'33     |
| min. Earth dist.             | -3364 Jul 12 j 07:02                         | 22° <b>₹</b> 23'11                   | 4.02321 AU | min. Earth dist.                 | -3359 Dec 29 j 18:00                         | 13° <b>Ⅱ</b> 06'35                       | 4.36654 AU  |
| direct                       | -3364 Sep 09 j 11:27                         | 17° <b>∡</b> <sup>7</sup> 25'49      |            | direct                           | -3358 Mar 01 j 03:49                         | 8° <b>Ⅱ</b> 05'21                        |             |
|                              | -3364 Dec 13 j 20:00                         | 0°る                                  |            | evening set                      | -3358 Jul 06 j 20:40                         | 26°∏02'14                                | ( 20120 ATT |
| evening set                  | -3363 Jan 11 j 19:28                         | 6° <b>る</b> 40'54                    |            | max. Earth dist.                 | -3358 Jul 19 j 02:08                         | 28° <b>∏</b> 42'19                       | 6.39128 AU  |
| conjunction                  | -3363 Jan 25 j 00:24                         | 9° <b>る</b> 49'53                    | -1°04'23   | conjunction                      | -3358 Jul 20 j 00:58                         | 28° <b>∏</b> 54'48                       | 0°54'32     |
| minimum elong                | -3363 Jan 25 j 00:20                         | 9° <b>ප්</b> 49'51                   | 1°04'30    | minimum elong                    | -3358 Jul 20 j 00:55                         | 28° <b>Ⅱ</b> 54'47                       | 0°54'39     |
| max. Earth dist.             | -3363 Jan 26 j 06:57                         | 10° <b>る</b> 08'08                   | 6.00694 AU | -                                | -3358 Jul 25 j 00:08                         | 0ಂತಾ                                     |             |
| morning rise                 | -3363 Feb 07 j 08:30                         | 13° <b>る</b> 00'36                   |            | morning rise                     | -3358 Aug 02 j 02:00                         | 1° <b>5</b> 45'44                        |             |
|                              | -3363 May 03 j 11:55                         | 0° <b>≈</b>                          |            | retrograde                       | -3358 Nov 30 j 08:18                         | 18° <b>©</b> 45'17                       |             |
| retrograde                   | -3363 Jun 19 j 14:27                         | 3° <b>≈</b> 22'04                    |            | opposition                       | -3357 Jan 29 j 13:35                         | 13° <b>©</b> 52'05                       | 1°39'24     |
|                              | -3363 Aug 05 j 18:21                         | 30°Rる                                |            | min. Earth dist.                 | -3357 Jan 30 j 10:52                         |  | 4.40239 AU  |
| opposition                   | -3363 Aug 18 j 14:17                         | 28°る18'06                            |            | direct                           | -3357 Apr 02 j 01:13                         | 8°5549'13                                |             |
| min. Earth dist.             | -3363 Aug 17 j 12:21                         | 28° <b>る</b> 26'51                   | 4.01003 AU | evening set                      | -3357 Aug 07 j 09:49                         | 26°539'16                                | C 20054 ATT |
| direct                       | -3363 Oct 15 j 14:35<br>-3363 Dec 20 j 10:48 | 23°る23'13<br>0°≈                     |            | max. Earth dist.                 | -3357 Aug 18 j 15:28                         | 29° <b>©</b> 07'04                       | 6.39654 AU  |
| evening set                  | -3362 Feb 17 j 16:56                         | 0 ≈<br>12°≈43'38                     |            | conjunction                      | -3357 Aug 20 j 05:24                         | 29° <b>©</b> 27'57                       | 1°17'48     |
| evening set                  | -3362 Feb 27 j 08:18                         | 15° <b>≈</b>                         |            | minimum elong                    | -3357 Aug 20 j 05:24                         | 29° <b>5</b> 27'56                       | 1°17'54     |
|                              | 3302100 27, 00.10                            | 10 .0                                |            | mmmum viong                      | -3357 Aug 22 j 15:38                         | 0°Ω                                      | 1 1,0.      |
| conjunction                  | -3362 Mar 03 j 05:02                         | 15° <b>≈</b> 54'46                   | -1°20'23   | morning rise                     | -3357 Sep 01 j 21:54                         | 2° <b>Ω</b> 15'12                        |             |
| minimum elong                | -3362 Mar 03 j 05:02                         | 15° <b>≈</b> 54'46                   | 1°20'27    | C                                | -3357 Nov 07 j 02:06                         | 15° <b>Ω</b>                             |             |
| max. Earth dist.             | -3362 Mar 05 j 02:14                         | 16° <b>≈</b> 21′28                   | 6.02849 AU | retrograde                       | -3357 Dec 31 j 12:27                         | 19° <b>Ω</b> 19′02                       |             |
| morning rise                 | -3362 Mar 16 j 20:13                         | 19° <b>≈</b> 07'20                   |            |                                  | -3356 Feb 25 j 21:38                         | 15°R <b>Ω</b>                            |             |
|                              | -3362 May 05 j 12:43                         | 0° <b>)</b> €                        |            | opposition                       | -3356 Mar 01 j 03:59                         | 14° <b>Ω</b> 27'26                       | 1°58'41     |
| retrograde                   | -3362 Jul 25 j 17:38                         | 9° <b>₩</b> 08'25                    |            | min. Earth dist.                 | -3356 Mar 02 j 10:15                         | 14°Ω17'47                                | 4.37798 AU  |
| min. Earth dist.             | -3362 Sep 22 j 02:26                         |                                      | 4.06509 AU | direct                           | -3356 May 02 j 19:57                         | 9° <b>Ω</b> 26'34                        |             |
| opposition                   | -3362 Sep 23 j 08:41                         | 4° <b>)</b> €03'14                   | -1°54'34   |                                  | -3356 Jul 05 j 21:00                         | 15° <b>Ω</b>                             |             |
| direct                       | -3362 Oct 28 j 09:43<br>-3362 Nov 20 j 13:27 | 30°R≈<br>29°≈05'13                   |            | evening set<br>max. Earth dist.  | -3356 Sep 06 j 09:45<br>-3356 Sep 17 j 03:18 | 27° <b>Ω</b> 21'45<br>29° <b>Ω</b> 45'18 | 6.34325 AU  |
| direct                       | -3362 Nov 20 j 13.27<br>-3362 Dec 13 j 22:14 | 29 <b>≈</b> 03 13                    |            | max. Earm dist.                  | -5550 Sep 1/J 05.18                          | 29 <b>6 (</b> 43 16                      | 0.34323 AU  |
| evening set                  | -3361 Mar 26 j 17:36                         | 18° <b>)</b> 12'25                   |            | conjunction                      | -3356 Sep 18 j 23:42                         | 0° mp 10'08                              | 1°19'19     |
| 5 Tolling 50t                | 5501 Mai 20 J 17.50                          | 10 /(1223                            |            | minimum elong                    | -3356 Sep 18 j 23:42                         | 0°Mp10'09                                | 1°19'23     |
| conjunction                  | -3361 Apr 09 j 11:15                         | 21° <b>)</b> 22′13                   | -1°06'16   |                                  | -3356 Sep 18 j 05:35                         | 0°m)                                     | / =0        |
| minimum elong                | -3361 Apr 09 j 11:19                         | 21° <b>¥</b> 22′16                   |            | morning rise                     | -3356 Oct 01 j 11:56                         | 2° Mp 57'46                              |             |
| max. Earth dist.             | -3361 Apr 11 j 07:24                         | 21° <b>)</b> 47'42                   |            | retrograde                       | -3355 Jan 31 j 23:04                         | 20° m/30'47                              |             |
| morning rise                 | -3361 Apr 23 j 06:04                         | 24° <b>)</b> €32'27                  |            | opposition                       | -3355 Apr 02 j 21:59                         | 15° <b>m</b> 38'55                       | 1°44'35     |
|                              | -3361 May 17 j 16:50                         | 0° <b>Υ</b>                          |            | min. Earth dist.                 | -3355 Apr 04 j 04:39                         | 15° <b>m</b> 29'09                       | 4.29916 AU  |
| retrograde                   | -3361 Aug 29 j 02:10                         | 13° <b>Y</b> 40'44                   |            | direct                           | -3355 Jun 04 j 01:22                         | 10° <b>m</b> 40'42                       |             |
| opposition                   | -3361 Oct 27 j 11:41                         | 8° <b>Ƴ</b> 37'05                    |            | evening set                      | -3355 Oct 07 j 15:51                         | 28° <b>m</b> 51'57                       |             |
| min. Earth dist.             | -3361 Oct 26 j 13:09                         |                                      | 4.16735 AU | - · ·                            | -3355 Oct 12 j 15:24                         | 0∘ <b>⊽</b>                              |             |
| direct                       | -3361 Dec 25 j 16:20                         | 3° <b>Y</b> 35'58                    |            | max. Earth dist.                 | -3355 Oct 18 j 16:54                         | 1° <del>11</del> 23'11                   | 6.24543 AU  |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -3355 in astronomical counting style is the year 3356 BCE in historical counting style. -3355 Oct 20 j 05:06 1°**2**43'55 0°57'39 min. Earth dist. -3349 Oct 31 i 07:07 13°Υ40'04 4.18548 AU conjunction 1°**-**43′57 minimum elong -3355 Oct 20 j 05:09 -3349 Nov 01 j 05:08 13°**Y**32'35 -1°05'33 0°57'38 opposition -3355 Nov 01 j 17:50 4°**£**35'54 -3349 Dec 30 j 13:11 8°Y31'04 direct morning rise 27°**Y**07'56 -3354 Mar 07 j 04:13 22°**£**57'57 evening set -3348 May 05 j 17:21 retrograde -3354 May 07 j 05:55 -3348 May 18 j 13:17 opposition 18°**≙**04'06 0°57'48 0°8 -3354 May 08 j 02:53 min. Earth dist. 17°**≏**57'24 4.18803 AU -3354 Jul 07 j 06:27 0°812'10 -0°23'15 direct 13°**♀**08'47 conjunction -3348 May 19 j 11:02 -3348 May 19 j 11:04 -3354 Nov 01 j 12:46 0°M minimum elong 0°812'11 0°23'12 6.24331 AU evening set -3354 Nov 09 j 00:16 1°M43'49 max. Earth dist. -3348 May 20 j 09:31 0°**8**24'46 morning rise -3348 Jun 02 j 03:40 3°**8**15'39 conjunction -3354 Nov 21 j 16:45 4°M42'01 0°17'07 -3348 Jul 30 j 02:58 15°8 -3354 Nov 21 j 16:46 -3348 Oct 03 j 23:49 21°**8**15'14 minimum elong 4°**™**42'01 0°17'03 retrograde -3348 Dec 02 j 12:15 max. Earth dist. -3354 Nov 20 j 21:57 4°M30'59 6.13133 AU opposition 16°**8**15'32 -0°01'22 morning rise -3354 Dec 04 j 10:45  $7^{\circ}$ ML41'10 min. Earth dist. -3348 Dec 02 j 05:47 16°**8**17'42 4.29643 AU -3353 Jan 05 j 23:54 15°M₀ asc. node -3348 Dec 10 j 16:36 15°810'18 retrograde -3353 Apr 12 j 06:19 27°ML01'19 -3348 Dec 12 j 00:19 15°R₩ desc. node -3353 Apr 13 j 01:36 27°ML01'16 direct -3347 Feb 01 j 04:52 11°**8**12'13 opposition -3353 Jun 12 j 03:48 22°ML04'01 -0°10'56 -3347 Mar 24 j 12:02 15°8 min. Earth dist. -3353 Jun 12 j 07:18  $22^{\circ}\text{ML}02'52$ 4.07928 AU evening set -3347 Jun 08 j 19:43 29°**8**23'36 direct -3353 Aug 10 j 19:37 17°ML10'38 -3347 Jun 11 j 14:18  $\Pi^{\circ}0$ -3353 Nov 16 j 05:04 0°×7 -3347 Jun 22 j 07:44 evening set -3353 Dec 13 j 02:04 6°**х** 11′22 conjunction 2°**Ⅱ**21'21 0°21'35 -3347 Jun 22 j 07:42 2°**Ⅲ**21′20 0°21'41 minimum elong conjunction -3353 Dec 26 i 00:53 9°**х** 16'20 -0°30'45 max. Earth dist. -3347 Jun 22 i 05:31 2°**Ⅱ**20′09 6.34224 AU -3353 Dec 26 j 00:51 9°**х** 16'18 0°30'52 morning rise -3347 Jul 05 j 16:53 5°**Ⅱ**17'37 minimum elong -3353 Dec 26 j 09:42 9°**∡**¹21'35 6.03827 AU -3347 Nov 03 j 22:54 22°**Ⅲ**34'07 max. Earth dist. retrograde -3352 Jan 08 j 02:19 12°**₹**22'52 -3346 Jan 02 j 19:47 17°**Ⅲ**38′17 1°00'28 morning rise opposition -3352 Apr 08 j 00:31 0°궁 -3346 Jan 03 j 04:45 4.37640 AU min. Earth dist. 17°**Ⅲ**35′20 -3352 May 18 j 14:47 2°る30'40 -3346 Mar 05 j 15:16 direct 12°**Ⅲ**34'38 retrograde -3352 Jun 28 j 05:08 -3346 Jul 09 j 02:15 30°R x<sup>7</sup> 000 -3352 Jul 17 j 09:53 27°**х** 34′25 4.01165 AU -3346 Jul 11 j 08:38 min. Earth dist. evening set 0°9529'27 -3352 Jul 18 j 00:52 27°**∡**129'27 -1°18'34 -3346 Jul 23 j 09:52 max. Earth dist. 3°907'10 6.39662 AU opposition -3352 Sep 14 j 12:41 22°**х** 36′12 direct -3352 Nov 23 j 15:15 0°궁 -3346 Jul 24 j 11:36 3°9521'15 0°58'57 conjunction -3351 Jan 16 j 23:58 11°**ප**55'06 -3346 Jul 24 j 11:32 evening set minimum elong 3°**©**21'13 0°59'04 -3346 Aug 06 j 11:17 morning rise 6°9511'25 15°る04'47 -1°08'20 -3351 Jan 30 j 05:52 -3346 Dec 04 j 17:13 conjunction retrograde 23°**©**09'43 minimum elong -3351 Jan 30 j 05:49 15°る04'46 1°08'28 opposition -3345 Feb 02 j 23:06 18°**©**16'52 1°43'57 max. Earth dist. -3351 Jan 31 j 14:59 15°る24'35 6.00131 AU min. Earth dist. -3345 Feb 03 j 22:51 18°509'13 4.40304 AU -3351 Feb 12 j 15:18 18°**ප**16'17 direct -3345 Apr 06 j 12:55 13°9514'14 morning rise -3351 Apr 07 j 00:03 -3345 Aug 06 j 20:45  $0^{\circ}\Omega$ 0°≈ -3351 Jun 24 j 19:42 8°≈38'57 -3345 Aug 11 j 18:40 1°**Ω**04'11 retrograde evening set -3351 Aug 23 j 18:58 3°≈34'34 -1°57'11 max. Earth dist. -3345 Aug 22 j 20:32 3°**Ω**30′10 6.39218 AU opposition -3351 Aug 22 j 14:24 3°≈44'15 4.01115 AU min. Earth dist. -3351 Sep 22 j 12:27 30°Ŗる -3345 Aug 24 j 13:14 3°**Ω**52'36 1°19'23 conjunction -3351 Oct 20 j 17:36 28°る39'18 -3345 Aug 24 j 13:12 3°**Ω**52'35 direct minimum elong 1°19'29 6°**Ω**39'41 -3351 Nov 18 j 00:40 0°≈ morning rise -3345 Sep 06 i 04:57 -3350 Feb 10 i 03:18 15°≈ -3345 Oct 16 i 08:27 15°Ω -3350 Feb 23 j 00:43 17°≈59'38 retrograde -3344 Jan 04 i 23:52 23°**Ω**46'19 evening set opposition -3344 Mar 05 i 16:32 18°Ω54'45 1°58'46 -3350 Mar 08 i 13:56 21°≈10'53 -1°20'06 min. Earth dist. -3344 Mar 06 i 23:24 18°Ω44'54 4.36909 AU conjunction -3350 Mar 08 j 13:57 21°≈10'53 1°20'11 -3344 Apr 10 j 01:50 15°RΩ minimum elong -3350 Mar 10 j 13:44 21°≈39'02 6.03605 AU -3344 May 07 j 07:03 13°**Ω**54'10 max. Earth dist. direct -3344 Jun 03 j 14:52 morning rise -3350 Mar 22 j 05:45 24°≈23'21 15°Ω -3344 Sep 02 j 08:56 0° M -3350 Apr 15 j 20:22 0°**)**€ 14°**)** 18′27 retrograde -3350 Jul 30 j 19:33 evening set -3344 Sep 10 j 18:35 1° m 51'20 min. Earth dist. -3350 Sep 27 j 03:16 9°**升**23'18 4.07783 AU max. Earth dist. -3344 Sep 21 j 13:20 4° m 15'58 6.33057 AU -3350 Sep 28 j 08:41 9°**升**13'15 -1°50'50 opposition 4°**)**€ 14'43 -3344 Sep 23 j 08:18 4° m/40'05 1°17'37 direct -3350 Nov 25 j 16:52 conjunction -3349 Mar 31 j 23:09 23°¥18'16 -3344 Sep 23 j 08:19 1°17'40 evening set minimum elong  $4^{\circ}$  Mp 40'06-3344 Oct 05 j 20:09 morning rise 7° m/28'07 conjunction -3349 Apr 14 j 17:10 26°**)** €27'32 -1°02'04 retrograde -3343 Feb 05 j 16:12 25° m 07'20 minimum elong -3349 Apr 14 j 17:14 26°**)** 27'34 1°02'04 opposition -3343 Apr 07 j 15:39 20° m 15'19 1°39'49 max. Earth dist. -3349 Apr 16 j 12:28 26°**)** 52′23 6.12839 AU min. Earth dist. -3343 Apr 08 j 21:49 20° M 05'44 4.28347 AU morning rise -3349 Apr 28 j 12:10 29°**)** 37'03 direct -3343 Jun 08 j 16:00 15° m 17'33 -3349 Apr 30 j 04:31  $0^{\circ}\Upsilon$ -3343 Sep 26 j 09:33 0∘**ত** 

-3349 Sep 02 j 18:40

retrograde

18°**Y**35'53

-3343 Oct 12 j 03:52

evening set

3°**£**32′20

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 6 Attention, astronomical year style is used: The year -3343 in astronomical counting style is the year 3344 BCE in historical counting style.

| Attention, astronomi | ical year style is used: Th                  | e year -3343 i                    | n astronomical cou | nting style is the year    | 3344 BCE in historical c                     | ounting style.               | <b>6</b> , , |
|----------------------|--|-----------------------------------|--------------------|----------------------------|--|------------------------------|--------------|
| max. Earth dist.     | -3343 Oct 23 j 05:37                         | 6° <b>£</b> 04'38                 | 6.22814 AU         | minimum elong              | -3337 Apr 19 j 18:42                         | 1° <b>Y</b> 21'16            | 0°57'33      |
|                      |  |                                   |                    | max. Earth dist.           | -3337 Apr 21 j 10:13                         | 1° <b>Y</b> 43'53            | 6.14602 AU   |
| conjunction          | -3343 Oct 24 j 17:14                         | 6° <b>£</b> 25'07                 | 0°52'51            | morning rise               | -3337 May 03 j 13:38                         | 4° <b>Ƴ</b> 29'57            |              |
| minimum elong        | -3343 Oct 24 j 17:17                         | 6° <b>≙</b> 25'09                 | 0°52'50            | retrograde                 | -3337 Sep 07 j 08:31                         | 23° <b>Y</b> 19'40           |              |
| morning rise         | -3343 Nov 06 j 06:40                         | 9° <b>≙</b> 18'05                 |                    | opposition                 | -3337 Nov 05 j 18:32                         | 18° <b>Ƴ</b> 16'47           | -0°57'13     |
| retrograde           | -3342 Mar 12 j 04:28                         | 27° <b>≏</b> 48'37                |                    | min. Earth dist.           | -3337 Nov 04 j 23:28                         | 18° <b>Y</b> 23′16           | 4.20272 AU   |
| opposition           | -3342 May 12 j 05:56                         | 22° <b>≏</b> 54'21                | 0°48'58            | direct                     | -3336 Jan 04 j 07:55                         | 13° <b>Y</b> 14'56           |              |
| min. Earth dist.     | -3342 May 13 j 00:34                         | 22° <b>₽</b> 48'22                | 4.17036 AU         |                            | -3336 May 02 j 09:31                         | $9^{\circ}$ 8                |              |
| direct               | -3342 Jul 12 j 01:54                         | 17° <b>≏</b> 59'22                |                    | evening set                | -3336 May 10 j 12:56                         | 1° <b>8</b> 47'45            |              |
|                      | -3342 Oct 15 j 07:19                         | $0^{\circ}$ M                     |                    |                            |  |                              |              |
| evening set          | -3342 Nov 13 j 17:39                         | 6°M38'34                          |                    | conjunction                | -3336 May 24 j 06:17                         | 4° <b>8</b> 51'09            | -0°17'04     |
|                      |  |                                   |                    | minimum elong              | -3336 May 24 j 06:18                         | 4° <b>8</b> 51'10            | 0°16'59      |
| conjunction          | -3342 Nov 26 j 11:05                         | 9° <b>M</b> ₊37'49                | 0°10'24            | max. Earth dist.           | -3336 May 25 j 01:58                         | 5° <b>8</b> 02'08            | 6.25894 AU   |
| minimum elong        | -3342 Nov 26 j 11:05                         | 9° <b>M</b> ₊37'50                | 0°10'20            | morning rise               | -3336 Jun 06 j 22:01                         | 7° <b>8</b> 53'38            |              |
| behind sun begin     | -3342 Nov 26 j 04:41                         | 9° <b>M</b> ₊34'05                |                    |                            | -3336 Jul 10 j 05:59                         | 15° <b>8</b>                 |              |
| behind sun end       | -3342 Nov 26 j 17:29                         | 9°ML41'35                         |                    | retrograde                 | -3336 Oct 08 j 07:21                         | 25° <b>8</b> 46'09           |              |
| max. Earth dist.     | -3342 Nov 25 j 21:15                         | 9° <b>M</b> 29'41                 | 6.11526 AU         | asc. node                  | -3336 Oct 21 j 05:52                         | 25° <b>8</b> 29'35           |              |
| morning rise         | -3342 Dec 09 j 05:55                         | 12°MJ38'06                        |                    | opposition                 | -3336 Dec 06 j 21:12                         | 20° <b>8</b> 47'03           | 0°07'46      |
|                      | -3342 Dec 19 j 10:36                         | 15° <b>M</b> ₊                    |                    | min. Earth dist.           | -3336 Dec 06 j 16:24                         | 20° <b>8</b> 48'39           | 4.30927 AU   |
| desc. node           | -3341 Feb 20 j 07:33                         | 27°ML30'27                        |                    | direct                     | -3335 Feb 05 j 16:25                         | 15° <b>8</b> 43'39           |              |
|                      | -3341 Mar 11 j 07:11                         | 0° <b>∡</b> ¹                     |                    |                            | -3335 May 26 j 08:24                         | $\Pi$ $^{\circ}0$            |              |
| retrograde           | -3341 Apr 17 j 13:05                         | 2° <b>∡</b> ¹06'17                |                    | evening set                | -3335 Jun 13 j 10:04                         | 3° <b>Ⅲ</b> 52'37            |              |
|                      | -3341 May 24 j 22:05                         | 30°RM                             |                    | •                          | ·  |                              |              |
| opposition           | -3341 Jun 17 j 08:46                         | 27°M08'29                         | -0°21'16           | conjunction                | -3335 Jun 26 j 20:51                         | 6° <b>Ⅱ</b> 49'32            | 0°27'28      |
| min. Earth dist.     | -3341 Jun 17 j 09:42                         | 27° <b>M</b> 08'11                | 4.06651 AU         | minimum elong              | -3335 Jun 26 j 20:49                         | 6° <b>Ⅱ</b> 49'31            | 0°27'34      |
| direct               | -3341 Aug 15 j 20:21                         | 22°M15'19                         |                    | max. Earth dist.           | -3335 Jun 26 j 13:31                         | 6° <b>Ⅱ</b> 45'30            | 6.35130 AU   |
|                      | -3341 Oct 27 j 12:19                         | 0° <b>∡</b> ¹                     |                    | morning rise               | -3335 Jul 10 j 04:55                         | 9° <b>∏</b> 44'57            |              |
| evening set          | -3341 Dec 18 j 02:17                         | 11° <b>₹</b> 19'08                |                    | retrograde                 | -3335 Nov 08 j 07:14                         | 26° <b>Ⅲ</b> 58'10           |              |
| e venning see        | 55.11 B 66 10 J 62.17                        | 11 7 17 00                        |                    | opposition                 | -3334 Jan 07 j 03:47                         |                              | 1°07'53      |
| conjunction          | -3341 Dec 31 j 01:53                         | 14° <b>∡</b> ¹24'51               | -0°37'08           | min. Earth dist.           | -3334 Jan 07 j 16:06                         | 21° <b>I</b> I58'50          | 4.38125 AU   |
| minimum elong        | -3341 Dec 31 j 01:50                         | 14° <b>×7</b> 24'49               |                    | direct                     | -3334 Mar 10 j 03:06                         | 16° <b>∏</b> 59'19           | 1.50125710   |
| max. Earth dist.     | -3341 Dec 31 j 13:41                         |                                   | 6.02996 AU         | direct                     | -3334 Jun 22 j 17:09                         | 0°95                         |              |
| morning rise         | -3340 Jan 13 j 04:33                         | 17° <b>×</b> 31'35                | 0.02//0710         | evening set                | -3334 Jul 15 j 19:09                         | 4° <b>©</b> 53'42            |              |
| morning rise         | -3340 Mar 10 j 13:22                         | 0°る                               |                    | evening set                | 5554 Sul 15 j 17.07                          | 7 333 72                     |              |
| retrograde           | -3340 May 23 j 20:54                         | 7° <b>る</b> 43'55                 |                    | conjunction                | -3334 Jul 28 j 21:00                         | 7° <b>©</b> 45'01            | 1°02'57      |
| opposition           | -3340 May 23 j 20.34<br>-3340 Jul 23 j 06:36 | 7 343 33<br>2° <b>3</b> 42'08     | 102620             | minimum elong              | -3334 Jul 28 j 20:57                         |                              | 1°03'04      |
| min. Earth dist.     | -3340 Jul 22 j 12:11                         |                                   | 4.00901 AU         | max. Earth dist.           | -3334 Jul 27 j 16:52                         |                              | 6.39677 AU   |
| min. Latui uist.     | ·  | 2 048 10<br>30°R ×7               | 4.00901 AU         |                            | -3334 Aug 10 j 19:25                         | 10°934'41                    | 0.39077 AU   |
| direct               | -3340 Aug 13 j 19:38<br>-3340 Sep 19 j 15:04 | 30 KX.<br>27° <b>∡</b> 748'42     |                    | morning rise               | -3334 Aug 10 j 19.23<br>-3334 Dec 09 j 00:47 | 27°533'38                    |              |
| direct               | -3340 Sep 19 j 13.04<br>-3340 Oct 26 j 02:09 | 27 <b>x</b> ·4842                 |                    | retrograde                 |  | 27 \$33 38<br>22°\$41'05     | 1047154      |
|                      | •  | 0°る<br>17°る08'07                  |                    | opposition                 | -3333 Feb 07 j 08:39                         | 22°933'13                    | 1°47'54      |
| evening set          | -3339 Jan 22 j 04:40                         | 1/2008/07                         |                    | min. Earth dist.           | -3333 Feb 08 j 09:04                         |                              | 4.39894 AU   |
|                      | 2220 F 1 04 : 11 42                          | 200=210107                        | 1011147            | direct                     | -3333 Apr 10 j 21:55                         | 17°938'43                    |              |
| conjunction          | -3339 Feb 04 j 11:42                         | 20°る18'07                         |                    | . ,                        | -3333 Jul 21 j 07:20                         | 0°N                          |              |
| minimum elong        | -3339 Feb 04 j 11:39                         | 20°る18'05                         | 1°11'53            | evening set                | -3333 Aug 16 j 03:54                         | 5° <b>Ω</b> 30'08            | ( 20412 ATT  |
| max. Earth dist.     | -3339 Feb 06 j 01:06                         | 20°る40'26                         | 6.00446 AU         | max. Earth dist.           | -3333 Aug 27 j 04:26                         | 7° <b>Ω</b> 55'46            | 6.38412 AU   |
| morning rise         | -3339 Feb 17 j 21:55                         | 23° <b>る</b> 29'48                |                    |                            | 2222 4 20 : 21 22                            | 00.01.0120                   | 1020120      |
|                      | -3339 Mar 18 j 04:55                         | 0° <b>≈</b>                       |                    | conjunction                | -3333 Aug 28 j 21:32                         | 8° <b>Ω</b> 18'29            | 1°20'30      |
| retrograde           | -3339 Jun 30 j 00:01                         | 13°≈49'51                         | 1050100            | minimum elong              | -3333 Aug 28 j 21:30                         | 8° <b>Ω</b> 18'28            | 1°20'36      |
| opposition           | -3339 Aug 28 j 21:19                         | 8° <b>≈</b> 45'10                 |                    | morning rise               | -3333 Sep 10 j 12:26                         | 11° <b>Ω</b> 05'35           |              |
| min. Earth dist.     | -3339 Aug 27 j 16:41                         | 8°≈54'53                          | 4.01980 AU         |                            | -3333 Sep 28 j 14:17                         | 15° <b>Ω</b>                 |              |
| direct               | -3339 Oct 25 j 21:22                         | 3°≈49'28                          |                    | retrograde                 | -3332 Jan 09 j 13:32                         | 28° <b>Ω</b> 16'15           |              |
|                      | -3338 Jan 23 j 02:10                         | 15° <b>≈</b>                      |                    | opposition                 | -3332 Mar 10 j 06:22                         | 23° <b>Ω</b> 24'48           | 1°58'07      |
| evening set          | -3338 Feb 28 j 05:42                         | 23° <b>≈</b> 07′10                |                    | min. Earth dist.           | -3332 Mar 11 j 14:07                         | 23° <b>Ω</b> 14'41           | 4.35769 AU   |
|                      |  |                                   |                    | direct                     | -3332 May 11 j 20:22                         | 18° <b>Ω</b> 24'39           |              |
| conjunction          | -3338 Mar 13 j 19:40                         | 26°≈18′10                         | -1°19'14           |                            | -3332 Aug 16 j 10:24                         | 0° <b>m</b>                  |              |
| minimum elong        | -3338 Mar 13 j 19:42                         |                                   | 1°19'18            | evening set                | -3332 Sep 15 j 04:31                         | 6° Mg 24′25                  |              |
| max. Earth dist.     | -3338 Mar 15 j 20:02                         | 26° <b>≈</b> 46'32                | 6.04912 AU         | max. Earth dist.           | -3332 Sep 25 j 22:36                         | 8° <b>m</b> 49'14            | 6.31669 AU   |
| morning rise         | -3338 Mar 27 j 12:12                         | 29° <b>≈</b> 30′18                |                    |                            |  |                              |              |
|                      | -3338 Mar 29 j 15:20                         | 0° <b>∀</b>                       |                    | conjunction                | -3332 Sep 27 j 17:53                         | 9°₩13'36                     | 1°15'24      |
| retrograde           | -3338 Aug 04 j 15:16                         | 19° <b>∺</b> 17'29                |                    | minimum elong              | -3332 Sep 27 j 17:55                         | 9° <b>™</b> 13'37            | 1°15'26      |
| min. Earth dist.     | -3338 Oct 01 j 22:53                         | 14° <b>¥</b> 22'31                | 4.09389 AU         | morning rise               | -3332 Oct 10 j 05:48                         | 12°M 02'13                   |              |
| opposition           | -3338 Oct 03 j 04:28                         | 14° <b>)</b> 12′25                | -1°46'24           | retrograde                 | -3331 Feb 10 j 10:33                         | 29° Mp 48'06                 |              |
| direct               | -3338 Nov 30 j 14:45                         | 9° <b>)</b> 13′27                 |                    | opposition                 | -3331 Apr 12 j 11:08                         | 24° <b>m</b> 55'49           | 1°34'19      |
| evening set          |  |                                   |                    |                            |  |                              |              |
|                      | -3337 Apr 06 j 00:27                         | 28° <b>∺</b> 12'39                |                    | min. Earth dist.           | -3331 Apr 13 j 15:19                         | 24° Mp 46'51                 | 4.26807 AU   |
|                      | -3337 Apr 06 j 00:27<br>-3337 Apr 13 j 20:39 | 28° <b>升</b> 12'39<br>0° <b>Ƴ</b> |                    | min. Earth dist.<br>direct | -3331 Apr 13 j 15:19<br>-3331 Jun 13 j 07:35 | 24° Mp 46'51<br>19° Mp 58'29 | 4.26807 AU   |
|                      |  |                                   |                    |                            |  |                              | 4.26807 AU   |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 7 Attention, astronomical year style is used: The year -3331 in astronomical counting style is the year 3332 BCE in historical counting style.

| Attention, astronom | ical year style is used: Th | -                               |                |                  |                              |                                      |            |
|---------------------|-----------------------------|---------------------------------|----------------|------------------|------------------------------|--------------------------------------|------------|
| max. Earth dist.    | -3331 Oct 27 j 23:07        | 10° <b>£</b> 51'50              | 6.21270 AU     | conjunction      | -3325 Apr 24 j 19:20         | 6° <b>Ƴ</b> 13'07                    |            |
|                     |                             |                                 |                | minimum elong    | -3325 Apr 24 j 19:24         | 6° <b>Ƴ</b> 13'09                    | 0°52'43    |
| conjunction         | -3331 Oct 29 j 06:36        | 11° <b>≏</b> 10′00              | 0°47'39        | max. Earth dist. | -3325 Apr 26 j 09:45         | 6° <b>Ƴ</b> 35'01                    | 6.16077 AU |
| minimum elong       | -3331 Oct 29 j 06:38        | 11° <b>≏</b> 10′01              | 0°47'38        | morning rise     | -3325 May 08 j 14:08         | 9° <b>Ƴ</b> 21′08                    |            |
| morning rise        | -3331 Nov 10 j 20:24        | 14° <b>£</b> 03′50              |                | retrograde       | -3325 Sep 11 j 21:20         | 28° <b>Y</b> ′02'46                  |            |
|                     | -3330 Feb 02 j 16:02        | 0° <b>M</b> ₊                   |                | opposition       | -3325 Nov 10 j 07:37         | 23° <b>Y</b> ′00'21                  | -0°48'35   |
| retrograde          | -3330 Mar 17 j 05:47        | 2°M42'02                        |                | min. Earth dist. | -3325 Nov 09 j 14:01         | 23° <b>Y</b> 06'19                   | 4.21707 AU |
| •                   | -3330 Apr 29 j 09:07        | 30° <b>Ŗ</b> Ω                  |                | direct           | -3324 Jan 08 j 23:59         | 17° <b>Ƴ</b> 58'13                   |            |
| opposition          | -3330 May 17 j 06:48        | 27° <b>₽</b> 47'21              | 0°39'41        |                  | -3324 Apr 15 j 05:12         | 0°B                                  |            |
| min. Earth dist.    | -3330 May 17 j 23:32        | 27° <b>-</b> 41'59              | 4.15590 AU     | evening set      | -3324 May 15 j 08:33         | 6° <b>8</b> 27'52                    |            |
| direct              | -3330 Jul 16 j 23:21        | 22° <b>£</b> 52'45              |                | 8                | ., ., ., .,                  |                                      |            |
|                     | -3330 Sep 25 j 11:03        | 0°M                             |                | conjunction      | -3324 May 29 j 01:09         | 9° <b>8</b> 30'28                    | -0°10'46   |
| evening set         | -3330 Nov 18 j 11:39        | 11°MJ34'50                      |                | minimum elong    | -3324 May 29 j 01:10         | 9° <b>8</b> 30'28                    |            |
| evening see         | 33301101 10 111.37          | 11 1105150                      |                | behind sun begin | -3324 May 28 j 18:51         | 9° <b>8</b> 26'59                    | 0 10 12    |
| conjunction         | -3330 Dec 01 j 05:40        | 14°MJ34'55                      | 0°03'37        | behind sun end   | -3324 May 29 j 07:28         | 9° <b>8</b> 33'58                    |            |
| minimum elong       | -3330 Dec 01 j 05:39        | 14°M34'55                       | 0°03'32        | max. Earth dist. | -3324 May 29 j 07:28         |                                      | 6.27177 AU |
| Č                   | ·                           | 14°M30'13                       | 0 03 32        | morning rise     |                              | 12° <b>8</b> 32'05                   | 0.2/1// AU |
| behind sun begin    | -3330 Nov 30 j 21:40        |                                 |                | morning rise     | -3324 Jun 11 j 16:16         |                                      |            |
| behind sun end      | -3330 Dec 01 j 13:38        | 14°M39'36                       | 6 1000 6 1 X X |                  | -3324 Jun 22 j 22:23         | 15° <b>8</b>                         |            |
| max. Earth dist.    | -3330 Nov 30 j 18:12        | 14°ML28'10                      | 6.10296 AU     | asc. node        | -3324 Aug 31 j 07:22         | 27° <b>8</b> 32'17                   |            |
|                     | -3330 Dec 03 j 00:12        | 15° <b>M</b> ₊                  |                |                  | -3324 Sep 28 j 22:39         | 0°Щ                                  |            |
| morning rise        | -3330 Dec 14 j 01:36        | 17°MJ36'10                      |                | retrograde       | -3324 Oct 12 j 17:09         | 0° <b>Ⅱ</b> 18'36                    |            |
| desc. node          | -3330 Dec 30 j 14:35        | 21°M25'28                       |                |                  | -3324 Oct 26 j 09:21         | 30°R <b>∀</b>                        |            |
|                     | -3329 Feb 10 j 01:25        | 0° <b>∡</b> ¹                   |                | opposition       | -3324 Dec 11 j 07:10         | 25° <b>8</b> 20'00                   | 0°16'54    |
| retrograde          | -3329 Apr 22 j 17:01        | 7° <b>∡</b> 10'46               |                | min. Earth dist. | -3324 Dec 11 j 05:30         | 25° <b>8</b> 20'33                   | 4.31958 AU |
| opposition          | -3329 Jun 22 j 12:39        | 2° <b>∡</b> 12′22               | -0°31'25       | direct           | -3323 Feb 10 j 07:19         | 20° <b>8</b> 16'28                   |            |
| min. Earth dist.    | -3329 Jun 22 j 09:53        | 2° <b>∡</b> 13'16               | 4.05748 AU     |                  | -3323 May 08 j 12:10         | $\Pi^{\circ}0$                       |            |
|                     | -3329 Jul 10 j 01:22        | 30°RML                          |                | evening set      | -3323 Jun 18 j 00:57         | 8° <b>Ⅲ</b> 23'33                    |            |
| direct              | -3329 Aug 20 j 19:32        | 27° <b>M</b> .19'15             |                |                  |                              |                                      |            |
|                     | -3329 Sep 30 j 18:57        | 0° <b>⊼</b>                     |                | conjunction      | -3323 Jul 01 j 10:46         | 11° <b>Ⅱ</b> 19'44                   | 0°33'14    |
| evening set         | -3329 Dec 23 j 01:30        | 16° <b>∡</b> ¹25'01             |                | minimum elong    | -3323 Jul 01 j 10:44         | 11° <b>Ⅱ</b> 19'43                   | 0°33'21    |
| 8                   |                             |                                 |                | max. Earth dist. | -3323 Jul 01 j 01:29         | 11° <b>Ⅱ</b> 14'38                   | 6.35835 AU |
| conjunction         | -3328 Jan 05 j 02:09        | 19° <b>∡</b> ³31'22             | -0°43'11       | morning rise     | -3323 Jul 14 j 17:24         | 14° <b>Ⅱ</b> 14'19                   |            |
| minimum elong       | -3328 Jan 05 j 02:06        | 19° <b>∡</b> ³31'20             |                |                  | -3323 Oct 13 j 14:16         | 0ంతె                                 |            |
| max. Earth dist.    | -3328 Jan 05 j 18:53        | 19° <b>×</b> 741'22             | 6.02489 AU     | retrograde       | -3323 Nov 12 j 14:03         | 1°9524'47                            |            |
| morning rise        | -3328 Jan 18 j 05:43        | 22° <b>×</b> <sup>7</sup> 39'24 | 0.02407 AC     | retrograde       | -3323 Nov 12 j 14:05         | 1 <b>3</b> 2447<br>30°RⅡ             |            |
| morning risc        | -3328 Feb 19 j 07:39        | 22 x 3924<br>0°る                |                | opposition       | -3322 Jan 11 j 12:53         | 26° <b>Ⅱ</b> 29'58                   | 1°15'01    |
| ratra ara da        | -                           | 12°る53'42                       |                | min. Earth dist. | -                            |                                      | 4.38486 AU |
| retrograde          | -3328 May 29 j 03:02        |                                 | 1022121        |                  | -3322 Jan 12 j 02:19         | 20 <b>H</b> 25 34 21° <b>H</b> 26'32 | 4.36460 AU |
| opposition          | -3328 Jul 28 j 10:30        | 7°る51'23                        |                | direct           | -3322 Mar 14 j 13:49         |                                      |            |
| min. Earth dist.    | -3328 Jul 27 j 15:05        |                                 | 4.00855 AU     |                  | -3322 Jun 04 j 09:35         | 0°50                                 |            |
| direct              | -3328 Sep 24 j 17:41        | 2° <b>る</b> 57'44               |                | evening set      | -3322 Jul 20 j 06:49         | 9° <b>©</b> 20'36                    |            |
| evening set         | -3327 Jan 27 j 07:41        | 22° <b>る</b> 17'08              |                | max. Earth dist. | -3322 Aug 01 j 00:11         | 11° <b>©</b> 54'20                   | 6.39661 AU |
|                     |                             | _                               |                |                  |                              |                                      |            |
| conjunction         | -3327 Feb 09 j 15:36        | 25° <b>る</b> 27'21              |                | conjunction      | -3322 Aug 02 j 07:16         | 12° <b>©</b> 11'23                   | 1°06'40    |
| minimum elong       | -3327 Feb 09 j 15:34        | 25° <b>る</b> 27'19              |                | minimum elong    | -3322 Aug 02 j 07:13         | 12° <b>©</b> 11'21                   | 1°06'46    |
| max. Earth dist.    | -3327 Feb 11 j 07:05        | 25° <b>る</b> 50'51              | 6.00838 AU     | morning rise     | -3322 Aug 15 j 04:37         | 15° <b>©</b> 00'35                   |            |
| morning rise        | -3327 Feb 23 j 02:52        | 28° <b>る</b> 39'15              |                |                  | -3322 Nov 07 j 06:45         | $0^{\circ}\Omega$                    |            |
|                     | -3327 Feb 28 j 20:11        | 0°≈                             |                | retrograde       | -3322 Dec 13 j 11:49         | 2° <b>Ω</b> 00′14                    |            |
|                     | -3327 May 14 j 23:35        | 15° <b>≈</b>                    |                |                  | -3321 Jan 18 j 21:29         | 30° <b>₹</b> 5                       |            |
| retrograde          | -3327 Jul 05 j 00:53        | 18° <b>≈</b> 56'19              |                | opposition       | -3321 Feb 11 j 19:59         | 27° <b>©</b> 07'59                   | 1°51'18    |
|                     | -3327 Aug 25 j 09:48        | 15° <b>R</b> ≈                  |                | min. Earth dist. | -3321 Feb 12 j 22:25         | 26° <b>9</b> 59'29                   | 4.39533 AU |
| opposition          | -3327 Sep 02 j 21:15        | 13° <b>≈</b> 51'27              | -1°59'56       | direct           | -3321 Apr 15 j 11:17         | 22°905'55                            |            |
| min. Earth dist.    | -3327 Sep 01 j 15:21        | 14° <b>≈</b> 01'37              | 4.02801 AU     |                  | -3321 Jul 02 j 14:39         | $0^{\circ}\Omega$                    |            |
| direct              | -3327 Oct 30 j 20:56        | 8° <b>≈</b> 55'19               |                | evening set      | -3321 Aug 20 j 13:36         | 9° <b>Ω</b> 58'08                    |            |
|                     | -3326 Jan 01 j 22:49        | 15° <b>≈</b>                    |                | max. Earth dist. | -3321 Aug 31 j 13:09         |                                      | 6.37736 AU |
| evening set         | -3326 Mar 05 j 09:12        | 28°≈10'54                       |                | max. Earth dist. | 3321 11 <b>ug</b> 31 j 13.07 | 12 0023 32                           | 0.57750710 |
| evening set         | -3326 Mar 13 j 04:15        | 0° <b>₩</b>                     |                | conjunction      | -3321 Sep 02 j 06:29         | 12° <b>Ω</b> 46'25                   | 1°21'12    |
|                     | -3320 Iviai 13 j 04.13      | 0 X                             |                | minimum elong    | -3321 Sep 02 j 06:28         | 12°Ω46'25                            |            |
| conjunction         | 2226 Mar 10: 22.54          | 1° <b>¥</b> 21'42               | 1917140        | mmmum ciong      |                              | 12 <b>δ l</b> 46 23                  | 1 411/     |
| conjunction         | -3326 Mar 18 j 23:54        |                                 |                |                  | -3321 Sep 12 j 07:53         |                                      |            |
| minimum elong       | -3326 Mar 18 j 23:56        | 1° <b>¥</b> 21'43               |                | morning rise     | -3321 Sep 14 j 20:38         | 15° <b>Ω</b> 33'29                   |            |
| max. Earth dist.    | -3326 Mar 20 j 22:53        | 1° <b>)</b> 49'10               | 6.06073 AU     |                  | -3321 Dec 01 j 20:03         | 0° Mp                                |            |
| morning rise        | -3326 Apr 01 j 17:02        | 4° <b>)</b> 33'32               |                | retrograde       | -3320 Jan 14 j 02:03         | 2° m/47'47                           |            |
| retrograde          | -3326 Aug 09 j 10:34        | 24° <b>¥</b> 13'36              |                |                  | -3320 Feb 27 j 03:10         | 30°R€                                |            |
| opposition          | -3326 Oct 07 j 22:45        | 19° <b>∺</b> 08'39              |                | opposition       | -3320 Mar 14 j 21:22         | 27° <b>Ω</b> 56′18                   |            |
| min. Earth dist.    | -3326 Oct 06 j 18:57        | 19° <b>∺</b> 18'09              | 4.10753 AU     | min. Earth dist. | -3320 Mar 16 j 03:48         |                                      | 4.34848 AU |
| direct              | -3326 Dec 05 j 12:50        | 14° <b>∺</b> 09'10              |                | direct           | -3320 May 16 j 09:01         | 22° <b>Ω</b> 56'35                   |            |
|                     | -3325 Mar 28 j 06:56        | $0^{\circ}$ Y                   |                |                  | -3320 Jul 28 j 01:49         | 0° <b>m</b> )                        |            |
| evening set         | -3325 Apr 11 j 00:46        | 3° <b>Y</b> 05'03               |                | evening set      | -3320 Sep 19 j 14:41         | 10° <b>m</b> 57'54                   |            |
| ~                   |                             |                                 |                |                  |                              |                                      |            |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 8
Attention, astronomical year style is used: The year -3320 in astronomical counting style is the year 3321 BCE in historical counting style.

max. Earth dist. -3320 Sep 30 j 10:42 13° m 24'12 6.30595 AU conjunction -3314 Mar 24 j 01:53 6° × 19'14 -1°15'53

| Attention, astronom   |  | •  |  |  |   |   |   |
|---|--|--|--|--|---|---|---|
| max. Earth dist.  | -3320 Sep 30 j 10:42   | 13° <b>m</b> 24'12   | 6.30595 AU   | conjunction  | -3314 Mar 24 j 01:53  | 6° <b>₩</b> 19'14   | -1°15'53  |
|   |  |  |  | minimum elong  | -3314 Mar 24 j 01:55  | 6° <b>₩</b> 19'15   | 1°15'55   |
| conjunction   | -3320 Oct 02 j 03:46   | 13° <b>m</b> 47'23   | 1°12'46  | max. Earth dist.   | -3314 Mar 26 j 01:29  | 6° <b>)</b> 46′59   | 6.07015 AU  |
| minimum elong   | -3320 Oct 02 j 03:49   | 13° <b>m</b> 47'25   | 1°12'47  | morning rise   | -3314 Apr 06 j 19:29  | 9° <b>)</b> 30′52   |   |
| morning rise  | -3320 Oct 14 i 15:34   | 16° m 36'25  |  | retrograde   | -3314 Aug 14 j 04:13  | 29° <b>₩</b> 04'50  |   |
| Ü   | -3320 Dec 21 j 15:23   | 0∘ <u>v</u>  |  | opposition   | -3314 Oct 12 j 15:04  | 24° <b>₭</b> 00'12  | -1°35'41  |
| retrograde  | -3319 Feb 15 j 05:49   | 4° <b>£</b> 27'51  |  | min. Earth dist.   | -3314 Oct 11 j 12:17  |   | 4.11859 AU  |
| retrograde  | -3319 Apr 14 j 01:08   | 30°R.M)  |  | direct   | -3314 Dec 10 j 07:03  | 19° <b>₩</b> 00'22  | 1.11027110  |
| opposition  | -3319 Apr 17 j 06:41   |  | 1°28'15  | direct   | -3313 Mar 10 j 15:10  | 0° <b>Υ</b>   |   |
| **  |  |  |  | . ,  | •   |   |   |
| min. Earth dist.  | -3319 Apr 18 j 10:12   | 29° m/26'37  | 4.25628 AU   | evening set  | -3313 Apr 15 j 23:44  | 7° <b>Ƴ</b> 54'06   |   |
| direct  | -3319 Jun 18 j 01:16   | 24° m/38′28  |  |  |   |   |   |
|   | -3319 Aug 18 j 11:25   | 0∘ <b>⊽</b>  |  | conjunction  | -3313 Apr 29 j 18:19  | 11° <b>Υ</b> ′01'43   |   |
| evening set   | -3319 Oct 21 j 05:13   | 12° <b>≏</b> 58'13   |  | minimum elong  | -3313 Apr 29 j 18:23  | 11° <b>Y</b> ′01′45   |   |
|   |  |  |  | max. Earth dist.   | -3313 May 01 j 04:40  | 11° <b>Ƴ</b> 21'14  | 6.17265 AU  |
| conjunction   | -3319 Nov 02 j 19:18   | 15° <b>≏</b> 52'26   | 0°42'13  | morning rise   | -3313 May 13 j 13:11  | 14° <b>Ƴ</b> 09'12  |   |
| minimum elong   | -3319 Nov 02 j 19:21   | 15° <b>≙</b> 52'27   | 0°42'11  |  | -3313 Aug 05 j 11:36  | $_{0\circ}$ 8   |   |
| max. Earth dist.  | -3319 Nov 01 j 13:22   | 15° <b>≏</b> 35'07   | 6.20097 AU   | retrograde   | -3313 Sep 16 j 09:12  | 2° <b>8</b> 44'04   |   |
| morning rise  | -3319 Nov 15 j 09:49   | 18° <b>≏</b> 47'04   |  | · ·  | -3313 Oct 28 j 03:52  | 30° <b>₽</b> Υ  |   |
| 8   | -3318 Jan 07 j 08:08   | 0°M  |  | opposition   | -3313 Nov 14 j 19:48  | 27° <b>Y</b> ′42'08   | -0°39'47  |
| retrograde  | -3318 Mar 22 j 04:03   | 7°ML31'37  |  | min. Earth dist.   | -3313 Nov 14 j 04:16  | 27° <b>Y</b> '47'23   | 4.22870 AU  |
| •   | -3318 May 22 j 04:03   | 2°M36'28   | 0°30'16  | direct   | ·   | 22° <b>Υ</b> '39'43   | 4.22070 AC  |
| opposition  | , ,  |  |  | direct   | -3312 Jan 13 j 16:17  |   |   |
| min. Earth dist.  | -3318 May 22 j 19:31   | 2°M32'11   | 4.14499 AU   |  | -3312 Mar 26 j 15:46  | 0°8   |   |
|   | -3318 Jun 12 j 15:51   | 30° <b>₹</b> Ω   |  | evening set  | -3312 May 20 j 03:30  | 11° <b>8</b> 07'13  |   |
| direct  | -3318 Jul 21 j 17:47   | 27° <b>≏</b> 42'09   |  |  |   |   |   |
|   | -3318 Aug 29 j 05:16   | 0° <b>M</b> ₊  |  | conjunction  | -3312 Jun 02 j 19:38  | 14° <b>8</b> 09'08  | -0°04'28  |
| desc. node  | -3318 Nov 09 j 22:50   | 13°M22'16  |  | minimum elong  | -3312 Jun 02 j 19:39  | 14° <b>8</b> 09'09  | 0°04'24   |
|   | -3318 Nov 17 j 00:25   | 15° <b>M</b> ₊   |  | behind sun begin   | -3312 Jun 02 j 11:30  | 14° <b>8</b> 04'39  |   |
| evening set   | -3318 Nov 23 j 03:58   | 16°M26'05  |  | behind sun end   | -3312 Jun 03 j 03:47  | 14° <b>8</b> 13'39  |   |
| C   | · ·  |  |  | max. Earth dist.   | -3312 Jun 03 j 08:18  | 14° <b>8</b> 16'10  | 6.28260 AU  |
| conjunction   | -3318 Dec 05 j 22:45   | 19°M26'52  | -0°03'12   |  | -3312 Jun 06 j 15:08  | 15° <b>8</b>  |   |
| minimum elong   | -3318 Dec 05 j 22:46   | 19°M26'52  |  | morning rise   | -3312 Jun 16 j 09:42  | 17° <b>8</b> 09'55  |   |
| behind sun begin  |  | 19°M22'09  | 0 03 18  | asc. node  |   | 22° <b>8</b> 33'39  |   |
| C   | -3318 Dec 05 j 14:45   |  |  | asc. node  | -3312 Jul 11 j 11:50  |   |   |
| behind sun end  | -3318 Dec 06 j 06:46   | 19° <b>M</b> ⋅31'35  |  | _  | -3312 Aug 20 j 18:39  | 0°Щ   |   |
| max. Earth dist.  | -3318 Dec 05 j 15:50   | 19° <b>M</b> 22'48   | 6.09392 AU   | retrograde   | -3312 Oct 17 j 01:52  | 4° <b>∏</b> 51′08   |   |
| morning rise  | -3318 Dec 18 j 19:29   | 22°M28'54  |  |  | -3312 Dec 14 j 20:05  | 30° <b>₹</b> 8  |   |
|   | -3317 Jan 21 j 02:00   | 0° <b>∡</b> ¹  |  | opposition   | -3312 Dec 15 j 16:51  | 29° <b>8</b> 53'06  | 0°25'52   |
| retrograde  | -3317 Apr 27 j 20:37   | 12° <b>∡</b> ′08'52  |  | min. Earth dist.   | -3312 Dec 15 j 16:45  | 29° <b>8</b> 53'08  | 4.32882 AU  |
| opposition  | -3317 Jun 27 j 14:16   | 7° <b>∡</b> ¹09'56   | -0°41'07   | direct   | -3311 Feb 14 j 20:29  | 24° <b>8</b> 49'33  |   |
| min. Earth dist.  | -3317 Jun 27 j 10:06   | 7° <b>∡</b> 11'18  | 4.05102 AU   |  | -3311 Apr 16 j 24:00  | $\Pi^{\circ}$ 0   |   |
| direct  | -3317 Aug 25 j 18:22   | 2° <b>҂</b> 16'53  |  | evening set  | -3311 Jun 22 j 15:36  | 12° <b>Ⅲ</b> 54'54  |   |
| evening set   | -3317 Dec 27 j 22:35   | 21° <b>∡</b> °23′58  |  | max. Earth dist.   | -3311 Jul 05 j 10:40  | 15° <b>Ⅱ</b> 42'57  | 6.36519 AU  |
| <b>3</b>  | · · · · · · · · · · · · · · · · · ·  |  |  |  |   |   |   |
| conjunction   |  |  |  |  | 3311 Jul  | 13 114237   | 0.30317 AU  |
|   | -3316 Ian 10 i 00:04   | 24° <b>7</b> 30'51   | -0°48'46   | conjunction  | -<br>-  |   |   |
|   | -3316 Jan 10 j 00:04   | 24° <b>⋌</b> 30'51   |  | conjunction  | -3311 Jul 06 j 00:05  | 15° <b>∏</b> 50′18  | 0°38'47   |
| minimum elong   | -3316 Jan 10 j 00:01   | 24° <b>∡</b> ³30'49  | 0°48'53  | minimum elong  | -3311 Jul 06 j 00:05<br>-3311 Jul 06 j 00:02  | 15° <b>Д</b> 50'18<br>15° <b>Д</b> 50'16  |   |
| max. Earth dist.  | -3316 Jan 10 j 00:01<br>-3316 Jan 10 j 19:14   | 24° <b>х</b> 30′49<br>24° <b>х</b> 42′17   |  | 5  | -3311 Jul 06 j 00:05<br>-3311 Jul 06 j 00:02<br>-3311 Jul 19 j 05:36  | 15° <b>Д</b> 50'18<br>15° <b>Д</b> 50'16<br>18° <b>Д</b> 44'07  | 0°38'47   |
| _   | -3316 Jan 10 j 00:01<br>-3316 Jan 10 j 19:14<br>-3316 Jan 23 j 04:44   | 24° ₹30'49<br>24° ₹42'17<br>27° ₹39'28   | 0°48'53  | minimum elong<br>morning rise  | -3311 Jul 06 j 00:05<br>-3311 Jul 06 j 00:02<br>-3311 Jul 19 j 05:36<br>-3311 Sep 14 j 00:20  | 15°П50'18<br>15°П50'16<br>18°П44'07<br>0°©  | 0°38'47   |
| max. Earth dist.<br>morning rise  | -3316 Jan 10 j 00:01<br>-3316 Jan 10 j 19:14<br>-3316 Jan 23 j 04:44<br>-3316 Feb 02 j 03:39   | 24° ₹30'49<br>24° ₹42'17<br>27° ₹39'28<br>0° ₹   | 0°48'53  | minimum elong<br>morning rise<br>retrograde  | -3311 Jul 06 j 00:05<br>-3311 Jul 06 j 00:02<br>-3311 Jul 19 j 05:36<br>-3311 Sep 14 j 00:20<br>-3311 Nov 16 j 22:36  | 15°П50'18<br>15°П50'16<br>18°П44'07<br>0°©<br>5°©51'55  | 0°38'47<br>0°38'55  |
| max. Earth dist. morning rise retrograde  | -3316 Jan 10 j 00:01<br>-3316 Jan 10 j 19:14<br>-3316 Jan 23 j 04:44<br>-3316 Feb 02 j 03:39<br>-3316 Jun 03 j 04:02   | 24° 🖈 30'49<br>24° 🖈 42'17<br>27° 🖈 39'28<br>0° る<br>17° る55'37  | 0°48'53<br>6.02144 AU  | minimum elong<br>morning rise<br>retrograde<br>opposition  | -3311 Jul 06 j 00:05<br>-3311 Jul 06 j 00:02<br>-3311 Jul 19 j 05:36<br>-3311 Sep 14 j 00:20<br>-3311 Nov 16 j 22:36<br>-3310 Jan 15 j 22:20  | 15°П50'18<br>15°П50'16<br>18°П44'07<br>0°©<br>5°©51'55<br>0°©57'27  | 0°38'47<br>0°38'55<br>1°21'42   |
| max. Earth dist. morning rise retrograde opposition   | -3316 Jan 10 j 00:01<br>-3316 Jan 10 j 19:14<br>-3316 Jan 23 j 04:44<br>-3316 Feb 02 j 03:39<br>-3316 Jun 03 j 04:02<br>-3316 Aug 02 j 10:52   | 24° 🗷 30'49<br>24° 🗷 42'17<br>27° 🗷 39'28<br>0° उ<br>17° उ55'37<br>12° उ52'56  | 0°48'53<br>6.02144 AU<br>-1°39'28  | minimum elong<br>morning rise<br>retrograde  | -3311 Jul 06 j 00:05<br>-3311 Jul 06 j 00:02<br>-3311 Jul 19 j 05:36<br>-3311 Sep 14 j 00:20<br>-3311 Nov 16 j 22:36<br>-3310 Jan 15 j 22:20<br>-3310 Jan 16 j 14:02  | 15°II50'18<br>15°II50'16<br>18°II44'07<br>0°I<br>5°II55<br>0°I57'27<br>0°I52'20   | 0°38'47<br>0°38'55  |
| max. Earth dist. morning rise retrograde  | -3316 Jan 10 j 00:01<br>-3316 Jan 10 j 19:14<br>-3316 Jan 23 j 04:44<br>-3316 Feb 02 j 03:39<br>-3316 Jun 03 j 04:02   | 24° 🖈 30'49<br>24° 🖈 42'17<br>27° 🖈 39'28<br>0° る<br>17° る55'37  | 0°48'53<br>6.02144 AU  | minimum elong<br>morning rise<br>retrograde<br>opposition  | -3311 Jul 06 j 00:05<br>-3311 Jul 06 j 00:02<br>-3311 Jul 19 j 05:36<br>-3311 Sep 14 j 00:20<br>-3311 Nov 16 j 22:36<br>-3310 Jan 15 j 22:20  | 15°П50'18<br>15°П50'16<br>18°П44'07<br>0°©<br>5°©51'55<br>0°©57'27  | 0°38'47<br>0°38'55<br>1°21'42   |
| max. Earth dist. morning rise retrograde opposition   | -3316 Jan 10 j 00:01<br>-3316 Jan 10 j 19:14<br>-3316 Jan 23 j 04:44<br>-3316 Feb 02 j 03:39<br>-3316 Jun 03 j 04:02<br>-3316 Aug 02 j 10:52   | 24° 🗷 30'49<br>24° 🗷 42'17<br>27° 🗷 39'28<br>0° उ<br>17° उ55'37<br>12° उ52'56  | 0°48'53<br>6.02144 AU<br>-1°39'28  | minimum elong<br>morning rise<br>retrograde<br>opposition  | -3311 Jul 06 j 00:05<br>-3311 Jul 06 j 00:02<br>-3311 Jul 19 j 05:36<br>-3311 Sep 14 j 00:20<br>-3311 Nov 16 j 22:36<br>-3310 Jan 15 j 22:20<br>-3310 Jan 16 j 14:02  | 15°II50'18<br>15°II50'16<br>18°II44'07<br>0°I<br>5°II55<br>0°I57'27<br>0°I52'20   | 0°38'47<br>0°38'55<br>1°21'42   |
| max. Earth dist. morning rise  retrograde opposition min. Earth dist.   | -3316 Jan 10 j 00:01<br>-3316 Jan 10 j 19:14<br>-3316 Jan 23 j 04:44<br>-3316 Feb 02 j 03:39<br>-3316 Jun 03 j 04:02<br>-3316 Aug 02 j 10:52<br>-3316 Aug 01 j 13:15   | 24° 🗷 30'49<br>24° 🗷 42'17<br>27° 🗷 39'28<br>0° ರ<br>17° ರ 55'37<br>12° ರ 55'56<br>13° ರ 00'10   | 0°48'53<br>6.02144 AU<br>-1°39'28  | minimum elong<br>morning rise<br>retrograde<br>opposition<br>min. Earth dist.  | -3311 Jul 06 j 00:05<br>-3311 Jul 06 j 00:02<br>-3311 Jul 19 j 05:36<br>-3311 Sep 14 j 00:20<br>-3311 Nov 16 j 22:36<br>-3310 Jan 15 j 22:20<br>-3310 Jan 16 j 14:02<br>-3310 Jan 23 j 07:37  | 15°II50'18<br>15°II50'16<br>18°II44'07<br>0°S<br>5°S51'55<br>0°S57'27<br>0°S52'20<br>30°RII   | 0°38'47<br>0°38'55<br>1°21'42   |
| max. Earth dist. morning rise  retrograde opposition min. Earth dist. direct  | -3316 Jan 10 j 00:01<br>-3316 Jan 10 j 19:14<br>-3316 Jan 23 j 04:44<br>-3316 Feb 02 j 03:39<br>-3316 Jun 03 j 04:02<br>-3316 Aug 02 j 10:52<br>-3316 Aug 01 j 13:15<br>-3316 Sep 29 j 15:16<br>-3315 Feb 01 j 08:19   | 24° \$\times 30'49 24° \$\times 42'17 27° \$\times 39'28 0° \$\times 17° \$\times 55'37 12° \$\times 52'56 13° \$\times 00'10 7° \$\times 59'04  | 0°48'53<br>6.02144 AU<br>-1°39'28  | minimum elong<br>morning rise<br>retrograde<br>opposition<br>min. Earth dist.<br>direct  | -3311 Jul 06 j 00:05<br>-3311 Jul 06 j 00:02<br>-3311 Jul 19 j 05:36<br>-3311 Sep 14 j 00:20<br>-3311 Nov 16 j 22:36<br>-3310 Jan 15 j 22:20<br>-3310 Jan 23 j 07:37<br>-3310 Mar 19 j 02:54<br>-3310 May 12 j 12:55  | 15° II 50'18<br>15° II 50'16<br>18° II 44'07<br>0° 95<br>5° 9551'55<br>0° 9557'27<br>0° 9552'20<br>30° R II<br>25° II 54'06<br>0° 96  | 0°38'47<br>0°38'55<br>1°21'42   |
| max. Earth dist. morning rise  retrograde opposition min. Earth dist. direct  | -3316 Jan 10 j 00:01<br>-3316 Jan 10 j 19:14<br>-3316 Jan 23 j 04:44<br>-3316 Feb 02 j 03:39<br>-3316 Jun 03 j 04:02<br>-3316 Aug 02 j 10:52<br>-3316 Aug 01 j 13:15<br>-3316 Sep 29 j 15:16   | 24° ₹30'49<br>24° ₹42'17<br>27° ₹39'28<br>0° ₹<br>17° ₹55'37<br>12° ₹52'56<br>13° ₹00'10<br>7° ₹59'04<br>27° ₹18'42  | 0°48'53<br>6.02144 AU<br>-1°39'28  | minimum elong morning rise  retrograde opposition min. Earth dist.  direct  evening set  | -3311 Jul 06 j 00:05<br>-3311 Jul 06 j 00:02<br>-3311 Jul 19 j 05:36<br>-3311 Sep 14 j 00:20<br>-3311 Nov 16 j 22:36<br>-3310 Jan 15 j 22:20<br>-3310 Jan 23 j 07:37<br>-3310 Mar 19 j 02:54<br>-3310 May 12 j 12:55<br>-3310 Jul 24 j 17:29  | 15° II 50'18<br>15° II 50'16<br>18° II 44'07<br>0° 95<br>5° 951'55<br>0° 957'27<br>0° 9552'20<br>30° R.II<br>25° II 54'06<br>0° 95<br>13° 947'13  | 0°38'47<br>0°38'55<br>1°21'42<br>4.38902 AU                                     |
| max. Earth dist. morning rise  retrograde opposition min. Earth dist. direct evening set  | -3316 Jan 10 j 00:01<br>-3316 Jan 10 j 19:14<br>-3316 Jan 23 j 04:44<br>-3316 Feb 02 j 03:39<br>-3316 Jun 03 j 04:02<br>-3316 Aug 02 j 10:52<br>-3316 Sep 29 j 15:16<br>-3315 Feb 01 j 08:19<br>-3315 Feb 12 j 16:09   | 24° ₹30'49<br>24° ₹42'17<br>27° ₹39'28<br>0° ጜ<br>17° ጜ55'37<br>12° ጜ52'56<br>13° ጜ00'10<br>7° ጜ59'04<br>27° ጜ18'42<br>0° ※  | 0°48'53<br>6.02144 AU<br>-1°39'28<br>4.00882 AU                                      | minimum elong<br>morning rise<br>retrograde<br>opposition<br>min. Earth dist.<br>direct  | -3311 Jul 06 j 00:05<br>-3311 Jul 06 j 00:02<br>-3311 Jul 19 j 05:36<br>-3311 Sep 14 j 00:20<br>-3311 Nov 16 j 22:36<br>-3310 Jan 15 j 22:20<br>-3310 Jan 23 j 07:37<br>-3310 Mar 19 j 02:54<br>-3310 May 12 j 12:55  | 15° II 50'18<br>15° II 50'16<br>18° II 44'07<br>0° 95<br>5° 9551'55<br>0° 9557'27<br>0° 9552'20<br>30° R II<br>25° II 54'06<br>0° 96  | 0°38'47<br>0°38'55<br>1°21'42   |
| max. Earth dist. morning rise  retrograde opposition min. Earth dist. direct evening set  conjunction   | -3316 Jan 10 j 00:01<br>-3316 Jan 10 j 19:14<br>-3316 Jan 23 j 04:44<br>-3316 Feb 02 j 03:39<br>-3316 Jun 03 j 04:02<br>-3316 Aug 02 j 10:52<br>-3316 Sep 29 j 15:16<br>-3315 Feb 01 j 08:19<br>-3315 Feb 12 j 16:09   | 24° ₹30'49<br>24° ₹42'17<br>27° ₹39'28<br>0° ₹<br>17° ₹55'37<br>12° ₹52'56<br>13° ₹00'10<br>7° ₹59'04<br>27° ₹18'42<br>0° ≈<br>0° ≈29'09   | 0°48'53<br>6.02144 AU<br>-1°39'28<br>4.00882 AU                                      | retrograde opposition min. Earth dist. direct evening set max. Earth dist.   | -3311 Jul 06 j 00:05<br>-3311 Jul 06 j 00:02<br>-3311 Jul 19 j 05:36<br>-3311 Sep 14 j 00:20<br>-3311 Nov 16 j 22:36<br>-3310 Jan 15 j 22:20<br>-3310 Jan 16 j 14:02<br>-3310 Jan 23 j 07:37<br>-3310 Mar 19 j 02:54<br>-3310 Jul 24 j 17:29<br>-3310 Aug 05 j 09:25  | 15°II50'18 15°II50'16 18°II44'07 0°S 5°S51'55 0°S57'27 0°S52'20 30°RII 25°II54'06 0°S 13°S47'13 16°S20'12   | 0°38'47<br>0°38'55<br>1°21'42<br>4.38902 AU<br>6.39754 AU                       |
| max. Earth dist. morning rise  retrograde opposition min. Earth dist. direct evening set  conjunction minimum elong   | -3316 Jan 10 j 00:01<br>-3316 Jan 10 j 19:14<br>-3316 Jan 23 j 04:44<br>-3316 Feb 02 j 03:39<br>-3316 Jun 03 j 04:02<br>-3316 Aug 02 j 10:52<br>-3316 Sep 29 j 15:16<br>-3315 Feb 01 j 08:19<br>-3315 Feb 12 j 16:09<br>-3315 Feb 14 j 17:10<br>-3315 Feb 14 j 17:08   | 24° ₹30'49<br>24° ₹42'17<br>27° ₹39'28<br>0° ₹<br>17° ₹55'37<br>12° ₹52'56<br>13° ₹00'10<br>7° ₹59'04<br>27° ₹18'42<br>0° ≈<br>0° ≈29'09<br>0° ≈29'08  | 0°48'53<br>6.02144 AU<br>-1°39'28<br>4.00882 AU<br>-1°16'52<br>1°16'58               | minimum elong morning rise  retrograde opposition min. Earth dist.  direct  evening set max. Earth dist.  conjunction  | -3311 Jul 06 j 00:05<br>-3311 Jul 06 j 00:02<br>-3311 Jul 19 j 05:36<br>-3311 Sep 14 j 00:20<br>-3311 Nov 16 j 22:36<br>-3310 Jan 15 j 22:20<br>-3310 Jan 16 j 14:02<br>-3310 Jan 23 j 07:37<br>-3310 Mar 19 j 02:54<br>-3310 Jul 24 j 17:29<br>-3310 Aug 05 j 09:25<br>-3310 Aug 06 j 16:53  | 15° II 50'18 15° II 50'16 18° II 44'07 0° 50 5° 55'1'55 0° 557'27 0° 552'20 30° R II 25° II 54'06 0° 50 13° 547'13 16° 520'12   | 0°38'47<br>0°38'55<br>1°21'42<br>4.38902 AU<br>6.39754 AU<br>1°09'58            |
| max. Earth dist. morning rise  retrograde opposition min. Earth dist. direct evening set  conjunction minimum elong max. Earth dist.  | -3316 Jan 10 j 00:01<br>-3316 Jan 10 j 19:14<br>-3316 Jan 23 j 04:44<br>-3316 Feb 02 j 03:39<br>-3316 Jun 03 j 04:02<br>-3316 Aug 02 j 10:52<br>-3316 Sep 29 j 15:16<br>-3315 Feb 01 j 08:19<br>-3315 Feb 12 j 16:09<br>-3315 Feb 14 j 17:10<br>-3315 Feb 14 j 17:08<br>-3315 Feb 16 j 09:18   | 24° ₹30'49<br>24° ₹42'17<br>27° ₹39'28<br>0° ♂<br>17° ♂55'37<br>12° ♂52'56<br>13° ♂00'10<br>7° ♂59'04<br>27° ♂18'42<br>0° ≈<br>0° ≈29'09<br>0° ≈29'08<br>0° ≈53'01   | 0°48'53<br>6.02144 AU<br>-1°39'28<br>4.00882 AU                                      | minimum elong morning rise  retrograde opposition min. Earth dist.  direct evening set max. Earth dist.  conjunction minimum elong   | -3311 Jul 06 j 00:05<br>-3311 Jul 06 j 00:02<br>-3311 Jul 19 j 05:36<br>-3311 Sep 14 j 00:20<br>-3311 Nov 16 j 22:36<br>-3310 Jan 15 j 22:20<br>-3310 Jan 16 j 14:02<br>-3310 Jan 23 j 07:37<br>-3310 Mar 19 j 02:54<br>-3310 May 12 j 12:55<br>-3310 Jul 24 j 17:29<br>-3310 Aug 06 j 16:53<br>-3310 Aug 06 j 16:53  | 15° II 50'18 15° II 50'16 18° II 44'07 0° 99 5° 951'55 0° 957'27 0° 952'20 30° RII 25° II 54'06 0° 99 13° 947'13 16° 920'12 16° 937'27 16° 937'26   | 0°38'47<br>0°38'55<br>1°21'42<br>4.38902 AU<br>6.39754 AU                       |
| max. Earth dist. morning rise  retrograde opposition min. Earth dist. direct evening set  conjunction minimum elong   | -3316 Jan 10 j 00:01<br>-3316 Jan 10 j 19:14<br>-3316 Jan 23 j 04:44<br>-3316 Feb 02 j 03:39<br>-3316 Jun 03 j 04:02<br>-3316 Aug 02 j 10:52<br>-3316 Sep 29 j 15:16<br>-3315 Feb 01 j 08:19<br>-3315 Feb 12 j 16:09<br>-3315 Feb 14 j 17:10<br>-3315 Feb 14 j 17:08<br>-3315 Feb 16 j 09:18<br>-3315 Feb 28 j 05:20   | 24° ₹30'49<br>24° ₹42'17<br>27° ₹39'28<br>0° ♂<br>17° ♂55'37<br>12° ♂52'56<br>13° ♂00'10<br>7° ♂59'04<br>27° ♂18'42<br>0° ≈<br>0° ≈29'09<br>0° ≈29'08<br>0° ≈53'01<br>3° ≈41'15  | 0°48'53<br>6.02144 AU<br>-1°39'28<br>4.00882 AU<br>-1°16'52<br>1°16'58               | minimum elong morning rise  retrograde opposition min. Earth dist.  direct  evening set max. Earth dist.  conjunction  | -3311 Jul 06 j 00:05<br>-3311 Jul 06 j 00:02<br>-3311 Jul 19 j 05:36<br>-3311 Sep 14 j 00:20<br>-3311 Nov 16 j 22:36<br>-3310 Jan 15 j 22:20<br>-3310 Jan 16 j 14:02<br>-3310 Jan 23 j 07:37<br>-3310 Mar 19 j 02:54<br>-3310 Jul 24 j 17:29<br>-3310 Aug 05 j 09:25<br>-3310 Aug 06 j 16:53<br>-3310 Aug 06 j 16:50<br>-3310 Aug 19 j 12:51  | 15° II 50'18 15° II 50'16 18° II 44'07 0° 99 5° 9551'55 0° 9557'27 0° 9552'20 30° RII 25° II 54'06 0° 99 13° 947'13 16° 920'12 16° 937'27 16° 937'26 19° 926'06   | 0°38'47<br>0°38'55<br>1°21'42<br>4.38902 AU<br>6.39754 AU<br>1°09'58            |
| max. Earth dist. morning rise  retrograde opposition min. Earth dist. direct evening set  conjunction minimum elong max. Earth dist. morning rise   | -3316 Jan 10 j 00:01<br>-3316 Jan 10 j 19:14<br>-3316 Jan 23 j 04:44<br>-3316 Feb 02 j 03:39<br>-3316 Jun 03 j 04:02<br>-3316 Aug 02 j 10:52<br>-3316 Aug 01 j 13:15<br>-3316 Sep 29 j 15:16<br>-3315 Feb 01 j 08:19<br>-3315 Feb 12 j 16:09<br>-3315 Feb 14 j 17:10<br>-3315 Feb 14 j 17:08<br>-3315 Feb 16 j 09:18<br>-3315 Feb 28 j 05:20<br>-3315 Apr 20 j 18:00   | 24° \$\times 30'49 24° \$\times 42'17 27° \$\times 39'28 0° \$\times 55'37 12° \$\times 52'56 13° \$\times 00'10 7° \$\times 59'04 27° \$\times 18'42 0° \$\times 29'09 0° \$\times 29'08 0° \$\times 53'01 3° \$\times 41'15 15° \$\times 15'   | 0°48'53<br>6.02144 AU<br>-1°39'28<br>4.00882 AU<br>-1°16'52<br>1°16'58               | minimum elong morning rise  retrograde opposition min. Earth dist.  direct  evening set max. Earth dist.  conjunction minimum elong morning rise   | -3311 Jul 06 j 00:05<br>-3311 Jul 19 j 05:36<br>-3311 Sep 14 j 00:20<br>-3311 Nov 16 j 22:36<br>-3310 Jan 15 j 22:20<br>-3310 Jan 16 j 14:02<br>-3310 Jan 23 j 07:37<br>-3310 Mar 19 j 02:54<br>-3310 May 12 j 12:55<br>-3310 Aug 06 j 16:53<br>-3310 Aug 06 j 16:50<br>-3310 Aug 19 j 12:51<br>-3310 Oct 11 j 06:11  | 15°II50'18 15°II50'16 18°II44'07 0°\$ 5°\$51'55 0°\$57'27 0°\$52'20 30°RII 25°II54'06 0°\$ 13°\$47'13 16°\$20'12 16°\$37'27 16°\$37'26 19°\$26'06 0°\$  | 0°38'47<br>0°38'55<br>1°21'42<br>4.38902 AU<br>6.39754 AU<br>1°09'58            |
| max. Earth dist. morning rise  retrograde opposition min. Earth dist. direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde                             | -3316 Jan 10 j 00:01 -3316 Jan 10 j 19:14 -3316 Jan 23 j 04:44 -3316 Feb 02 j 03:39 -3316 Jun 03 j 04:02 -3316 Aug 02 j 10:52 -3316 Aug 01 j 13:15 -3316 Sep 29 j 15:16 -3315 Feb 01 j 08:19 -3315 Feb 12 j 16:09 -3315 Feb 14 j 17:10 -3315 Feb 14 j 17:08 -3315 Feb 16 j 09:18 -3315 Feb 28 j 05:20 -3315 Apr 20 j 18:00 -3315 Jul 09 j 23:30  | 24° \$\times 30'49 24° \$\times 42'17 27° \$\times 39'28 0° \$\times 55'37 12° \$\times 55'56 13° \$\times 50'10 7° \$\times 59'04 27° \$\times 18'42 0° \$\times 29'08 0° \$\times 29'08 0° \$\times 53'01 3° \$\times 41'15 15° \$\times 23° \$\times 55'40  | 0°48'53<br>6.02144 AU<br>-1°39'28<br>4.00882 AU<br>-1°16'52<br>1°16'58<br>6.01211 AU | minimum elong morning rise  retrograde opposition min. Earth dist.  direct evening set max. Earth dist.  conjunction minimum elong morning rise retrograde                               | -3311 Jul 06 j 00:05 -3311 Jul 19 j 05:36 -3311 Sep 14 j 00:20 -3311 Nov 16 j 22:36 -3310 Jan 15 j 22:20 -3310 Jan 16 j 14:02 -3310 Jan 23 j 07:37 -3310 Mar 19 j 02:54 -3310 May 12 j 12:55 -3310 Aug 06 j 16:53 -3310 Aug 06 j 16:50 -3310 Aug 19 j 12:51 -3310 Oct 11 j 06:11 -3310 Dec 17 j 19:29   | 15° II 50'18 15° II 50'16 18° II 44'07 0° 9 5° 951'55 0° 957'27 0° 952'20 30° RII 25° II 54'06 0° 9 13° 947'13 16° 937'27 16° 937'26 19° 926'06 0° \( \Omega \) 6° \( \Omega \) 6° \( \Omega \) 6° \( \Omega \) 6° \( \Omega \)   | 0°38'47<br>0°38'55<br>1°21'42<br>4.38902 AU<br>6.39754 AU<br>1°09'58<br>1°10'05 |
| max. Earth dist. morning rise  retrograde opposition min. Earth dist. direct evening set  conjunction minimum elong max. Earth dist. morning rise   | -3316 Jan 10 j 00:01<br>-3316 Jan 10 j 19:14<br>-3316 Jan 23 j 04:44<br>-3316 Feb 02 j 03:39<br>-3316 Jun 03 j 04:02<br>-3316 Aug 02 j 10:52<br>-3316 Aug 01 j 13:15<br>-3316 Sep 29 j 15:16<br>-3315 Feb 01 j 08:19<br>-3315 Feb 12 j 16:09<br>-3315 Feb 14 j 17:10<br>-3315 Feb 14 j 17:08<br>-3315 Feb 16 j 09:18<br>-3315 Feb 28 j 05:20<br>-3315 Apr 20 j 18:00   | 24° \$\times 30'49 24° \$\times 42'17 27° \$\times 39'28 0° \$\times 55'37 12° \$\times 52'56 13° \$\times 00'10 7° \$\times 59'04 27° \$\times 18'42 0° \$\times 29'09 0° \$\times 29'08 0° \$\times 53'01 3° \$\times 41'15 15° \$\times 15'   | 0°48'53<br>6.02144 AU<br>-1°39'28<br>4.00882 AU<br>-1°16'52<br>1°16'58<br>6.01211 AU | minimum elong morning rise  retrograde opposition min. Earth dist.  direct  evening set max. Earth dist.  conjunction minimum elong morning rise   | -3311 Jul 06 j 00:05<br>-3311 Jul 19 j 05:36<br>-3311 Sep 14 j 00:20<br>-3311 Nov 16 j 22:36<br>-3310 Jan 15 j 22:20<br>-3310 Jan 16 j 14:02<br>-3310 Jan 23 j 07:37<br>-3310 Mar 19 j 02:54<br>-3310 May 12 j 12:55<br>-3310 Aug 06 j 16:53<br>-3310 Aug 06 j 16:50<br>-3310 Aug 19 j 12:51<br>-3310 Oct 11 j 06:11  | 15° II 50'18 15° II 50'16 18° II 44'07 0° 9 5° 951'55 0° 957'27 0° 952'20 30° RII 25° II 54'06 0° 9 13° 947'13 16° 937'27 16° 937'26 19° 926'06 0° \( \Omega\$ 6° \( \Omega\$ 26'02 1° \( \Omega\$ 33'54  | 0°38'47<br>0°38'55<br>1°21'42<br>4.38902 AU<br>6.39754 AU<br>1°09'58            |
| max. Earth dist. morning rise  retrograde opposition min. Earth dist. direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde                             | -3316 Jan 10 j 00:01 -3316 Jan 10 j 19:14 -3316 Jan 23 j 04:44 -3316 Feb 02 j 03:39 -3316 Jun 03 j 04:02 -3316 Aug 02 j 10:52 -3316 Aug 01 j 13:15 -3316 Sep 29 j 15:16 -3315 Feb 01 j 08:19 -3315 Feb 12 j 16:09 -3315 Feb 14 j 17:10 -3315 Feb 14 j 17:08 -3315 Feb 16 j 09:18 -3315 Feb 28 j 05:20 -3315 Apr 20 j 18:00 -3315 Jul 09 j 23:30  | 24° \$\times 30'49 24° \$\times 42'17 27° \$\times 39'28 0° \$\times 55'37 12° \$\times 55'56 13° \$\times 50'04 27° \$\times 18'42 0° \$\approx 29'09 0° \$\approx 29'08 0° \$\approx 53'01 3° \$\approx 41'15 15° \$\approx 23' \$\approx 55'40 18° \$\approx 50'40  | 0°48'53<br>6.02144 AU<br>-1°39'28<br>4.00882 AU<br>-1°16'52<br>1°16'58<br>6.01211 AU | minimum elong morning rise  retrograde opposition min. Earth dist.  direct evening set max. Earth dist.  conjunction minimum elong morning rise retrograde                               | -3311 Jul 06 j 00:05 -3311 Jul 19 j 05:36 -3311 Sep 14 j 00:20 -3311 Nov 16 j 22:36 -3310 Jan 15 j 22:20 -3310 Jan 16 j 14:02 -3310 Jan 23 j 07:37 -3310 Mar 19 j 02:54 -3310 May 12 j 12:55 -3310 Aug 06 j 16:53 -3310 Aug 06 j 16:50 -3310 Aug 19 j 12:51 -3310 Oct 11 j 06:11 -3310 Dec 17 j 19:29   | 15° II 50'18 15° II 50'16 18° II 44'07 0° 9 5° 951'55 0° 957'27 0° 952'20 30° RII 25° II 54'06 0° 9 13° 947'13 16° 937'27 16° 937'26 19° 926'06 0° \( \Omega \) 6° \( \Omega \) 6° \( \Omega \) 6° \( \Omega \) 6° \( \Omega \)   | 0°38'47<br>0°38'55<br>1°21'42<br>4.38902 AU<br>6.39754 AU<br>1°09'58<br>1°10'05 |
| max. Earth dist. morning rise  retrograde opposition min. Earth dist. direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde opposition                  | -3316 Jan 10 j 00:01 -3316 Jan 10 j 19:14 -3316 Jan 23 j 04:44 -3316 Feb 02 j 03:39 -3316 Jun 03 j 04:02 -3316 Aug 02 j 10:52 -3316 Aug 01 j 13:15 -3316 Sep 29 j 15:16 -3315 Feb 01 j 08:19 -3315 Feb 12 j 16:09  -3315 Feb 14 j 17:10 -3315 Feb 14 j 17:08 -3315 Feb 16 j 09:18 -3315 Feb 28 j 05:20 -3315 Apr 20 j 18:00 -3315 Jul 09 j 23:30 -3315 Sep 07 j 18:09  | 24° \$\times 30'49 24° \$\times 42'17 27° \$\times 39'28 0° \$\times 55'37 12° \$\times 55'56 13° \$\times 50'04 27° \$\times 18'42 0° \$\approx 29'09 0° \$\approx 29'08 0° \$\approx 53'01 3° \$\approx 41'15 15° \$\approx 23' \$\approx 55'40 18° \$\approx 50'40  | 0°48'53<br>6.02144 AU<br>-1°39'28<br>4.00882 AU<br>-1°16'52<br>1°16'58<br>6.01211 AU | minimum elong morning rise  retrograde opposition min. Earth dist.  direct evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition                   | -3311 Jul 06 j 00:05 -3311 Jul 19 j 05:36 -3311 Sep 14 j 00:20 -3311 Nov 16 j 22:36 -3310 Jan 15 j 22:20 -3310 Jan 16 j 14:02 -3310 Jan 23 j 07:37 -3310 Mar 19 j 02:54 -3310 May 12 j 12:55 -3310 Aug 05 j 09:25 -3310 Aug 06 j 16:50 -3310 Aug 06 j 16:50 -3310 Aug 19 j 12:51 -3310 Oct 11 j 06:11 -3310 Dec 17 j 19:29 -3309 Feb 16 j 06:38   | 15° II 50'18 15° II 50'16 18° II 44'07 0° 9 5° 951'55 0° 957'27 0° 952'20 30° RII 25° II 54'06 0° 9 13° 947'13 16° 937'27 16° 937'26 19° 926'06 0° \( \Omega\$ 6° \( \Omega\$ 26'02 1° \( \Omega\$ 33'54  | 0°38'47<br>0°38'55<br>1°21'42<br>4.38902 AU<br>6.39754 AU<br>1°09'58<br>1°10'05 |
| max. Earth dist. morning rise  retrograde opposition min. Earth dist. direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde opposition                  | -3316 Jan 10 j 00:01 -3316 Jan 10 j 19:14 -3316 Jan 23 j 04:44 -3316 Feb 02 j 03:39 -3316 Jun 03 j 04:02 -3316 Aug 02 j 10:52 -3316 Aug 01 j 13:15 -3316 Sep 29 j 15:16 -3315 Feb 01 j 08:19 -3315 Feb 12 j 16:09 -3315 Feb 14 j 17:08 -3315 Feb 14 j 17:08 -3315 Feb 16 j 09:18 -3315 Feb 28 j 05:20 -3315 Apr 20 j 18:00 -3315 Sep 07 j 18:09 -3315 Sep 06 j 12:45   | 24° \$\times 30'49 24° \$\times 42'17 27° \$\times 39'28 0° \$\times 55'37 12° \$\times 55'56 13° \$\times 50'04 27° \$\times 18'42 0° \$\imes 29'09 0° \$\imes 29'08 0° \$\imes 53'01 3° \$\imes 41'15 15° \$\imes 23° \$\imes 55'40 18° \$\imes 50'40 19° \$\imes 00'41  | 0°48'53<br>6.02144 AU<br>-1°39'28<br>4.00882 AU<br>-1°16'52<br>1°16'58<br>6.01211 AU | minimum elong morning rise  retrograde opposition min. Earth dist.  direct evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition                   | -3311 Jul 06 j 00:05 -3311 Jul 06 j 00:02 -3311 Jul 19 j 05:36 -3311 Sep 14 j 00:20 -3311 Nov 16 j 22:36 -3310 Jan 15 j 22:20 -3310 Jan 16 j 14:02 -3310 Jan 23 j 07:37 -3310 Mar 19 j 02:54 -3310 May 12 j 12:55 -3310 Jul 24 j 17:29 -3310 Aug 06 j 16:53 -3310 Aug 06 j 16:50 -3310 Aug 06 j 16:50 -3310 Aug 19 j 12:51 -3310 Oct 11 j 06:11 -3310 Dec 17 j 19:29 -3309 Feb 16 j 06:38 -3309 Feb 17 j 09:04                      | 15° II 50'18 15° II 50'16 18° II 44'07 0° 9 5° 951'55 0° 957'27 0° 952'20 30° RII 25° II 54'06 0° 9 13° 947'13 16° 937'27 16° 937'26 19° 926'06 0° \( \alpha\) 6° \( \alpha\) 26'02 1° \( \alpha\) 3'54 1° \( \alpha\) 25'26  | 0°38'47<br>0°38'55<br>1°21'42<br>4.38902 AU<br>6.39754 AU<br>1°09'58<br>1°10'05 |
| max. Earth dist. morning rise  retrograde opposition min. Earth dist. direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde opposition min. Earth dist. | -3316 Jan 10 j 00:01 -3316 Jan 10 j 19:14 -3316 Jan 23 j 04:44 -3316 Feb 02 j 03:39 -3316 Jun 03 j 04:02 -3316 Aug 02 j 10:52 -3316 Aug 01 j 13:15 -3316 Sep 29 j 15:16 -3315 Feb 01 j 08:19 -3315 Feb 12 j 16:09  -3315 Feb 14 j 17:10 -3315 Feb 14 j 17:08 -3315 Feb 16 j 09:18 -3315 Feb 28 j 05:20 -3315 Apr 20 j 18:00 -3315 Sep 07 j 18:09 -3315 Sep 06 j 12:45 -3315 Oct 10 j 08:30   | 24° \$\times 30'49 24° \$\times 42'17 27° \$\times 39'28 0° \$\times 55'37 12° \$\times 55'56 13° \$\times 50'04 27° \$\times 18'42 0° \$\imes 29'09 0° \$\imes 29'08 0° \$\imes 53'01 3° \$\imes 41'15 15° \$\imes 23° \$\imes 55'40 18° \$\imes 50'40 19° \$\imes 00'41 15° \$\imes \$\imes 60'40  | 0°48'53<br>6.02144 AU<br>-1°39'28<br>4.00882 AU<br>-1°16'52<br>1°16'58<br>6.01211 AU | minimum elong morning rise  retrograde opposition min. Earth dist.  direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. | -3311 Jul 06 j 00:05 -3311 Jul 06 j 00:02 -3311 Jul 19 j 05:36 -3311 Sep 14 j 00:20 -3311 Nov 16 j 22:36 -3310 Jan 15 j 22:20 -3310 Jan 16 j 14:02 -3310 Mar 19 j 02:54 -3310 May 12 j 12:55 -3310 Jul 24 j 17:29 -3310 Aug 06 j 16:53 -3310 Aug 06 j 16:53 -3310 Aug 06 j 16:50 -3310 Aug 19 j 12:51 -3310 Dec 17 j 19:29 -3309 Feb 16 j 06:38 -3309 Feb 17 j 09:04 -3309 Feb 28 j 16:33   | 15° II 50'18 15° II 50'16 18° II 44'07 0° 9 5° 951'55 0° 957'27 0° 952'20 30° RII 25° II 54'06 0° 9 13° 947'13 16° 937'27 16° 937'26 19° 926'06 0° \( \alpha\) 6° \( \alpha\) 26'02 1° \( \alpha\) 33'54 1° \( \alpha\) 25'26 30° RS  | 0°38'47<br>0°38'55<br>1°21'42<br>4.38902 AU<br>6.39754 AU<br>1°09'58<br>1°10'05 |
| max. Earth dist. morning rise  retrograde opposition min. Earth dist. direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde opposition min. Earth dist. | -3316 Jan 10 j 00:01 -3316 Jan 10 j 19:14 -3316 Jan 23 j 04:44 -3316 Feb 02 j 03:39 -3316 Jun 03 j 04:02 -3316 Aug 02 j 10:52 -3316 Aug 01 j 13:15 -3316 Sep 29 j 15:16 -3315 Feb 10 j 08:19 -3315 Feb 12 j 16:09  -3315 Feb 14 j 17:10 -3315 Feb 14 j 17:08 -3315 Feb 16 j 09:18 -3315 Feb 28 j 05:20 -3315 Apr 20 j 18:00 -3315 Sep 07 j 18:09 -3315 Sep 07 j 18:09 -3315 Oct 10 j 08:30 -3315 Nov 04 j 19:28 -3315 Nov 30 j 07:50 | 24° \$\times 30'49 24° \$\times 42'17 27° \$\times 39'28 0° \$\times 55'37 12° \$\times 55'56 13° \$\times 50'04 27° \$\times 18'42 0° \$\times 29'09 0° \$\times 29'08 0° \$\times 29'08 0° \$\times 53'01 3° \$\times 41'15 15° \$\times 23° \$\times 55'40 18° \$\times 50'40 19° \$\times 00'41 15° \$\times 13° \$\times 54'06 15° \$\times 15' \$\times | 0°48'53<br>6.02144 AU<br>-1°39'28<br>4.00882 AU<br>-1°16'52<br>1°16'58<br>6.01211 AU | retrograde opposition min. Earth dist.  direct evening set max. Earth dist.  conjunction minimum elong morning rise retrograde opposition min. Earth dist.                               | -3311 Jul 06 j 00:05 -3311 Jul 06 j 00:02 -3311 Jul 19 j 05:36 -3311 Sep 14 j 00:20 -3311 Nov 16 j 22:36 -3310 Jan 15 j 22:20 -3310 Jan 16 j 14:02 -3310 Mar 19 j 02:54 -3310 May 12 j 12:55 -3310 Jul 24 j 17:29 -3310 Aug 06 j 16:53 -3310 Aug 06 j 16:53 -3310 Aug 19 j 12:51 -3310 Oct 11 j 06:11 -3310 Dec 17 j 19:29 -3309 Feb 16 j 06:38 -3309 Feb 17 j 09:04 -3309 Feb 28 j 16:33 -3309 Apr 19 j 22:03 -3309 Jun 08 j 17:49 | 15° II 50'18 15° II 50'16 18° II 44'07 0° 56 5° 551'55 0° 557'27 0° 552'20 30° R.II 25° II 54'06 0° 56 13° 547'13 16° 520'12 16° 537'27 16° 537'26 19° 526'06 0° \( \Omega\) 6° \( \Omega\) 25'26 30° R. \( \Omega\) 1° \( \Omega\) 33'54 1° \( \Omega\) 25'26 30° R. \( \Omega\) 26° 532'06 0° \( \Omega\)   | 0°38'47<br>0°38'55<br>1°21'42<br>4.38902 AU<br>6.39754 AU<br>1°09'58<br>1°10'05 |
| max. Earth dist. morning rise  retrograde opposition min. Earth dist. direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde opposition min. Earth dist. | -3316 Jan 10 j 00:01 -3316 Jan 10 j 19:14 -3316 Jan 23 j 04:44 -3316 Feb 02 j 03:39 -3316 Jun 03 j 04:02 -3316 Aug 02 j 10:52 -3316 Aug 01 j 13:15 -3316 Sep 29 j 15:16 -3315 Feb 01 j 08:19 -3315 Feb 12 j 16:09 -3315 Feb 14 j 17:10 -3315 Feb 14 j 17:08 -3315 Feb 16 j 09:18 -3315 Feb 28 j 05:20 -3315 Feb 28 j 05:20 -3315 Apr 20 j 18:00 -3315 Sep 07 j 18:09 -3315 Sep 06 j 12:45 -3315 Oct 10 j 08:30 -3315 Nov 04 j 19:28  | 24° ₹30'49 24° ₹42'17 27° ₹39'28 0° ₹ 17° ₹55'37 12° ₹55'56 13° ₹00'10 7° ₹59'04 27° ₹18'42 0° ≈ 0° ≈29'09 0° ≈29'08 0° ≈53'01 3° ≈41'15 15° ≈ 23° ≈55'40 18° ≈00'41 15° ₹≈ 13° ≈54'06   | 0°48'53<br>6.02144 AU<br>-1°39'28<br>4.00882 AU<br>-1°16'52<br>1°16'58<br>6.01211 AU | minimum elong morning rise  retrograde opposition min. Earth dist.  direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist. | -3311 Jul 06 j 00:05 -3311 Jul 06 j 00:02 -3311 Jul 19 j 05:36 -3311 Sep 14 j 00:20 -3311 Nov 16 j 22:36 -3310 Jan 15 j 22:20 -3310 Jan 16 j 14:02 -3310 Mar 19 j 02:54 -3310 Mar 19 j 02:55 -3310 Jul 24 j 17:29 -3310 Aug 05 j 09:25 -3310 Aug 06 j 16:53 -3310 Aug 06 j 16:50 -3310 Aug 19 j 12:51 -3310 Dec 17 j 19:29 -3309 Feb 16 j 06:38 -3309 Feb 17 j 09:04 -3309 Feb 28 j 16:33 -3309 Apr 19 j 22:03                      | 15° II 50'18 15° II 50'16 18° II 44'07 0° \$\text{So'155}\$ 0° \text{So'155}\$ 0° \text{So'155}\$ 0° \text{So'155}\$ 0° \text{So'154'06}\$ 0° \text{So'154'06}\$ 0° \text{So'154'06}\$ 13° \text{So'1727}\$ 16° \text{So'37'27}\$ 16° \text{So'37'27}\$ 16° \text{So'37'26}\$ 19° \text{So'26'06}\$ 0° \$\text{\$ | 0°38'47<br>0°38'55<br>1°21'42<br>4.38902 AU<br>6.39754 AU<br>1°09'58<br>1°10'05 |

| •                                       | and year atyle is used. Th |                                 | •          | / /              | 3310 BCE in historical co |                              | ge 9        |
|---|----------------------------|---------------------------------|------------|------------------|---------------------------|------------------------------|-------------|
| max. Earth dist.                        | -3309 Sep 04 j 19:42       | -                               |            | max. Earth dist. |                           |                              | 6.01426 AU  |
| max. Earth dist.                        | -3309 Sep 04 J 19.42       | 10 6646 39                      | 0.3/138 AU |                  | -3303 Feb 21 j 18:33      |                              | 0.01426 AU  |
|   | 2200 0 06:14.14            | 170 0 100 5                     | 1021125    | morning rise     | -3303 Mar 05 j 12:07      | 8°≈52'42                     |             |
| conjunction                             | -3309 Sep 06 j 14:14       | 17° <b>Ω</b> 12'35              | 1°21'25    | . 1              | -3303 Apr 01 j 05:08      | 15° <b>≈</b>                 |             |
| minimum elong                           | -3309 Sep 06 j 14:14       | 17° <b>Ω</b> 12'35              | 1°21'30    | retrograde       | -3303 Jul 15 j 02:36      | 29°≈04'25                    | 1050100     |
| morning rise                            | -3309 Sep 19 j 03:50       | 19° <b>£</b> 59'37              |            | opposition       | -3303 Sep 12 j 18:50      | 23°≈59'21                    |             |
|   | -3309 Nov 07 j 00:01       | 0° m/y                          |            | min. Earth dist. | -3303 Sep 11 j 13:03      | 24°≈09'30                    | 4.04180 AU  |
| retrograde                              | -3308 Jan 18 j 15:36       | 7° <b>m</b> 17'14               |            | direct           | -3303 Nov 09 j 20:16      | 19°≈02'24                    |             |
| opposition                              | -3308 Mar 19 j 11:24       | 2° m 25'40                      | 1°54'48    |                  | -3302 Feb 06 j 12:19      | 0° <b>)</b>                  |             |
| min. Earth dist.                        | -3308 Mar 20 j 18:52       | 2° m 15'40                      | 4.33931 AU | evening set      | -3302 Mar 15 j 15:55      | 8° <b>∺</b> 15'18            |             |
|   | -3308 Apr 08 j 10:02       | 30°R <b>Ω</b>                   |            |                  |                           |                              |             |
| direct                                  | -3308 May 20 j 22:58       | 27° <b>Ω</b> 26′14              |            | conjunction      | -3302 Mar 29 j 08:08      | 11° <b>∺</b> 25'53           |             |
|   | -3308 Jul 02 j 01:09       | 0° <b>m</b>                     |            | minimum elong    | -3302 Mar 29 j 08:11      | 11° <b>∺</b> 25'55           |             |
| evening set                             | -3308 Sep 23 j 23:23       | 15° <b>m</b> 29'03              |            | max. Earth dist. | -3302 Mar 31 j 06:19      | 11° <b>) ₹</b> 52'44         | 6.08144 AU  |
| max. Earth dist.                        | -3308 Oct 04 j 19:55       | 17° <b>m</b> 56'03              | 6.29396 AU | morning rise     | -3302 Apr 12 j 02:25      | 14° <b>)</b> 37′15           |             |
|   |                            |                                 |            |                  | -3302 Jun 28 j 06:11      | $0^{\circ}$ $\Upsilon$       |             |
| conjunction                             | -3308 Oct 06 j 12:25       | 18° <b>m</b> 18'58              | 1°09'42    | retrograde       | -3302 Aug 18 j 23:07      | 4° <b>Ƴ</b> 03'49            |             |
| minimum elong                           | -3308 Oct 06 j 12:28       | 18° <b>m</b> 19'00              | 1°09'44    |                  | -3302 Oct 09 j 23:54      | 30° <b>₹</b> ₩               |             |
| morning rise                            | -3308 Oct 19 j 00:18       | 21°Mp08'32                      |            | min. Earth dist. | -3302 Oct 16 j 08:04      | 29° <b>₩</b> 08'26           | 4.13320 AU  |
|   | -3308 Nov 29 j 14:48       | 0。 <b>ಹ</b>                     |            | opposition       | -3302 Oct 17 j 10:27      | 28° <b>¥</b> 59′25           | -1°29'12    |
| retrograde                              | -3307 Feb 19 j 22:45       | 9° <b>ჲ</b> 06'07               |            | direct           | -3302 Dec 15 j 05:38      | 23° <b>¥</b> 59'12           |             |
| opposition                              | -3307 Apr 22 j 01:20       | 4° <b>₽</b> 13'17               | 1°21'39    |                  | -3301 Feb 17 j 06:57      | $0^{\circ}\mathbf{\Upsilon}$ |             |
| min. Earth dist.                        | -3307 Apr 23 j 02:39       | 4° <b>£</b> 05'13               | 4.24211 AU | evening set      | -3301 Apr 21 j 01:41      | 12° <b>Ƴ</b> 49'13           |             |
|   | -3307 May 31 j 23:34       | 30°R, M⊅                        |            | <u>8</u>         | r J                       |                              |             |
| direct                                  | -3307 Jun 22 j 15:19       | 29° m 16'44                     |            | conjunction      | -3301 May 04 j 20:23      | 15° <b>Y</b> 56′08           | -0°42'02    |
|   | -3307 Jul 14 j 07:05       | 0∘ <b>⊽</b>                     |            | minimum elong    | -3301 May 04 j 20:26      | 15° <b>Υ</b> 56'09           | 0°42'00     |
| evening set                             | -3307 Oct 25 j 17:04       | o —<br>17° <b>Ω</b> 39'18       |            | max. Earth dist. | -3301 May 06 j 05:52      | 16° <b>Υ</b> 15'05           | 6.18993 AU  |
| max. Earth dist.                        | -3307 Nov 06 j 04:35       | 20° <b>⊆</b> 18'39              | 6.18586 AU | morning rise     | -3301 May 18 j 14:46      | 19° <b>Y</b> ′02'41          | 0.10773710  |
| max. Earth dist.                        | -3307 NOV 00 J 04.33       | 20 = 1839                       | 0.16360 AU | morning risc     | -3301 May 18 j 14:40      | 0° <b>8</b>                  |             |
| conjunction                             | -3307 Nov 07 j 07:35       | 20° <b>≏</b> 34'19              | 0°36'30    | retrograde       | -3301 Sep 20 j 23:16      | 7° <b>8</b> 28'31            |             |
| ·                                       | ·                          |                                 |            | •                |                           | 2° <b>8</b> 27'07            | 0920127     |
| minimum elong                           | -3307 Nov 07 j 07:38       | 20° <b>£</b> 34′20              | 0°36'27    | opposition       | -3301 Nov 19 j 09:48      |                              |             |
| morning rise                            | -3307 Nov 19 j 22:44       | 23° <b>£</b> 29'53              |            | min. Earth dist. | -3301 Nov 18 j 20:03      | _                            | 4.24700 AU  |
|   | -3307 Dec 19 j 01:09       | 0°M                             |            | 11               | -3301 Dec 08 j 10:35      | 30° <b>₹</b> Υ               |             |
| retrograde                              | -3306 Mar 27 j 05:48       | 12°M22'18                       | 0000105    | direct           | -3300 Jan 18 j 11:30      | 27° <b>Y</b> 24'32           |             |
| opposition                              | -3306 May 27 j 05:58       | 7°M26'38                        | 0°20'35    |                  | -3300 Feb 28 j 22:41      | 0° <b>8</b>                  |             |
| min. Earth dist.                        | -3306 May 27 j 18:06       | 7°M22'43                        | 4.12985 AU | asc. node        | -3300 May 21 j 10:38      | 15° <b>8</b> 00'52           |             |
| direct                                  | -3306 Jul 26 j 14:01       | 2°M32'31                        |            |                  | -3300 May 21 j 09:02      | 15° <b>8</b>                 |             |
| desc. node                              | -3306 Sep 19 j 20:23       | 7°M08'32                        |            | evening set      | -3300 May 24 j 23:01      | 15° <b>8</b> 47'10           |             |
|   | -3306 Oct 31 j 02:46       | 15° <b>M</b> ₊                  |            |                  |                           |                              |             |
| evening set                             | -3306 Nov 27 j 21:32       | 21°M20'03                       |            | conjunction      | -3300 Jun 07 j 14:09      | 18° <b>8</b> 47'58           | 0°02'00     |
|   |                            |                                 |            | minimum elong    | -3300 Jun 07 j 14:09      | 18° <b>8</b> 47'58           | 0°02'05     |
| conjunction                             | -3306 Dec 10 j 17:10       | 24°M21'48                       | -0°09'56   | behind sun begin | -3300 Jun 07 j 05:52      | 18° <b>8</b> 43'24           |             |
| minimum elong                           | -3306 Dec 10 j 17:10       | 24°M21'48                       | 0°10'01    | behind sun end   | -3300 Jun 07 j 22:27      | 18° <b>8</b> 52'32           |             |
| behind sun begin                        | -3306 Dec 10 j 10:37       | 24°M17'56                       |            | max. Earth dist. | -3300 Jun 07 j 23:10      | 18° <b>8</b> 52'56           | 6.30054 AU  |
| behind sun end                          | -3306 Dec 10 j 23:43       | 24°M25'39                       |            | morning rise     | -3300 Jun 21 j 03:15      | 21° <b>8</b> 47'34           |             |
| max. Earth dist.                        | -3306 Dec 10 j 13:01       | 24°M19'21                       | 6.08016 AU |                  | -3300 Jul 30 j 08:38      | $\Pi$ $^{\circ}0$            |             |
| morning rise                            | -3306 Dec 23 j 15:02       | 27° <b>M</b> 24'54              |            | retrograde       | -3300 Oct 21 j 09:08      | 9° <b>Ⅱ</b> 21'11            |             |
|   | -3305 Jan 03 j 17:02       | 0° <b>∡</b> ¹                   |            | opposition       | -3300 Dec 20 j 02:15      | 4° <b>Ⅱ</b> 23'39            | 0°34'32     |
| retrograde                              | -3305 May 03 j 00:15       | 17° <b>∡</b> 11′50              |            | min. Earth dist. | -3300 Dec 20 j 04:03      | 4° <b>Ⅲ</b> 23′03            | 4.34511 AU  |
| opposition                              | -3305 Jul 02 j 17:15       | 12° <b>∡</b> 12′20              | -0°50'43   |                  | -3299 Jan 29 j 17:49      | 30° <b>₹</b> 8               |             |
| min. Earth dist.                        | -3305 Jul 02 j 09:54       | 12° <b>∡</b> 14'45              | 4.04014 AU | direct           | -3299 Feb 19 j 10:31      | 29° <b>8</b> 20'01           |             |
| direct                                  | -3305 Aug 30 j 16:03       | 7° <b>∡</b> 19'17               |            |                  | -3299 Mar 12 j 08:47      | 0° <b>I</b> I                |             |
| evening set                             | -3304 Jan 01 j 22:44       | 26° <b>₹</b> 29'35              |            | evening set      | -3299 Jun 27 j 04:08      | 17° <b>Ⅱ</b> 21'09           |             |
| 5 · • · · · · · · · · · · · · · · · · · |                            |                                 |            |                  |                           |                              |             |
| conjunction                             | -3304 Jan 15 j 01:14       | 29° <b>∡</b> ³37'14             | -0°54'08   | conjunction      | -3299 Jul 10 j 11:22      | 20° <b>Ⅱ</b> 15'27           | 0°43'59     |
| minimum elong                           | -3304 Jan 15 j 01:11       | 29° <b>х</b> 37'12              |            | minimum elong    | -3299 Jul 10 j 11:19      | 20° <b>I</b> 15'25           | 0°44'05     |
| max. Earth dist.                        | -3304 Jan 15 j 23:22       | 29° <b>×</b> <sup>7</sup> 50'27 | 6.01424 AU | max. Earth dist. | -3299 Jul 09 j 20:12      | 20° <b>I</b> 13'23           | 6.37857 AU  |
| max. Larm dist.                         | -3304 Jan 16 j 15:20       | 0°る                             | 0.01424 AU | morning rise     | -3299 Jul 23 j 15:18      | 23° <b>I</b> 08'06           | 0.57657 AC  |
| marning rise                            | ·                          |                                 |            | morning risc     |                           | 23 <b>H</b> 08 00            |             |
| morning rise                            | -3304 Jan 28 j 07:01       | 2°る46'38<br>23°る05'55           |            | retrograda       | -3299 Aug 25 j 10:26      |                              |             |
| retrograde                              | -3304 Jun 08 j 09:49       |                                 | 1945103    | retrograde       | -3299 Nov 21 j 02:58      | 10°911'26                    | 1027120     |
| opposition                              | -3304 Aug 07 j 14:29       | 18° <b>ろ</b> 02'46              |            | opposition       | -3298 Jan 20 j 05:05      | 5°917'25                     | 1°27'38     |
| min. Earth dist.                        | -3304 Aug 06 j 15:32       | 18°る10'28                       | 4.00618 AU | min. Earth dist. | -3298 Jan 20 j 22:28      | 5°911'47                     | 4.39860 AU  |
| direct                                  | -3304 Oct 04 j 17:47       | 13° <b>る</b> 08'35              |            | direct           | -3298 Mar 23 j 12:43      | 0°514'14                     |             |
|   | -3303 Jan 26 j 22:00       | 0°≈                             |            | evening set      | -3298 Jul 29 j 00:37      | 18°504'46                    | c 10000 :=: |
| evening set                             | -3303 Feb 06 j 12:59       | 2° <b>≈</b> 29'27               |            | max. Earth dist. | -3298 Aug 09 j 11:11      | 20° <b>©</b> 34'50           | 6.40227 AU  |
|   |                            |                                 |            |                  |                           |                              |             |
| conjunction                             | -3303 Feb 19 j 23:03       | 5° <b>≈</b> 40'18               |            | conjunction      | -3298 Aug 10 j 22:37      | 20°954'16                    | 1°12'44     |
| minimum elong                           | -3303 Feb 19 j 23:02       | 5° <b>≈</b> 40'18               | 1°18'41    | minimum elong    | -3298 Aug 10 j 22:34      | 20°954'14                    | 1°12'51     |
|   |                            |                                 |            |                  |                           |                              |             |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 10 Attention, astronomical year style is used: The year -3298 in astronomical counting style is the year 3299 BCE in historical counting style.

| Attention, astronomic | cal year style is used: Th | e year -3298 i      | n astronomical cou | nting style is the year           | 3299 BCE in historical co | ounting style.   | <b>6.</b>  |
|-----------------------|----------------------------|---------------------|--------------------|-----------------------------------|---------------------------|--|------------|
| morning rise          | -3298 Aug 23 j 17:35       | 23°5542'16          |                    | evening set                       | -3291 Feb 11 j 20:33      | 7° <b>≈</b> 46'25  |            |
|                       | -3298 Sep 22 j 14:25       | $0^{\circ}\Omega$   |                    |                                   |                           |  |            |
| retrograde            | -3298 Dec 22 j 01:36       | 10° <b>Ω</b> 41'45  |                    | conjunction                       | -3291 Feb 25 j 07:31      | 10° <b>≈</b> 57'35                                       | -1°19'38   |
| opposition            | -3297 Feb 20 j 13:48       | 5° <b>Ω</b> 49'49   | 1°55'58            | minimum elong                     | -3291 Feb 25 j 07:30      | 10° <b>≈</b> 57'35                                       | 1°19'43    |
| min. Earth dist.      | -3297 Feb 21 j 18:28       | 5° <b>Ω</b> 40'38   | 4.39260 AU         | max. Earth dist.                  | -3291 Feb 27 j 04:10      | 11° <b>≈</b> 24′03                                       | 6.01689 AU |
| direct                | -3297 Apr 24 j 06:44       | 0° <b>Ω</b> 48'12   |                    | morning rise                      | -3291 Mar 10 j 21:43      | 14° <b>≈</b> 10′16                                       |            |
|                       | -3297 Aug 12 j 03:42       | 15° <b>Ω</b>        |                    |                                   | -3291 Mar 14 j 10:34      | 15° <b>≈</b>   |            |
| evening set           | -3297 Aug 29 j 02:23       | 18° <b>Ω</b> 40′21  |                    |                                   | -3291 May 27 j 18:30      | 0° <b>)</b>  |            |
| max. Earth dist.      | -3297 Sep 08 j 22:52       | 21° <b>Ω</b> 04'34  | 6.36591 AU         | retrograde                        | -3291 Jul 20 j 04:09      | 4° <b>)</b> 18′16  |            |
|                       |                            |                     |                    |                                   | -3291 Sep 12 j 02:27      | 30°R <b>≈</b>  |            |
| conjunction           | -3297 Sep 10 j 17:47       | 21° <b>Ω</b> 28′25  | 1°21'09            | opposition                        | -3291 Sep 17 j 20:38      | 29° <b>≈</b> 12'59                                       | -1°57'16   |
| minimum elong         | -3297 Sep 10 j 17:47       | 21° <b>Ω</b> 28′25  | 1°21'13            | min. Earth dist.                  | -3291 Sep 16 j 13:32      | 29° <b>≈</b> 23'36                                       | 4.05050 AU |
| morning rise          | -3297 Sep 23 j 06:41       | 24° <b>Ω</b> 15′27  |                    | direct                            | -3291 Nov 14 j 23:09      | 24°≈15'30  |            |
|                       | -3297 Oct 20 j 00:14       | o° mp               |                    |                                   | -3290 Jan 15 j 09:17      | 0° <b>∀</b>  |            |
| retrograde            | -3296 Jan 22 j 23:36       | 11° <b>m</b> 36'50  |                    | evening set                       | -3290 Mar 20 j 22:56      | 13° <b>¥</b> 25′58                                       |            |
| opposition            | -3296 Mar 23 j 21:31       | 6° Mp 45'14         | 1°52'13            |                                   |                           |  |            |
| min. Earth dist.      | -3296 Mar 25 j 04:48       | 6° m 35'18          | 4.32860 AU         | conjunction                       | -3290 Apr 03 j 15:56      | 16° <b>)</b> 36′13                                       | -1°10'07   |
| direct                | -3296 May 25 j 06:18       | 1° Mp 46'10         |                    | minimum elong                     | -3290 Apr 03 j 16:00      | 16° <b>)</b> 36′15                                       | 1°10'09    |
| evening set           | -3296 Sep 28 j 04:34       | 19° m 51'23         |                    | max. Earth dist.                  | -3290 Apr 05 j 14:41      | 17° <b>)</b> €03'18                                      | 6.09525 AU |
| max. Earth dist.      | -3296 Oct 09 j 00:37       |                     | 6.27901 AU         | morning rise                      | -3290 Apr 17 j 10:26      | 19° <b>)</b> 47′04                                       |            |
|                       |                            | 4                   |                    | 8                                 | -3290 Jun 03 j 19:45      | $0^{\circ}\Upsilon$                                      |            |
| conjunction           | -3296 Oct 10 j 17:28       | 22° <b>m</b> 41'53  | 1°06'21            | retrograde                        | -3290 Aug 23 j 20:14      | 9° <b>Y</b> 04'52  |            |
| minimum elong         | -3296 Oct 10 j 17:30       | 22° mp 41'54        | 1°06'22            | min. Earth dist.                  | -3290 Oct 21 j 05:43      |  | 4.15004 AU |
| morning rise          | -3296 Oct 23 j 05:37       | 25° m/32'10         | 1 00 22            | opposition                        | -3290 Oct 22 j 06:26      | 4° <b>Υ</b> 00'41  |            |
| morning rise          | -3296 Nov 12 j 08:40       | 0° <b>ರ</b>         |                    | оррозион                          | -3290 Nov 25 j 16:47      | 30° <b>₹</b>   | 1 21 37    |
| retrograde            | -3295 Feb 24 j 16:07       | 13° <b>≏</b> 37'23  |                    | direct                            | -3290 Dec 20 j 06:33      | 29° <b>)</b> 00'00                                       |            |
| opposition            | -3295 Apr 26 j 17:04       | 8° <b>≏</b> 44'19   | 101447             | direct                            | -3289 Jan 14 j 01:38      | 29 <b>γ</b> 00 00  |            |
| min. Earth dist.      | -3295 Apr 27 j 18:37       |                     | 4.22357 AU         | evening set                       | -3289 Apr 26 j 03:52      | 17° <b>Y</b> 45'19                                       |            |
| direct                | -3295 Jun 27 j 03:53       | 3° <b>£</b> 48'03   | 4.22337 AU         | evening set                       | -3269 Apr 20 J 03.32      | 17 14319   |            |
| evening set           | -3295 Oct 30 j 02:54       | 22° <b>£</b> 15'27  |                    | conjunction                       | -3289 May 09 j 22:19      | 20° <b>Ƴ</b> 51'21                                       | 0°36'08    |
| evening set           | -3293 Oct 30 J 02.34       | 22 = 1327           |                    | -                                 | -3289 May 09 j 22:19      | $20^{\circ}\Upsilon 51'21$<br>$20^{\circ}\Upsilon 51'23$ |            |
| conjunction           | -3295 Nov 11 j 18:08       | 25° <b>£</b> 11'37  | 0°30'43            | minimum elong<br>max. Earth dist. | -3289 May 11 j 04:56      |  | 6.20810 AU |
| minimum elong         | -3295 Nov 11 j 18:10       | 25° <b>£</b> 11'38  | 0°30'39            | morning rise                      | -3289 May 23 j 16:17      | 23° <b>Y</b> 56'55                                       | 0.20810 AU |
| max. Earth dist.      |                            |                     |                    | morning rise                      | -3289 Jun 20 j 12:40      | 0° <b>8</b>  |            |
|                       | -3295 Nov 10 j 16:54       | 24° <b>£</b> 56'55  | 6.16550 AU         |                                   | 3                         |  |            |
| morning rise          | -3295 Nov 24 j 10:07       | 28° <b>Ω</b> 08'25  |                    | retrograde                        | -3289 Sep 25 j 11:20      | 12° <b>8</b> 13'32                                       | 0921112    |
|                       | -3295 Dec 02 j 11:57       | 0°M.                |                    | opposition                        | -3289 Nov 23 j 23:38      | 7° <b>8</b> 12'36  |            |
|                       | -3294 Feb 22 j 04:56       | 15°M                |                    | min. Earth dist.                  | -3289 Nov 23 j 11:15      |  | 4.26463 AU |
| retrograde            | -3294 Apr 01 j 04:52       | 17°M10'47           |                    | direct                            | -3288 Jan 23 j 05:36      | 2° <b>8</b> 09'41  |            |
| • . •                 | -3294 May 09 j 11:47       | 15°RM               | 0010156            | asc. node                         | -3288 Mar 30 j 04:50      | 8° <b>8</b> 23'25  |            |
| opposition            | -3294 Jun 01 j 04:17       | 12°M14'41           | 0°10'56            |                                   | -3288 May 04 j 05:25      | 15° <b>8</b>   |            |
| min. Earth dist.      | -3294 Jun 01 j 13:43       | 12°M11'39           | 4.10932 AU         | evening set                       | -3288 May 29 j 18:45      | 20° <b>8</b> 27'59                                       |            |
| direct                | -3294 Jul 31 j 05:36       | 7°M20'52            |                    |                                   | 2200 1 12:00 56           | 2221 125111  | 0000104    |
| desc. node            | -3294 Aug 01 j 00:02       | 7°M20'55            |                    | conjunction                       | -3288 Jun 12 j 08:56      | 23° <b>8</b> 27'44                                       | 0°08'24    |
|                       | -3294 Oct 12 j 00:54       | 15°M                |                    | minimum elong                     | -3288 Jun 12 j 08:55      | 23° <b>8</b> 27'43                                       | 0°08'30    |
| evening set           | -3294 Dec 02 j 15:12       | 26° <b>™</b> 14′23  |                    | behind sun begin                  | -3288 Jun 12 j 01:45      | 23° <b>8</b> 23'46                                       |            |
|                       |                            |                     |                    | behind sun end                    | -3288 Jun 12 j 16:06      | 23° <b>8</b> 31'40                                       |            |
| conjunction           | -3294 Dec 15 j 11:47       | 29°M17'23           |                    | max. Earth dist.                  | -3288 Jun 12 j 14:19      | 23° <b>8</b> 30'40                                       | 6.31626 AU |
| minimum elong         | -3294 Dec 15 j 11:46       | 29°M17'22           | 0°16'37            | morning rise                      | -3288 Jun 25 j 20:47      | 26° <b>8</b> 26'09                                       |            |
| max. Earth dist.      | -3294 Dec 15 j 10:47       | 29°M16'47           | 6.06132 AU         | _                                 | -3288 Jul 12 j 08:36      | 0°II   |            |
|                       | -3294 Dec 18 j 11:28       | 0° <b>∡</b> 7       |                    | retrograde                        | -3288 Oct 25 j 18:53      | 13° <b>Ⅲ</b> 53'14                                       |            |
| morning rise          | -3294 Dec 28 j 10:51       | 2° <b>₹</b> 21'51   |                    | opposition                        | -3288 Dec 24 j 12:27      | 8° <b>Ⅱ</b> 56'16  | 0°43'09    |
| retrograde            | -3293 May 08 j 06:31       | 22° <b>∡</b> 17'54  |                    | min. Earth dist.                  | -3288 Dec 24 j 17:09      | 8° <b>∏</b> 54'43  | 4.35769 AU |
| opposition            | -3293 Jul 07 j 21:06       | 17° <b>∡</b> 17'50  |                    | direct                            | -3287 Feb 24 j 01:29      | 3° <b>∏</b> 52'35  |            |
| min. Earth dist.      | -3293 Jul 07 j 11:23       | 17° <b>≯</b> 21′03  | 4.02483 AU         | evening set                       | -3287 Jul 01 j 17:57      | 21° <b>I</b> I50′53                                      |            |
| direct                | -3293 Sep 04 j 16:20       | 12° <b>≯</b> 24'46  |                    |                                   |                           |  |            |
|                       | -3293 Dec 30 j 23:51       | 0°ප                 |                    | conjunction                       | -3287 Jul 14 j 23:50      | 24° <b>∏</b> 44'18                                       | 0°49'04    |
| evening set           | -3292 Jan 07 j 00:45       | 1° <b>る</b> 40'01   |                    | minimum elong                     | -3287 Jul 14 j 23:47      | 24° <b>∏</b> 44'16                                       | 0°49'10    |
|                       |                            |                     |                    | max. Earth dist.                  | -3287 Jul 14 j 04:24      | 24° <b>Ⅱ</b> 33'40                                       | 6.38682 AU |
| conjunction           | -3292 Jan 20 j 04:33       | 4° <b>る</b> 48'39   |                    | morning rise                      | -3287 Jul 28 j 02:29      | 27° <b>Ⅱ</b> 36′04                                       |            |
| minimum elong         | -3292 Jan 20 j 04:29       | 4° <b>ප</b> 48'37   | 0°59'09            |                                   | -3287 Aug 08 j 05:42      | $0$ $\circ$  |            |
| max. Earth dist.      | -3292 Jan 21 j 07:48       | 5° <b>る</b> 04'57   | 6.00394 AU         | retrograde                        | -3287 Nov 25 j 10:55      | 14° <b>©</b> 36'51                                       |            |
| morning rise          | -3292 Feb 02 j 11:27       | 7° <b>る</b> 59'02   |                    | opposition                        | -3286 Jan 24 j 14:35      | 9° <b>5</b> 43'12  | 1°33'21    |
| retrograde            | -3292 Jun 13 j 18:15       | 28° <b>පි</b> 22'02 |                    | min. Earth dist.                  | -3286 Jan 25 j 09:57      | 9° <b>©</b> 36'55  | 4.40233 AU |
| opposition            | -3292 Aug 12 j 19:40       | 23° <b>る</b> 18'28  | -1°49'44           | direct                            | -3286 Mar 28 j 00:06      | 4°5940'05  |            |
| min. Earth dist.      | -3292 Aug 11 j 18:43       | 23° <b>පි</b> 26'52 | 4.00236 AU         | evening set                       | -3286 Aug 02 j 10:31      | 22°529'54  |            |
| direct                | -3292 Oct 09 j 20:37       | 18° <b>පි</b> 24'00 |                    | max. Earth dist.                  | -3286 Aug 13 j 19:06      | 24°959'00  | 6.40109 AU |
|                       | -3291 Jan 08 j 16:18       | 0° <b>≈</b>         |                    |                                   |                           |  |            |
|                       |                            |                     |                    |                                   |                           |  |            |

| -  | ical year style is used: Th  |   |                     |  |  | _   | 50 11                 |
|--|--|---|---------------------|--|--|---|-----------------------|
| conjunction  | -3286 Aug 15 j 07:28   | 25°518'59   |                     | retrograde   | -3280 Jun 18 j 22:49   | 3° <b>≈</b> 36'41   |                       |
| minimum elong  | -3286 Aug 15 j 07:26   | 25° <b>©</b> 18'57  | 1°15'22             | C  | -3280 Aug 07 j 01:56   | 30°R₹   |                       |
| morning rise   | -3286 Aug 28 j 01:11   | 28°906'33   |                     | min. Earth dist.   | -3280 Aug 16 j 20:45   | 28° <b>ප්</b> 41'56   | 4.00758 AU            |
| S  | -3286 Sep 05 j 18:31   | $0^{\circ}\Omega$   |                     | opposition   | -3280 Aug 18 j 00:06   | 28° <b>ට</b> 32'41  |                       |
|  | -3286 Dec 17 j 13:24   | 15° <b>Ω</b>  |                     | direct   | -3280 Oct 14 j 23:39   | 23° <b>る</b> 37'53  |                       |
| retrograde   | -3286 Dec 26 j 11:30   | 15° <b>Ω</b> 07'32  |                     |  | -3280 Dec 18 j 11:29   | 0° <b>≈</b>   |                       |
| , and the second | -3285 Jan 04 j 09:50   | 15°R <b>Ω</b>   |                     | evening set  | -3279 Feb 17 j 02:22   | 12° <b>≈</b> 58'37  |                       |
| opposition   | -3285 Feb 25 j 01:21   | 10° <b>Ω</b> 15'48  | 1°57'29             | Ü  | -3279 Feb 25 j 16:24   | 15° <b>≈</b>  |                       |
| min. Earth dist.   | -3285 Feb 26 j 07:01   | 10° <b>Ω</b> 06′19  | 4.38673 AU          |  | 3  |   |                       |
| direct   | -3285 Apr 28 j 17:58   | 5° <b>Ω</b> 14'30   |                     | conjunction  | -3279 Mar 02 j 14:23   | 16° <b>≈</b> 09'43  | -1°20'05              |
|  | -3285 Jul 25 j 15:52   | 15° <b>Ω</b>  |                     | minimum elong  | -3279 Mar 02 j 14:23   | 16° <b>≈</b> 09'44  | 1°20'09               |
| evening set  | -3285 Sep 02 j 11:26   | 23° <b>Ω</b> 08'00  |                     | max. Earth dist.   | -3279 Mar 04 j 13:32   | 16° <b>≈</b> 37'35  | 6.02745 AU            |
| max. Earth dist.   | -3285 Sep 13 j 05:13   | 25° <b>Ω</b> 31'11  | 6.35564 AU          | morning rise   | -3279 Mar 16 j 05:11   | 19° <b>≈</b> 22'11  |                       |
|  |  |   |                     |  | -3279 May 03 j 15:03   | 0° <b>∀</b>   |                       |
| conjunction  | -3285 Sep 15 j 02:04   | 25° <b>Ω</b> 56'11  | 1°20'27             | retrograde   | -3279 Jul 25 j 04:32   | 9° <b>∺</b> 23'39   |                       |
| minimum elong  | -3285 Sep 15 j 02:04   | 25° <b>Ω</b> 56'12  | 1°20'31             | opposition   | -3279 Sep 22 j 19:21   | 4° <b>升</b> 18′22   | -1°54'32              |
| morning rise   | -3285 Sep 27 j 14:43   | 28° <b>Ω</b> 43'30  |                     | min. Earth dist.   | -3279 Sep 21 j 13:19   | 4° <b>)</b> 28'37   | 4.06509 AU            |
|  | -3285 Oct 03 j 09:18   | 0° m/   |                     |  | -3279 Oct 31 j 08:49   | 30°R <b>≈</b>   |                       |
| retrograde   | -3284 Jan 27 j 16:03   | 16° <b>m</b> ) 10'07  |                     | direct   | -3279 Nov 20 j 00:56   | 29° <b>≈</b> 20'26  |                       |
| opposition   | -3284 Mar 28 j 13:45   | 11° <b>m</b> ) 18'26  | 1°48'53             |  | -3279 Dec 09 j 19:03   | 0° <b>∀</b>   |                       |
| min. Earth dist.   | -3284 Mar 29 j 21:26   | 11° <b>m</b> 08'21  | 4.31456 AU          | evening set  | -3278 Mar 26 j 02:14   | 18° <b>)</b> 26'44  |                       |
| direct   | -3284 May 29 j 20:22   | 6° <b>m</b> 19'41   |                     | _  |  |   |                       |
| evening set  | -3284 Oct 02 j 15:24   | 24° m/28'06   |                     | conjunction  | -3278 Apr 08 j 19:38   | 21° <b>)</b> 36′26  | -1°06'31              |
| max. Earth dist.   | -3284 Oct 13 j 13:57   | 26° <b>m</b> 57'19  | 6.26249 AU          | minimum elong  | -3278 Apr 08 j 19:42   | 21° <b>)</b> 36′28  | 1°06'32               |
|  |  |   |                     | max. Earth dist.   | -3278 Apr 10 j 16:53   | 22° <b>)</b> €02'31   | 6.11246 AU            |
| conjunction  | -3284 Oct 15 j 04:34   | 27° <b>m</b> 19'21  | 1°02'25             | morning rise   | -3278 Apr 22 j 14:24   | 24° <b>)</b> 46′35  |                       |
| minimum elong  | -3284 Oct 15 j 04:37   | 27° <b>m</b> 19'23  | 1°02'25             |  | -3278 May 15 j 23:10   | $0^{\circ}\mathbf{\Upsilon}$  |                       |
|  | -3284 Oct 26 j 22:31   | 0∘ <b>亚</b>   |                     | retrograde   | -3278 Aug 28 j 10:59   | 13° <b>Y</b> 55'00  |                       |
| morning rise   | -3284 Oct 27 j 16:55   | 0° <b>≙</b> 10'26   |                     | opposition   | -3278 Oct 26 j 22:00   | 8° <b>Y</b> 51'13   | -1°14'28              |
| retrograde   | -3283 Mar 01 j 14:05   | 18° <b>≏</b> 23'43  |                     | min. Earth dist.   | -3278 Oct 25 j 22:05   | 8° <b>Ƴ</b> 59'22   | 4.16805 AU            |
| opposition   | -3283 May 01 j 15:27   | 13° <b>≏</b> 30'21  | 1°07'00             | direct   | -3278 Dec 25 j 01:23   | 3° <b>Y</b> 50'10   |                       |
| min. Earth dist.   | -3283 May 02 j 14:51   | 13° <b>≏</b> 22'52  | 4.20576 AU          | evening set  | -3277 May 01 j 01:43   | 22° <b>Y</b> 30'59  |                       |
| direct   | -3283 Jul 01 j 21:00   | 8° <b>₤</b> 34'34   |                     |  |  |   |                       |
| evening set  | -3283 Nov 03 j 18:46   | 27° <b>£</b> 06'09  |                     | conjunction  | -3277 May 14 j 19:51   | 25° <b>Ƴ</b> 36′09  | -0°30'12              |
| max. Earth dist.   | -3283 Nov 15 j 11:48   | 29° <b>ჲ</b> 50'02  | 6.14811 AU          | minimum elong  | -3277 May 14 j 19:53   | 25° <b>Ƴ</b> 36'11  | 0°30'10               |
|  |  |   |                     | max. Earth dist.   | -3277 May 15 j 22:04   | 25° <b>Y</b> 50′54  | 6.22555 AU            |
| conjunction  | -3283 Nov 16 j 10:30   | 0°ML03'18   | 0°24'23             | morning rise   | -3277 May 28 j 13:16   | 28° <b>Ƴ</b> 40'44  |                       |
| minimum elong  | -3283 Nov 16 j 10:31   | 0°ML03'19   | 0°24'20             |  | -3277 Jun 03 j 12:09   | $0^{\circ}S$  |                       |
|  | -3283 Nov 16 j 04:50   | 0°M₊  |                     |  | -3277 Aug 26 j 23:18   | 15° <b>8</b>  |                       |
| morning rise   | -3283 Nov 29 j 03:27   | 3°ML01'16   |                     | retrograde   | -3277 Sep 29 j 22:32   | 16° <b>8</b> 49'16  |                       |
|  | -3282 Jan 24 j 11:34   | 15° <b>M</b> ₊  |                     |  | -3277 Nov 02 j 15:11   | 15° <b>₹</b> 8  |                       |
| retrograde   | -3282 Apr 06 j 10:14   | 22°M12'28   |                     | opposition   | -3277 Nov 28 j 10:12   | 11° <b>8</b> 48'54  |                       |
| opposition   | -3282 Jun 06 j 08:23   | 17°ML15'51  | 0°00'40             | min. Earth dist.   | -3277 Nov 28 j 01:14   | 11° <b>8</b> 51'55  | 4.27983 AU            |
| min. Earth dist.   | -3282 Jun 06 j 15:08   | 17°ML13'40  | 4.09389 AU          | direct   | -3276 Jan 27 j 21:31   | 6° <b>8</b> 45'49   |                       |
| desc. node   | -3282 Jun 10 j 00:02   | 16°M47'29   |                     | asc. node  | -3276 Feb 08 j 07:52   | 6° <b>8</b> 58'18   |                       |
|  | -3282 Jun 24 j 12:46   | 15°RM   |                     |  | -3276 Apr 15 j 12:14   | 15° <b>8</b>  |                       |
| direct   | -3282 Aug 05 j 05:31   | 12°ML22'17  |                     | evening set  | -3276 Jun 03 j 10:35   | 25° <b>8</b> 00'50  |                       |
|  | -3282 Sep 15 j 02:31   | 15° <b>M</b> ₊  |                     |  |  | ( )   |                       |
|  | -3282 Dec 01 j 22:24   | 0° <b>∡</b> ¹   |                     | conjunction  | -3276 Jun 16 j 23:54   | 27° <b>8</b> 59'43  | 0°14'33               |
| evening set  | -3282 Dec 07 j 13:40   | 1° <b>∡</b> 19'40   |                     | minimum elong  | -3276 Jun 16 j 23:53   | 27° <b>8</b> 59'42  | 0°14'39               |
|  |  |   |                     | behind sun begin   | -3276 Jun 16 j 20:41   | 27° <b>8</b> 57'57  |                       |
| conjunction  | -3282 Dec 20 j 11:19   | 4° ×7 23'38   |                     | behind sun end   | -3276 Jun 17 j 03:05   | 28° <b>8</b> 01'27  | 6 2200 6 1 XX         |
| minimum elong  | -3282 Dec 20 j 11:17   | 4° <b>∡</b> ¹23'37  |                     | max. Earth dist.   | -3276 Jun 17 j 01:42   | 28° <b>8</b> 00'42  | 6.32806 AU            |
| max. Earth dist.   | -3282 Dec 20 j 15:47   | 4° <b>×1</b> 26'17  | 6.04958 AU          |  | -3276 Jun 26 j 02:19   | 0°II  |                       |
| morning rise   | -3281 Jan 02 j 11:23   | 7° <b>∡</b> 129'05  |                     | morning rise   | -3276 Jun 30 j 10:36   | 0° <b>П</b> 57'12   |                       |
| retrograde   | -3281 May 13 j 15:28   | 27° 🗷 30'53   | 1000155             | retrograde   | -3276 Oct 30 j 01:15   | 18° <b>Ⅱ</b> 19'39  | 0051110               |
| opposition   | -3281 Jul 13 j 03:40   | 22° <b>҂</b> ³30′21   |                     | opposition<br>min. Earth dist.                                 | -3276 Dec 28 j 20:33   | 13° <b>Ⅱ</b> 23'13<br>13° <b>Ⅱ</b> 21'06                            | 0°51'18               |
| main Trade 11 c  |  | 220 72 427  |                     | min Harth dief   | -3276 Dec 29 j 02:58   | 13"1171'06  | 4.36549 AU            |
| min. Earth dist.   | -3281 Jul 12 j 15:17   | 22° <b>х</b> 34'27  | 4.01642 AU          |  |  |   |                       |
| min. Earth dist.<br>direct   | -3281 Jul 12 j 15:17<br>-3281 Sep 09 j 19:19   | 17° <b>∡</b> ³37'16   | 4.01642 AU          | direct   | -3275 Feb 28 j 11:33   | 8° <b>Ⅱ</b> 19'34   |                       |
| direct   | -3281 Jul 12 j 15:17<br>-3281 Sep 09 j 19:19<br>-3281 Dec 13 j 06:23   | 17° <b>渘</b> 37'16<br>0°る   | 4.01842 AU          | direct<br>evening set  | -3275 Feb 28 j 11:33<br>-3275 Jul 06 j 05:35   | 8°П19'34<br>26°П16'43   |                       |
|  | -3281 Jul 12 j 15:17<br>-3281 Sep 09 j 19:19   | 17° <b>∡</b> ³37'16   | 4.01842 AU          | direct   | -3275 Feb 28 j 11:33   | 8° <b>Ⅱ</b> 19'34   | 6.39004 AU            |
| direct evening set   | -3281 Jul 12 j 15:17<br>-3281 Sep 09 j 19:19<br>-3281 Dec 13 j 06:23<br>-3280 Jan 12 j 05:02   | 17° <b>メ</b> 37'16<br>0°る<br>6°る54'07   |                     | direct<br>evening set<br>max. Earth dist.                      | -3275 Feb 28 j 11:33<br>-3275 Jul 06 j 05:35<br>-3275 Jul 18 j 11:35   | 8°П19'34<br>26°П16'43<br>28°П57'06                                  | 6.39004 AU            |
| direct evening set conjunction   | -3281 Jul 12 j 15:17<br>-3281 Sep 09 j 19:19<br>-3281 Dec 13 j 06:23<br>-3280 Jan 12 j 05:02<br>-3280 Jan 25 j 09:39   | 17° <b>メ</b> 37'16<br>0°る<br>6°る54'07<br>10°る03'11  | -1°03'37            | direct<br>evening set<br>max. Earth dist.                      | -3275 Feb 28 j 11:33<br>-3275 Jul 06 j 05:35<br>-3275 Jul 18 j 11:35<br>-3275 Jul 19 j 10:10   | 8°П19'34<br>26°П16'43<br>28°П57'06<br>29°П09'28                     | 6.39004 AU<br>0°53'45 |
| direct evening set conjunction minimum elong   | -3281 Jul 12 j 15:17<br>-3281 Sep 09 j 19:19<br>-3281 Dec 13 j 06:23<br>-3280 Jan 12 j 05:02<br>-3280 Jan 25 j 09:39<br>-3280 Jan 25 j 09:35                         | 17° \$\frac{7}{37'16}<br>0° \$\frac{7}{6} \cdot \frac{7}{35'4'07}<br>10° \$\frac{7}{303'11}<br>10° \$\frac{7}{303'09} | -1°03'37<br>1°03'43 | direct<br>evening set<br>max. Earth dist.                      | -3275 Feb 28 j 11:33<br>-3275 Jul 06 j 05:35<br>-3275 Jul 18 j 11:35<br>-3275 Jul 19 j 10:10<br>-3275 Jul 19 j 10:07                         | 8°П19'34<br>26°П16'43<br>28°П57'06<br>29°П09'28<br>29°П09'26        | 6.39004 AU            |
| evening set  conjunction minimum elong max. Earth dist.  | -3281 Jul 12 j 15:17<br>-3281 Sep 09 j 19:19<br>-3281 Dec 13 j 06:23<br>-3280 Jan 12 j 05:02<br>-3280 Jan 25 j 09:39<br>-3280 Jan 25 j 09:35<br>-3280 Jan 26 j 15:24 | 17°ダ37'16<br>0°궁<br>6°궁54'07<br>10°궁03'11<br>10°궁03'09<br>10°궁20'58   | -1°03'37            | direct evening set max. Earth dist.  conjunction minimum elong | -3275 Feb 28 j 11:33<br>-3275 Jul 06 j 05:35<br>-3275 Jul 18 j 11:35<br>-3275 Jul 19 j 10:10<br>-3275 Jul 19 j 10:07<br>-3275 Jul 23 j 06:30 | 8°П19'34<br>26°П16'43<br>28°П57'06<br>29°П09'28<br>29°П09'26<br>0°Ф | 6.39004 AU<br>0°53'45 |
| direct evening set conjunction minimum elong   | -3281 Jul 12 j 15:17<br>-3281 Sep 09 j 19:19<br>-3281 Dec 13 j 06:23<br>-3280 Jan 12 j 05:02<br>-3280 Jan 25 j 09:39<br>-3280 Jan 25 j 09:35                         | 17° \$\frac{7}{37'16}<br>0° \$\frac{7}{6} \cdot \frac{7}{35'4'07}<br>10° \$\frac{7}{303'11}<br>10° \$\frac{7}{303'09} | -1°03'37<br>1°03'43 | direct<br>evening set<br>max. Earth dist.                      | -3275 Feb 28 j 11:33<br>-3275 Jul 06 j 05:35<br>-3275 Jul 18 j 11:35<br>-3275 Jul 19 j 10:10<br>-3275 Jul 19 j 10:07                         | 8°П19'34<br>26°П16'43<br>28°П57'06<br>29°П09'28<br>29°П09'26        | 6.39004 AU<br>0°53'45 |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 12 Attention, astronomical year style is used: The year -3274 in astronomical counting style is the year 3275 BCE in historical counting style.

| Attention, astronomi           | ical year style is used: Th                  | e year -3274 i                     | n astronomical cou | nting style is the year        | 3275 BCE in historical co                    | ounting style.               | <i>6-</i>  |
|--------------------------------|--|------------------------------------|--------------------|--------------------------------|--|------------------------------|------------|
| opposition                     | -3274 Jan 28 j 23:29                         | 14° <b>5</b> 07'30                 | 1°38'28            | conjunction                    | -3268 Jan 30 j 13:37                         | 15° <b>ප</b> 13'43           | -1°07'39   |
| min. Earth dist.               | -3274 Jan 29 j 21:20                         | 14° <b>©</b> 00'26                 | 4.40101 AU         | minimum elong                  | -3268 Jan 30 j 13:34                         | 15° <b>る</b> 13'42           | 1°07'46    |
| direct                         | -3274 Apr 01 j 11:01                         | 9° <b>©</b> 04'37                  |                    | max. Earth dist.               | -3268 Jan 31 j 23:36                         | 15° <b>පි</b> 34'01          | 6.00467 AU |
| evening set                    | -3274 Aug 06 j 19:55                         | 26° <b>©</b> 55'17                 |                    | morning rise                   | -3268 Feb 12 j 22:31                         | 18° <b>る</b> 24'52           |            |
| max. Earth dist.               | -3274 Aug 18 j 00:47                         | 29° <b>5</b> 22'40                 | 6.39514 AU         |                                | -3268 Apr 05 j 14:27                         | 0° <b>≈</b>                  |            |
|                                |  |                                    |                    | retrograde                     | -3268 Jun 24 j 03:02                         | 8° <b>≈</b> 46′08            |            |
| conjunction                    | -3274 Aug 19 j 15:48                         | 29°5544'09                         | 1°17'19            | min. Earth dist.               | -3268 Aug 21 j 22:53                         |                              | 4.01376 AU |
| minimum elong                  | -3274 Aug 19 j 15:46                         | 29°5544'08                         | 1°17'24            | opposition                     | -3268 Aug 23 j 02:16                         | 3° <b>≈</b> 41'49            | -1°56'29   |
|                                | -3274 Aug 20 j 20:38                         | 0° <b>Ω</b>                        |                    |                                | -3268 Sep 23 j 04:38                         | 30°Rる                        |            |
| morning rise                   | -3274 Sep 01 j 08:43                         | 2° <b>Ω</b> 31'36                  |                    | direct                         | -3268 Oct 20 j 02:36                         | 28° <b>ප්</b> 46'37          |            |
| . 1                            | -3274 Nov 04 j 16:25                         | 15° <b>Ω</b>                       |                    |                                | -3268 Nov 16 j 00:28                         | 0° <b>≈</b>                  |            |
| retrograde                     | -3274 Dec 30 j 23:12                         | 19° <b>Ω</b> 35'44                 |                    |                                | -3267 Feb 08 j 22:48                         | 15° <b>≈</b>                 |            |
| •,•                            | -3273 Feb 27 j 12:07                         | 15°R <b>Ω</b>                      | 1050117            | evening set                    | -3267 Feb 22 j 06:45                         | 18° <b>≈</b> 05'37           |            |
| opposition<br>min. Earth dist. | -3273 Mar 01 j 13:54<br>-3273 Mar 02 j 20:00 | 14° <b>Ω</b> 44'06                 | 4.37685 AU         | conjunction                    | -3267 Mar 07 j 19:34                         | 21° <b>≈</b> 16'38           | 1910/56    |
| direct                         | -3273 Mar 02 j 20.00<br>-3273 May 03 j 04:57 | 9° <b>Ω</b> 43'07                  | 4.37083 AU         | minimum elong                  | -3267 Mar 07 j 19:35                         | 21°≈16'38                    |            |
| direct                         | -3273 Jul 04 j 12:30                         | 9 <b>0 2</b> 43 07<br>15° <b>Ω</b> |                    | max. Earth dist.               | -3267 Mar 07 j 19:33                         |                              | 6.03756 AU |
| evening set                    | -3273 Sep 06 j 20:53                         | 27° <b>Ω</b> 39'01                 |                    | morning rise                   | -3267 Mar 21 j 11:12                         | 24°≈28'56                    | 0.03730 AC |
| evening set                    | -3273 Sep 00 j 20:53                         | 0° m                               |                    | morning risc                   | -3267 Apr 14 j 15:50                         | 0° <b>\</b>                  |            |
| max. Earth dist.               | -3273 Sep 17 j 05:37                         |                                    | 6.34268 AU         | retrograde                     | -3267 Jul 30 j 01:11                         | 14° <b>)</b> €23'54          |            |
| max. Darm dist.                | 3273 Sep 17 j 10.00                          | 0 11/03 20                         | 0.3 1200 110       | min. Earth dist.               | -3267 Sep 26 j 09:25                         |                              | 4.07820 AU |
| conjunction                    | -3273 Sep 19 j 11:11                         | 0° mp 27'33                        | 1°19'15            | opposition                     | -3267 Sep 27 j 15:45                         | 9° <b>)</b> 18'42            |            |
| minimum elong                  | -3273 Sep 19 j 11:12                         | 0° m 27'33                         |                    | direct                         | -3267 Nov 24 j 22:49                         | 4° <b>)</b> €20'18           | 1 21 0 .   |
| morning rise                   | -3273 Oct 01 j 23:23                         | 3° mp 15'13                        |                    | evening set                    | -3266 Mar 31 j 04:12                         | 23° <b>)</b> €23'18          |            |
| retrograde                     | -3272 Feb 01 j 09:26                         | 20° m 47'59                        |                    | Č                              | ý  |                              |            |
| opposition                     | -3272 Apr 02 j 07:50                         | 15° m 56'10                        | 1°44'48            | conjunction                    | -3266 Apr 13 j 21:59                         | 26° <b>)</b> 32'30           | -1°02'31   |
| min. Earth dist.               | -3272 Apr 03 j 14:39                         | 15° m 46'23                        | 4.29936 AU         | minimum elong                  | -3266 Apr 13 j 22:02                         | 26° <b>)</b> 32'32           | 1°02'31    |
| direct                         | -3272 Jun 03 j 11:30                         | 10° <b>m</b> 57'55                 |                    | max. Earth dist.               | -3266 Apr 15 j 16:06                         | 26° <b>)</b> 56'42           | 6.12745 AU |
| evening set                    | -3272 Oct 07 j 03:41                         | 29° m 09'30                        |                    | morning rise                   | -3266 Apr 27 j 16:55                         | 29° <b>)</b> 42′02           |            |
|                                | -3272 Oct 10 j 20:27                         | 0∘ <b>⊽</b>                        |                    |                                | -3266 Apr 29 j 00:30                         | $0^{\circ}\mathbf{\Upsilon}$ |            |
| max. Earth dist.               | -3272 Oct 18 j 03:09                         | 1° <b>≏</b> 39'52                  | 6.24638 AU         | retrograde                     | -3266 Sep 02 j 02:45                         | 18° <b>Ƴ</b> 42'12           |            |
|                                |  |                                    |                    | opposition                     | -3266 Oct 31 j 12:51                         | 13° <b>Ƴ</b> 38'47           |            |
| conjunction                    | -3272 Oct 19 j 16:49                         | 2° <b>≏</b> 01'26                  | 0°58'01            | min. Earth dist.               | -3266 Oct 30 j 15:40                         | 13° <b>Y</b> 46'00           | 4.18324 AU |
| minimum elong                  | -3272 Oct 19 j 16:52                         | 2° <b>≏</b> 01'28                  | 0°58'00            | direct                         | -3266 Dec 29 j 21:09                         | 8° <b>Ƴ</b> 37′20            |            |
| morning rise                   | -3272 Nov 01 j 05:44                         | 4° <b>£</b> 53'24                  |                    | evening set                    | -3265 May 05 j 22:52                         | 27° <b>Ƴ</b> 14'39           |            |
| retrograde                     | -3271 Mar 06 j 13:47                         | 23° <b>≏</b> 14'28                 |                    |                                | -3265 May 18 j 06:42                         | $9^{\circ}$ 8                |            |
| opposition                     | -3271 May 06 j 15:21                         | 18° <b>≏</b> 20'39                 |                    |                                |  |                              |            |
| min. Earth dist.               | -3271 May 07 j 12:21                         |                                    | 4.18977 AU         | conjunction                    | -3265 May 19 j 16:48                         | 0° <b>8</b> 19'06            |            |
| direct                         | -3271 Jul 06 j 16:49                         | 13° <b>≏</b> 25'13                 |                    | minimum elong                  | -3265 May 19 j 16:50                         | 0° <b>8</b> 19'08            |            |
|                                | -3271 Oct 30 j 19:50                         | 0°M                                |                    | max. Earth dist.               | -3265 May 20 j 16:37                         | 0° <b>8</b> 32'27            | 6.23989 AU |
| evening set                    | -3271 Nov 08 j 11:37                         | 2°M00'02                           | 6 12205 AVI        | morning rise                   | -3265 Jun 02 j 09:30                         | 3° <b>8</b> 22'47            |            |
| max. Earth dist.               | -3271 Nov 20 j 10:21                         | 4° <b>M</b> 47'40                  | 6.13385 AU         |                                | -3265 Jul 29 j 14:33                         | 15° <b>8</b>                 |            |
|                                | 2271 N 21 : 04.00                            | 49 <b>m</b> 50106                  | 0017140            | retrograde                     | -3265 Oct 04 j 07:45                         | 21° <b>8</b> 24'20           | 0002144    |
| conjunction minimum elong      | -3271 Nov 21 j 04:09<br>-3271 Nov 21 j 04:11 | 4°M58'06<br>4°M58'07               | 0°17'49<br>0°17'46 | opposition<br>min. Earth dist. | -3265 Dec 02 j 20:42<br>-3265 Dec 02 j 13:11 | 16° <b>8</b> 24'32           | 4.29218 AU |
| morning rise                   | -3271 Nov 21 j 04.11<br>-3271 Dec 03 j 21:49 | 7°M57'02                           | 0 1740             | iiiii. Eartii tiist.           | -3265 Dec 13 j 12:53                         | 10 02703<br>15°R <b>と</b>    | 4.29218 AU |
| morning rise                   | -3270 Jan 04 j 05:35                         | 15°M                               |                    | asc. node                      | -3265 Dec 19 j 04:55                         | 14° <b>8</b> 17'32           |            |
| retrograde                     | -3270 Apr 11 j 15:19                         | 27°M15'25                          |                    | direct                         | -3264 Feb 01 j 10:41                         | 11° <b>8</b> 21'18           |            |
| desc. node                     | -3270 Apr 19 j 02:50                         | 27°M10'08                          |                    | ancer                          | -3264 Mar 22 j 15:45                         | 15° <b>8</b>                 |            |
| opposition                     | -3270 Jun 11 j 12:37                         | 22°M18'16                          | -0°09'41           | evening set                    | -3264 Jun 08 j 03:04                         | 29° <b>8</b> 33'59           |            |
| min. Earth dist.               | -3270 Jun 11 j 16:47                         |                                    | 4.08253 AU         | evening sec                    | -3264 Jun 10 j 02:38                         | 0°Ⅱ                          |            |
| direct                         | -3270 Aug 10 j 05:48                         | 17°M24'54                          |                    |                                |  | -                            |            |
|                                | -3270 Nov 14 j 14:43                         | 0° <b>∡</b> 7                      |                    | conjunction                    | -3264 Jun 21 j 15:13                         | 2° <b>∏</b> 32′02            | 0°20'40    |
| evening set                    | -3270 Dec 12 j 12:08                         | 6° <b>∡</b> ¹24'33                 |                    | minimum elong                  | -3264 Jun 21 j 15:11                         | 2° <b>∏</b> 32′02            |            |
| 8                              | , , ,  |                                    |                    | max. Earth dist.               | -3264 Jun 21 j 12:07                         | 2° <b>Ⅱ</b> 30′20            | 6.33747 AU |
| conjunction                    | -3270 Dec 25 j 10:30                         | 9° <b>∡</b> ¹29'12                 | -0°29'53           | morning rise                   | -3264 Jul 05 j 00:50                         | 5° <b>Ⅱ</b> 28'40            |            |
| minimum elong                  | -3270 Dec 25 j 10:28                         | 9° <b>∡</b> ¹29'11                 | 0°29'59            | retrograde                     | -3264 Nov 03 j 10:46                         | 22° <b>II</b> 47'17          |            |
| max. Earth dist.               | -3270 Dec 25 j 17:37                         | 9° <b>∡</b> ³33′26                 | 6.04186 AU         | opposition                     | -3263 Jan 02 j 05:39                         | 17° <b>Ⅱ</b> 51′23           | 0°59'15    |
| morning rise                   | -3269 Jan 07 j 11:47                         | 12° <b>∡</b> ³35′28                |                    | min. Earth dist.               | -3263 Jan 02 j 15:21                         | 17° <b>Ⅱ</b> 48'12           | 4.37146 AU |
|                                | -3269 Apr 06 j 19:52                         | 0°ප                                |                    | direct                         | -3263 Mar 05 j 00:51                         | 12° <b>Ⅱ</b> 47'45           |            |
| retrograde                     | -3269 May 18 j 20:45                         | 2° <b>ප්</b> 41'18                 |                    |                                | -3263 Jul 07 j 08:22                         | 0ಂ <b>ತಾ</b>                 |            |
|                                | -3269 Jun 30 j 01:45                         | 30°₽ <b>✓</b>                      |                    | evening set                    | -3263 Jul 10 j 17:56                         | 0°5944'11                    |            |
| opposition                     | -3269 Jul 18 j 08:45                         | 27° <b>∡</b> ¹40′08                | -1°17'18           |                                |  |                              |            |
| min. Earth dist.               | -3269 Jul 17 j 17:11                         |                                    | 4.01525 AU         | conjunction                    | -3263 Jul 23 j 21:25                         | 3° <b>©</b> 36'22            | 0°58'12    |
| direct                         | -3269 Sep 14 j 21:03                         | 22° <b>∡</b> 46'54                 |                    | minimum elong                  | -3263 Jul 23 j 21:21                         | 3°536'20                     | 0°58'20    |
|                                | -3269 Nov 23 j 02:19                         | 0°る                                |                    | max. Earth dist.               | -3263 Jul 22 j 20:35                         | 3°522'47                     | 6.39197 AU |
| evening set                    | -3268 Jan 17 j 07:54                         | 12° <b>る</b> 04'18                 |                    | morning rise                   | -3263 Aug 05 j 21:27                         | 6°926'54                     |            |
|                                |  |                                    |                    |                                |  |                              |            |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -3263 in astronomical counting style is the year 3264 BCE in historical counting style. -3263 Dec 04 i 03:55 23°9526'51 min. Earth dist. -3257 Jul 22 j 18:10 2°る48'55 4.01370 AU retrograde 30°₽**⋌**7 opposition -3262 Feb 02 j 09:48 18°933'56 1°43'08 -3257 Aug 14 j 04:54 4.39922 AU min. Earth dist. -3262 Feb 03 j 08:16 -3257 Sep 19 j 21:05 27°**х** 50′03 18°9526'41 direct -3257 Oct 26 j 03:22 0°궁 -3262 Apr 05 j 21:16 13°931'19 direct 17°**る**07'53 -3256 Jan 22 j 08:20 -3262 Aug 04 j 21:55 0° $\Omega$ evening set evening set -3262 Aug 11 j 06:10 1°**Ω**22'45 max. Earth dist. 6.38981 AU -3256 Feb 04 j 14:57 -3262 Aug 22 j 09:34 3°**Ω**49'38 conjunction 20°る17'37 -1°11'04 -3256 Feb 04 j 14:54 minimum elong 20°る17'35 1°11'10 conjunction -3262 Aug 24 j 01:01 4°Ω11'24 1°18'59 max. Earth dist. -3256 Feb 06 j 02:29 20°る38'48 6.00672 AU minimum elong -3262 Aug 24 j 00:59 4°**Ω**11′23 1°19'04 morning rise -3256 Feb 18 j 00:57 23°る29'06 morning rise -3262 Sep 05 j 16:59  $6^{\circ}\Omega 58'42$ -3256 Mar 17 j 09:23 0°≈ -3262 Oct 14 j 04:16 -3256 Jun 29 j 02:42 15°€ retrograde 13°≈48'41 -3261 Jan 04 j 12:33 retrograde 24°**Ω**05′50 min. Earth dist. -3256 Aug 26 j 20:15 8°**≈**53'53 4.01948 AU opposition -3261 Mar 06 j 03:46 19°**Ω**14'22 1°58'27 opposition -3256 Aug 28 j 00:57 8°**≈**44′09 -1°58'26 min. Earth dist. -3261 Mar 07 j 10:45 19°**Ω**04'29 4.36851 AU direct -3256 Oct 25 j 00:12 3°≈48'34 -3261 Apr 15 j 01:09 15°R€ -3255 Jan 22 j 06:55 15°**≈** direct -3261 May 07 j 18:53 14°**Ω**13′50 evening set -3255 Feb 27 j 08:26 23°≈06'26 -3261 May 30 j 13:21 15°€ -3261 Sep 01 j 08:40 0° m conjunction -3255 Mar 12 j 22:06 26°≈17'25 -1°19'13 evening set -3261 Sep 11 j 07:05  $2^{\circ}$  My 11'24minimum elong -3255 Mar 12 j 22:08 26°≈17'26 1°19'17 max. Earth dist. -3261 Sep 22 j 01:26 4° m 35'48 6.33204 AU max. Earth dist. -3255 Mar 14 j 20:44 26°**≈**44'48 6.04632 AU morning rise -3255 Mar 26 j 14:27 29°≈29'37 conjunction -3261 Sep 23 i 20:52 5° m 00'09 1°17'36 -3255 Mar 28 j 18:45 0°**)**€ minimum elong -3261 Sep 23 i 20:54 5° m 00'10 1°17'39 retrograde -3255 Aug 03 j 20:57 19°**¥**19′00 morning rise -3261 Oct 06 j 08:58  $7^{\circ}$  **m** 48'12min. Earth dist. -3255 Oct 01 j 05:10 14°\(\)23'42 4.08894 AU -3260 Feb 06 j 02:30 25° m 26'20 -3255 Oct 02 j 09:48 14° ¥ 13'54 -1°46'56 retrograde opposition -3260 Apr 07 j 02:14 20° m 34'19 1°40'06 -3255 Nov 29 j 20:07 9°\ 15'01 opposition direct -3260 Apr 08 j 07:18 4.28718 AU -3254 Apr 05 j 04:10 28°¥15'46 min. Earth dist. 20° m 25'04 evening set -3260 Jun 08 j 02:38 -3254 Apr 12 j 18:40  $0^{\circ}\Upsilon$ direct 15° m 36'30 -3260 Sep 24 j 12:19 0∘ଫ -3260 Oct 11 j 15:38 -3254 Apr 18 j 22:31 1°Y24'40 -0°58'10 evening set 3°**£**50'14 conjunction -3260 Oct 22 j 19:15 -3254 Apr 18 j 22:34 max. Earth dist. 6°**£**23'21 minimum elong  $1^{\circ}$ **Y**24'43  $0^{\circ}$ 58'10 6.23388 AU -3254 Apr 20 j 15:46 1°**Y**48'19 6.13958 AU max. Earth dist. 4°Υ33'42 -3260 Oct 24 j 05:06 -3254 May 02 j 17:28 conjunction 6°**2**42'47 0°53'17 morning rise -3260 Oct 24 j 05:09 -3254 Sep 06 j 16:15 23°**Y**26'42 minimum elong 6°**₽**42'49 0°53'17 retrograde 18°**Ƴ**30'31 4.19556 AU -3260 Nov 05 j 18:15 -3254 Nov 04 j 06:11 morning rise 9°**£**35'27 min. Earth dist. -3254 Nov 05 j 02:10 18°**Y**23'44 -0°58'24 retrograde -3259 Mar 11 j 12:50 28°**₽**03'04 opposition opposition -3259 May 11 j 14:28 23°**2**08'54 0°49'56 direct -3253 Jan 03 j 12:56 13°**Y**22'00 min. Earth dist. -3259 May 12 j 09:46 23°**♀**02'43 4.17767 AU -3253 May 01 j 23:25 0°8 -3259 Jul 11 j 12:47 18°**♀**13'52 -3253 May 10 j 19:21 1°**8**56'55 direct evening set -3259 Oct 13 j 16:54 0°M -3259 Nov 13 j 03:19 6°M50'43 -3253 May 24 j 12:44 5°800'42 -0°17'57 evening set conjunction -3253 May 24 j 12:45 5°800'43 0°17'53 minimum elong -3259 Nov 25 j 20:19 9°M49'30 0°11'16 max. Earth dist. -3253 May 25 j 07:45 5°811'20 6.25163 AU conjunction -3259 Nov 25 j 20:20 9°M49'30 0°11'12 -3253 Jun 07 j 04:58 8°**8**03'39 minimum elong morning rise -3259 Nov 25 j 14:20 -3253 Jul 09 i 15:46 behind sun begin 9°M46'00 15°8 behind sun end -3259 Nov 26 i 02:21 9°M53'01 retrograde -3253 Oct 08 i 18:17 25°859'13 max. Earth dist. -3259 Nov 25 i 04:33 9°**™**40'14 6.12319 AU asc. node -3253 Oct 29 i 11:51 25°**8**16'46 morning rise -3259 Dec 08 i 15:01 12°M49'19 opposition -3253 Dec 07 j 07:09 20°**8**59'55 0°06'28 -3259 Dec 18 i 00:28 15°M min. Earth dist. -3253 Dec 07 i 02:28 21°**8**01'29 4.30243 AU desc. node -3258 Feb 27 j 09:52 28°M46'15 direct -3252 Feb 06 j 01:53 15°**8**56'31 -3258 Mar 09 j 08:27 0°**∡**¹ -3252 May 24 j 13:48  $0^{\circ}\Pi$ 2°**х** 13′44 -3252 Jun 12 j 18:51 4°**I**107'17 retrograde -3258 Apr 16 j 16:58 evening set -3258 May 25 j 07:21 30°RM opposition -3258 Jun 16 j 14:28 27°M16'01 -0°19'44 conjunction -3252 Jun 26 j 06:09 7°**I**104'36 0°26'36 min. Earth dist. -3258 Jun 16 j 15:12 27°ML15'47 4.07420 AU minimum elong -3252 Jun 26 j 06:06 7°**Ⅱ**04'35 0°26'42 direct -3258 Aug 15 j 03:13 22°M22'46 max. Earth dist. -3252 Jun 26 j 01:30 7°**Ⅲ**02'03 6.34560 AU -3258 Oct 26 j 05:57 -3252 Jul 09 j 14:24 10°**Ⅱ**00′22 0° **₹** morning rise -3258 Dec 17 j 08:33 -3252 Nov 07 j 17:41 27° II 15'31 evening set 11°**∡**°24′02 retrograde -3251 Jan 06 j 14:59 22°**II**20'03 1°06'47 opposition -3258 Dec 30 j 07:56 -3251 Jan 07 j 01:32 conjunction 14°**∡**°29′19 -0°36′05 min. Earth dist. 22°**Ⅱ**16'35 4.37710 AU minimum elong -3258 Dec 30 j 07:53 14°**∡**°29'17 0°36'11 direct -3251 Mar 09 j 12:13 17°**Ⅲ**16'30 max. Earth dist. -3258 Dec 30 j 19:43 14°**∡**³36′21 6.03661 AU -3251 Jun 20 j 16:49 0ಂತಾ morning rise -3257 Jan 12 j 10:01 17°**∡**36′12 evening set -3251 Jul 15 j 06:01 5°9511'49 -3257 Mar 10 j 12:35 0°궁 max. Earth dist. -3251 Jul 27 j 04:14 7°**9**48'05 6.39455 AU -3257 May 24 j 01:03 7°る45'06 retrograde -3257 Jul 23 j 10:35 2°る43'27 -1°24'53 -3251 Jul 28 j 08:03 8°903'19 1°02'18 opposition conjunction

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -3251 in astronomical counting style is the year 3252 BCE in historical counting style. -3251 Jul 28 j 08:00 8°503'18 1°02'24 morning rise -3245 Jan 17 j 10:32 22°×740'42 minimum elong -3251 Aug 10 j 06:56 -3245 Feb 18 j 10:13 0°궁 10°953'14 morning rise -3251 Dec 08 j 13:37 -3245 May 29 j 05:49 12°る54'10 27°952'36 retrograde retrograde -3245 Jul 28 j 14:32 7°る52'03 -1°32'02 -3250 Feb 06 j 20:10 22°959'57 1°47'10 opposition opposition -3245 Jul 27 j 19:14 min. Earth dist. -3250 Feb 07 j 20:48 22°952'00 4.39862 AU min. Earth dist. 7°**る**58'29 4.00843 AU direct -3250 Apr 10 j 10:26 17°957'30 direct -3245 Sep 24 j 21:11 2°**る**58'29 -3244 Jan 27 j 12:11 -3250 Jul 19 j 05:51 0° $\Omega$ evening set 22°**る**18'17 evening set -3250 Aug 15 j 15:26 5°**Ω**48'47 max. Earth dist. -3250 Aug 26 j 17:13 8°**Ω**15′00 6.38574 AU conjunction -3244 Feb 09 j 19:51 25°る28'30 -1°14'02 minimum elong -3244 Feb 09 j 19:49 25°**る**28'29 1°14'07 conjunction -3250 Aug 28 j 09:26 8°**Ω**37'12 1°20'10 max. Earth dist. -3244 Feb 11 j 09:27 25°**る**50'55 6.00596 AU -3250 Aug 28 j 09:24 -3244 Feb 23 j 06:51 minimum elong 8°**Ω**37'11 1°20'16 morning rise 28°る40'26 -3250 Sep 10 j 00:31 morning rise 11°**Ω**24'18 -3244 Feb 28 j 22:05 0°≈ -3250 Sep 26 j 15:20 15°€ -3244 May 13 j 21:24 15°**≈** retrograde -3249 Jan 08 j 22:58 28°**Ω**33'54 retrograde -3244 Jul 04 j 06:42 18°≈59'14 opposition -3249 Mar 10 j 16:49 23°**Ω**42'21 1°57'54 -3244 Aug 25 j 00:31 15°R≈ min. Earth dist. -3249 Mar 11 j 23:06 23°**Ω**32'42 4.36115 AU min. Earth dist. -3244 Aug 31 j 21:57 14°≈04'18 4.02342 AU direct -3249 May 12 j 06:15 18°**Ω**42'07 opposition -3244 Sep 02 j 02:53 13°**≈**54'28 -1°59'34 -3249 Aug 15 j 12:29 direct -3244 Oct 30 j 03:15 8°≈58'29 evening set -3249 Sep 15 j 15:45 6° Mp 40'47 -3244 Dec 31 j 19:35 15°≈ max. Earth dist. -3249 Sep 26 j 10:55 9° Mp 06'01 6.32177 AU evening set -3243 Mar 04 j 14:23 28°≈15'52 -3243 Mar 12 j 00:39 0°) conjunction -3249 Sep 28 i 05:11 9° m 29'47 1°15'30 minimum elong -3249 Sep 28 i 05:13 9° m 29'48 1°15'32 conjunction -3243 Mar 18 i 05:05 1°**H**26'55 -1°17'52 morning rise -3249 Oct 10 j 17:03 12° m 18'11 -3243 Mar 18 i 05:07 1°**H**26'56 1°17'55 minimum elong -3248 Feb 06 j 14:07 0∘**⊽** -3243 Mar 20 j 05:33 1°**¥**55'18 6.05477 AU max. Earth dist. -3248 Feb 10 j 19:44 0°**£**01'41 -3243 Mar 31 j 22:01 morning rise 4° ¥ 39'00 retrograde -3248 Feb 15 j 01:17 30°₽, MD -3243 Aug 08 j 19:35 24°**₩**22'17 retrograde -3243 Oct 06 j 02:37 -3248 Apr 11 j 19:49 25° m 09'27 1°34'48 min. Earth dist. 19°**升**27′09 4.10119 AU opposition -3248 Apr 13 j 00:56 -3243 Oct 07 j 07:05 min. Earth dist. 25° Mp 00'12 4.27425 AU opposition 19° **★**17'25 -1°41'52 -3243 Dec 04 j 19:09 -3248 Jun 12 j 18:29  $20^{\circ}$  M 12'0014°**H** 18'13 direct direct  $0^{\circ}\Upsilon$ -3248 Sep 06 j 23:23 0∘ଫ -3242 Mar 26 j 18:40 3°Y16'06 -3248 Oct 16 j 02:33 8°**£**28'07 -3242 Apr 10 j 08:01 evening set evening set -3248 Oct 27 j 06:59 max. Earth dist. 11°**♀**02'14 6.21934 AU -3242 Apr 24 j 02:26 6°**Y**24'25 -0°53'17 conjunction -3248 Oct 28 j 16:13 -3242 Apr 24 j 02:30 conjunction 11°**£**21'22 0°48'15 minimum elong 6°**Υ**24'28 0°53'16 6°**Y**46′19 -3242 Apr 25 j 16:47 minimum elong -3248 Oct 28 j 16:16 11°**≏**21'24 0°48'14 max. Earth dist. 6.15486 AU -3248 Nov 10 j 06:01 14°**£**14'54 morning rise -3242 May 07 j 21:31 9°Y32'48 morning rise -3247 Jan 31 j 19:38  $0^{\circ}M$ retrograde -3242 Sep 11 j 07:30 28°Y17'15 retrograde -3247 Mar 16 j 10:20 2°M49'59 -3242 Nov 09 j 18:09 23°Y14'44 -0°49'40 opposition -3247 Apr 29 j 18:54 30°**₹**Ω min. Earth dist. -3242 Nov 08 j 23:39 23°Υ21'00 4.21255 AU -3247 May 16 j 12:49 27°**♀**55'21 0°40'55 -3241 Jan 08 j 09:30 18° **Y**12'44 opposition direct -3247 May 17 j 05:15 27°**♀**50'05 -3241 Apr 14 j 08:20  $0^{\circ}$ 8 min. Earth dist. 4.16243 AU -3247 Jul 16 j 05:57 23°**♀**00'36 -3241 May 15 j 17:27 6°843'19 direct evening set -3247 Sep 24 j 03:00  $0^{\circ}$ M evening set -3247 Nov 17 j 19:12 11°ML40'55 conjunction -3241 May 29 j 10:21 9°846'08 -0°11'36 minimum elong -3241 May 29 j 10:22 9°846'08 0°11'32 conjunction -3247 Nov 30 j 13:04 14°M40'39 0°04'38 behind sun begin -3241 May 29 i 04:30 9°842'53 minimum elong -3247 Nov 30 j 13:04 14°M40'40 0°04'32 behind sun end -3241 May 29 j 16:13 9°849'23 behind sun begin -3247 Nov 30 i 05:12 14°MJ36'02 max. Earth dist. -3241 May 30 j 04:11 9°**8**56'03 6.26941 AU behind sun end -3247 Nov 30 j 20:57 14°ML45'17 -3241 Jun 12 j 01:28 12°847'54 morning rise max. Earth dist. -3247 Nov 30 j 01:27 14°M33'49 6.10872 AU -3241 Jun 22 j 02:27 15°8 -3247 Dec 01 j 21:53 -3241 Sep 08 j 08:09 28°841'05 15°M. asc node -3241 Sep 24 j 02:07 morning rise -3247 Dec 13 j 08:34 17°M41'30  $0^{\circ}\Pi$ desc. node -3246 Jan 07 j 09:46 23°M24'38 retrograde -3241 Oct 13 j 03:41 0°**I**I35'21 -3246 Feb 08 j 22:39 0°×7 -3241 Nov 01 j 02:33 30°R₩ retrograde -3246 Apr 21 j 22:10 7°**х¹**13′29 opposition -3241 Dec 11 j 18:15 25°**8**36'39 0°15'36 -3246 Jun 21 j 17:04 2°**х** 15′14 -0°29′46 min. Earth dist. -3241 Dec 11 j 14:58 25°**8**37'45 4.31958 AU opposition -3240 Feb 10 j 17:28 20°**8**33'14 min. Earth dist. -3246 Jun 21 j 16:23 2°**≯**15'27 4.06168 AU direct -3246 Jul 09 j 15:49  $0^{\circ}\Pi$ 30°RM -3240 May 06 j 11:08  $27^{\circ}$ M $_{2}2'04$ -3240 Jun 17 j 10:23 8°**Ⅲ**39'34 direct -3246 Aug 20 j 02:17 evening set -3246 Sep 29 j 16:24 0°**∡** evening set -3246 Dec 22 j 06:53 16°**х** 26′45 conjunction -3240 Jun 30 j 20:13 11°**Ⅲ**35'42 0°32'20 minimum elong -3240 Jun 30 j 20:10 11°**Ⅲ**35'41 0°32'26 conjunction -3245 Jan 04 j 07:11 19°**∡**32'52 -0°42'08 max. Earth dist. -3240 Jun 30 j 11:14 11°**Ⅲ**30'47 6.36070 AU minimum elong -3245 Jan 04 j 07:08 19°**∡**32'50 -3240 Jul 14 j 03:14 14°**Ⅲ**30'19 0°42'14 morning rise

-3240 Oct 10 j 07:59

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max. Earth dist.

-3245 Jan 04 j 21:35

19°**✗**⁴41'28 6.02706 AU

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|---|--|---|--|--|---|--|---|
|   |  | e year -3240 n<br>1°939'55  | n astronomicai cou   | max. Earth dist.   |   |  | 6.08902 AU  |
| retrograde  | -3240 Nov 12 j 00:06   |   |  |  | -3235 Dec 04 j 19:03  |  | 0.08902 AU  |
| •,•   | -3240 Dec 14 j 15:53   | 30°RII  | 1010144  | morning rise   | -3235 Dec 18 j 01:09  | 22°M31'27  |   |
| opposition  | -3239 Jan 10 j 22:58   | 26° <b>Ⅱ</b> 44'54  | 1°13'44  |  | -3234 Jan 20 j 01:40  | 0° <b>∡¹</b>   |   |
| min. Earth dist.  | -3239 Jan 11 j 12:11   | 26° <b>I</b> I40'34   | 4.38924 AU   | retrograde   | -3234 Apr 27 j 01:08  | 12° <b>х</b> 13'01   | 0020127   |
| direct  | -3239 Mar 14 j 00:54   | 21° <b>Ⅱ</b> 41′23  |  | opposition   | -3234 Jun 26 j 18:53  | 7° <b>⋌</b> 14'14  |   |
|   | -3239 Jun 02 j 11:44   | 0.20  |  | min. Earth dist.   | -3234 Jun 26 j 14:51  |  | 4.04418 AU  |
| evening set   | -3239 Jul 19 j 15:10   | 9° <b>©</b> 33'29   |  | direct   | -3234 Aug 24 j 21:41  | 2° <b>∡</b> 121'10   |   |
| max. Earth dist.  | -3239 Jul 31 j 10:59   | 12° <b>©</b> 08'15  | 6.40260 AU   | evening set  | -3234 Dec 27 j 06:02  | 21° <b>∡</b> ³31′22  |   |
|   |  |   |  |  |   |  |   |
| conjunction   | -3239 Aug 01 j 16:02   | 12° <b>©</b> 24'08  | 1°05'54  | conjunction  | -3233 Jan 09 j 07:26  | 24° <b>∡</b> ³38'34  | -0°47'47  |
| minimum elong   | -3239 Aug 01 j 15:59   | 12° <b>©</b> 24'06  | 1°06'00  | minimum elong  | -3233 Jan 09 j 07:23  | 24° <b>҂</b> ³38'32  | 0°47'54   |
| morning rise  | -3239 Aug 14 j 13:25   | 15° <b>©</b> 13'09  |  | max. Earth dist.   | -3233 Jan 10 j 01:34  | 24° <b>₹</b> 149′26  | 6.01334 AU  |
|   | -3239 Nov 04 j 23:10   | $0 {\circ} \Omega$  |  | morning rise   | -3233 Jan 22 j 12:00  | 27° <b>҂</b> ¹47'32  |   |
| retrograde  | -3239 Dec 12 j 17:32   | 2° <b>Ω</b> 10′36   |  |  | -3233 Jan 31 j 20:42  | 0°ප  |   |
|   | -3238 Jan 19 j 20:15   | 30° <b>₹</b> 🥯  |  | retrograde   | -3233 Jun 03 j 13:22  | 18° <b>る</b> 06'55   |   |
| opposition  | -3238 Feb 11 j 03:22   | 27° <b>©</b> 18'12  | 1°50'23  | opposition   | -3233 Aug 02 j 19:15  | 13° <b>る</b> 04'16   | -1°38'24  |
| min. Earth dist.  | -3238 Feb 12 j 04:44   | 27° <b>©</b> 10'03  | 4.40216 AU   | min. Earth dist.   | -3233 Aug 01 j 22:06  | 13° <b>る</b> 11'22   | 4.00007 AU  |
| direct  | -3238 Apr 14 j 18:37   | 22°516'00   |  | direct   | -3233 Sep 30 j 00:01  | 8° <b>ප</b> 10'26  |   |
|   | -3238 Jul 01 j 01:41   | $0^{\circ}\Omega$   |  | evening set  | -3232 Feb 01 j 18:02  | 27° <b>ප</b> 33'16   |   |
| evening set   | -3238 Aug 19 j 20:44   | 10° <b>Ω</b> 05'59  |  | Ü  | -3232 Feb 12 j 00:55  | 0° <b>≈</b>  |   |
| max. Earth dist.  | -3238 Aug 30 j 19:01   | 12° <b>Ω</b> 30′28  | 6.38421 AU   |  | ,   |  |   |
|   |  |   |  | conjunction  | -3232 Feb 15 j 02:59  | 0° <b>≈</b> 44'07  | -1°16'21  |
| conjunction   | -3238 Sep 01 j 13:38   | 12° <b>Ω</b> 54'02  | 1°20'50  | minimum elong  | -3232 Feb 15 j 02:57  | 0° <b>≈</b> 44'06  | 1°16'27   |
| minimum elong   | -3238 Sep 01 j 13:37   | 12° <b>£</b> 51'02  |  | max. Earth dist.   | -3232 Feb 16 j 20:56  | 1°≈09'06   | 6.00373 AU  |
| minimum ciong   | -3238 Sep 11 j 01:41   | 15° <b>Ω</b>  | 1 20 30  | morning rise   | -3232 Feb 28 j 15:03  | 3°≈56'36   | 0.00373710  |
| morning rise  | -3238 Sep 14 j 04:02   | 15° <b>Ω</b> 40'54  |  | morning risc   | ·   | 3 ≈30 30<br>15°≈   |   |
| morning rise  |  |   |  |  | -3232 Apr 18 j 17:32  |  |   |
|   | -3238 Nov 30 j 08:43   | 0° <b>Т</b> р   |  | retrograde   | -3232 Jul 09 j 12:31  | 24°≈14'15  | 4.027(0.AII   |
| retrograde  | -3237 Jan 13 j 07:38   | 2° My 52'37   |  | min. Earth dist.   | -3232 Sep 05 j 23:56  | 19°≈19'30  | 4.02768 AU  |
| *.*   | -3237 Feb 27 j 00:25   | 30°R€   | 1056120  | opposition   | -3232 Sep 07 j 06:07  | 19° <b>≈</b> 09'15   | -1°59′40  |
| opposition  | -3237 Mar 15 j 02:08   | 28° <b>Ω</b> 01'06  | 1°56'39  |  | -3232 Oct 13 j 19:45  | 15°R≈  |   |
| min. Earth dist.  | -3237 Mar 16 j 10:23   | 27° <b>Ω</b> 50′50  | 4.35447 AU   | direct   | -3232 Nov 04 j 05:58  | 14°≈12'48  |   |
| direct  | -3237 May 16 j 16:09   | 23° <b>Ω</b> 01′08  |  |  | -3232 Nov 25 j 18:36  | 15° <b>≈</b>   |   |
|   | -3237 Jul 27 j 22:19   | 0° <b>m</b>   |  |  | -3231 Feb 22 j 17:56  | 0° <b>∀</b>  |   |
| evening set   | -3237 Sep 19 j 20:23   | 11° <b>m</b> )01'00   |  | evening set  | -3231 Mar 09 j 22:07  | 3° <b>∺</b> 29'09  |   |
|   |  | -   |  | evening see  | -3231 Wiai 07 J 22.07   | 3 /(2) 0)  |   |
| max. Earth dist.  | -3237 Sep 30 j 14:42   | 13° <b>m</b> 26'09  | 6.31037 AU   | C  | ,   |  |   |
| max. Earth dist.  |  | 13° Mp 26'09  | 6.31037 AU   | conjunction  | -3231 Mar 23 j 13:30  | 6° <b>){</b> 40'05   |   |
| max. Earth dist.  |  | •   | 6.31037 AU<br>1°13'02  | C  | ,   | 6° <b>)</b> 40'05<br>6° <b>)</b> 40'07   | 1°15'52   |
|   | -3237 Sep 30 j 14:42   | 13° <b>m</b> 50'22  |  | conjunction  | -3231 Mar 23 j 13:30  | 6° <b>)</b> 40'05<br>6° <b>)</b> 40'07   |   |
| conjunction   | -3237 Sep 30 j 14:42<br>-3237 Oct 02 j 09:38   | 13° <b>m</b> 50'22  | 1°13'02  | conjunction<br>minimum elong   | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32  | 6° <b>)</b> 40'05<br>6° <b>)</b> 40'07   | 1°15'52   |
| conjunction<br>minimum elong  | -3237 Sep 30 j 14:42<br>-3237 Oct 02 j 09:38<br>-3237 Oct 02 j 09:41   | 13° m/50'22<br>13° m/50'23  | 1°13'02  | conjunction minimum elong max. Earth dist.   | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32<br>-3231 Mar 25 j 13:24  | 6° <b>)</b> 40'05<br>6° <b>)</b> 40'07<br>7° <b>)</b> €08'04   | 1°15'52   |
| conjunction<br>minimum elong  | -3237 Sep 30 j 14:42<br>-3237 Oct 02 j 09:38<br>-3237 Oct 02 j 09:41<br>-3237 Oct 14 j 21:28   | 13° m 50'22<br>13° m 50'23<br>16° m 39'13   | 1°13'02  | conjunction<br>minimum elong<br>max. Earth dist.<br>morning rise   | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32<br>-3231 Mar 25 j 13:24<br>-3231 Apr 06 j 07:14  | 6° ₩40'05<br>6° ₩40'07<br>7° ₩08'04<br>9° ₩51'59<br>29° ₩27'57   | 1°15'52   |
| conjunction<br>minimum elong<br>morning rise  | -3237 Sep 30 j 14:42<br>-3237 Oct 02 j 09:38<br>-3237 Oct 02 j 09:41<br>-3237 Oct 14 j 21:28<br>-3237 Dec 21 j 16:14<br>-3236 Feb 15 j 07:48   | 13° m/50'22<br>13° m/50'23<br>16° m/39'13<br>0° <u>Ω</u>  | 1°13'02  | conjunction minimum elong max. Earth dist. morning rise retrograde   | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32<br>-3231 Mar 25 j 13:24<br>-3231 Apr 06 j 07:14<br>-3231 Aug 13 j 16:54  | 6° ₩40'05<br>6° ₩40'07<br>7° ₩08'04<br>9° ₩51'59<br>29° ₩27'57   | 1°15'52<br>6.06476 AU<br>4.11545 AU   |
| conjunction<br>minimum elong<br>morning rise  | -3237 Sep 30 j 14:42<br>-3237 Oct 02 j 09:38<br>-3237 Oct 02 j 09:41<br>-3237 Oct 14 j 21:28<br>-3237 Dec 21 j 16:14   | 13° m/50'22<br>13° m/50'23<br>16° m/39'13<br>0° Ω<br>4° Ω 28'46   | 1°13'02  | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist.  | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32<br>-3231 Mar 25 j 13:24<br>-3231 Apr 06 j 07:14<br>-3231 Aug 13 j 16:54<br>-3231 Oct 11 j 00:48  | 6°\;\;\40'05<br>6°\;\;\40'07<br>7°\;\;\08'04<br>9°\;\;\51'59<br>29°\;\;\27'57<br>24°\;\;\32'48   | 1°15'52<br>6.06476 AU<br>4.11545 AU   |
| conjunction minimum elong morning rise retrograde   | -3237 Sep 30 j 14:42<br>-3237 Oct 02 j 09:38<br>-3237 Oct 02 j 09:41<br>-3237 Oct 14 j 21:28<br>-3237 Dec 21 j 16:14<br>-3236 Feb 15 j 07:48<br>-3236 Apr 13 j 06:52<br>-3236 Apr 16 j 09:24   | 13° m 50'22<br>13° m 50'23<br>16° m 39'13<br>0° Ω<br>4° Ω 28'46<br>30° R m<br>29° m 36'18   | 1°13'02<br>1°13'03   | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition   | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32<br>-3231 Mar 25 j 13:24<br>-3231 Apr 06 j 07:14<br>-3231 Aug 13 j 16:54<br>-3231 Oct 11 j 00:48<br>-3231 Oct 12 j 05:07<br>-3231 Dec 09 j 20:25  | 6°\;\;\40'05<br>6°\;\;\40'07<br>7°\;\;\8'04<br>9°\;\\$51'59<br>29°\;\\$27'57<br>24°\;\\$32'48<br>24°\;\\$23'07   | 1°15'52<br>6.06476 AU<br>4.11545 AU   |
| conjunction minimum elong morning rise retrograde opposition  | -3237 Sep 30 j 14:42<br>-3237 Oct 02 j 09:38<br>-3237 Oct 02 j 09:41<br>-3237 Oct 14 j 21:28<br>-3237 Dec 21 j 16:14<br>-3236 Feb 15 j 07:48<br>-3236 Apr 13 j 06:52<br>-3236 Apr 16 j 09:24<br>-3236 Apr 17 j 13:18   | 13° m 50'22<br>13° m 50'23<br>16° m 39'13<br>0° Ω<br>4° Ω 28'46<br>30° R m<br>29° m 36'18<br>29° m 27'25  | 1°13'02<br>1°13'03<br>1°29'07  | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct  | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32<br>-3231 Mar 25 j 13:24<br>-3231 Apr 06 j 07:14<br>-3231 Aug 13 j 16:54<br>-3231 Oct 11 j 00:48<br>-3231 Oct 12 j 05:07<br>-3231 Dec 09 j 20:25<br>-3230 Mar 08 j 06:24  | 6° \ 40'05<br>6° \ 40'07<br>7° \ 708'04<br>9° \ 51'59<br>29° \ 27'57<br>24° \ 32'48<br>24° \ 23'07<br>19° \ 23'21<br>0° \ \  | 1°15'52<br>6.06476 AU<br>4.11545 AU   |
| conjunction minimum elong morning rise retrograde opposition min. Earth dist.   | -3237 Sep 30 j 14:42<br>-3237 Oct 02 j 09:38<br>-3237 Oct 02 j 09:41<br>-3237 Oct 14 j 21:28<br>-3237 Dec 21 j 16:14<br>-3236 Feb 15 j 07:48<br>-3236 Apr 13 j 06:52<br>-3236 Apr 16 j 09:24<br>-3236 Apr 17 j 13:18<br>-3236 Jun 17 j 03:47   | 13° m 50'22<br>13° m 50'23<br>16° m 39'13<br>0° \(\Omega\)<br>4° \(\Omega\)28'46<br>30° R m<br>29° m 36'18<br>29° m 27'25<br>24° m 39'09  | 1°13'02<br>1°13'03<br>1°29'07  | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition   | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32<br>-3231 Mar 25 j 13:24<br>-3231 Apr 06 j 07:14<br>-3231 Aug 13 j 16:54<br>-3231 Oct 11 j 00:48<br>-3231 Oct 12 j 05:07<br>-3231 Dec 09 j 20:25  | 6°\;\;\40'05<br>6°\;\;\40'07<br>7°\;\;\408'04<br>9°\;\\$51'59<br>29°\;\\$27'57<br>24°\;\\$32'48<br>24°\;\\$23'07<br>19°\;\\$23'21  | 1°15'52<br>6.06476 AU<br>4.11545 AU   |
| conjunction minimum elong morning rise retrograde opposition min. Earth dist. direct  | -3237 Sep 30 j 14:42<br>-3237 Oct 02 j 09:38<br>-3237 Oct 02 j 09:41<br>-3237 Oct 14 j 21:28<br>-3237 Dec 21 j 16:14<br>-3236 Feb 15 j 07:48<br>-3236 Apr 13 j 06:52<br>-3236 Apr 16 j 09:24<br>-3236 Apr 17 j 13:18<br>-3236 Jun 17 j 03:47<br>-3236 Aug 17 j 14:02   | 13° M 50'22<br>13° M 50'23<br>16° M 39'13<br>0° Ω<br>4° Ω 28'46<br>30° R M<br>29° M 36'18<br>29° M 27'25<br>24° M 39'09<br>0° Ω   | 1°13'02<br>1°13'03<br>1°29'07  | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set  | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32<br>-3231 Mar 25 j 13:24<br>-3231 Apr 06 j 07:14<br>-3231 Aug 13 j 16:54<br>-3231 Oct 11 j 00:48<br>-3231 Oct 12 j 05:07<br>-3231 Dec 09 j 20:25<br>-3230 Mar 08 j 06:24<br>-3230 Apr 15 j 12:12  | 6° \(\pmu\)40'05<br>6° \(\pmu\)40'07<br>7° \(\pmu\)808'04<br>9° \(\pmu\)55'55<br>29° \(\pmu\)27'57<br>24° \(\pmu\)32'48<br>24° \(\pmu\)23'21<br>0° \(\pmu\)<br>8° \(\pmu\)17'13  | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57   |
| conjunction minimum elong morning rise retrograde opposition min. Earth dist. direct evening set  | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Oct 14 j 21:28  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Jun 17 j 03:47  -3236 Aug 17 j 14:02  -3236 Oct 20 j 10:26   | 13° m 50'22 13° m 50'23 16° m 39'13 0° Ω 4° Ω 28'46 30° R m 29° m 36'18 29° m 27'25 24° m 39'09 0° Ω 12° Ω 59'02  | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU  | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set conjunction  | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32<br>-3231 Mar 25 j 13:24<br>-3231 Apr 06 j 07:14<br>-3231 Aug 13 j 16:54<br>-3231 Oct 11 j 00:48<br>-3231 Oct 12 j 05:07<br>-3231 Dec 09 j 20:25<br>-3230 Mar 08 j 06:24<br>-3230 Apr 15 j 12:12  | 6°\(\pm\)40'05 6°\(\pm\)40'07 7°\(\pm\)08'04 9°\(\pm\)51'59 29°\(\pm\)27'57 24°\(\pm\)32'48 24°\(\pm\)23'07 19°\(\pm\)23'21 0°\(\pm\) 8°\(\pm\)17'13   | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57   |
| conjunction minimum elong morning rise retrograde opposition min. Earth dist. direct  | -3237 Sep 30 j 14:42<br>-3237 Oct 02 j 09:38<br>-3237 Oct 02 j 09:41<br>-3237 Oct 14 j 21:28<br>-3237 Dec 21 j 16:14<br>-3236 Feb 15 j 07:48<br>-3236 Apr 13 j 06:52<br>-3236 Apr 16 j 09:24<br>-3236 Apr 17 j 13:18<br>-3236 Jun 17 j 03:47<br>-3236 Aug 17 j 14:02   | 13° M 50'22<br>13° M 50'23<br>16° M 39'13<br>0° Ω<br>4° Ω 28'46<br>30° R M<br>29° M 36'18<br>29° M 27'25<br>24° M 39'09<br>0° Ω   | 1°13'02<br>1°13'03<br>1°29'07  | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong   | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32<br>-3231 Mar 25 j 13:24<br>-3231 Apr 06 j 07:14<br>-3231 Aug 13 j 16:54<br>-3231 Oct 11 j 00:48<br>-3231 Oct 12 j 05:07<br>-3231 Dec 09 j 20:25<br>-3230 Mar 08 j 06:24<br>-3230 Apr 15 j 12:12<br>-3230 Apr 29 j 06:52<br>-3230 Apr 29 j 06:56  | 6°\(\pm\)40'05 6°\(\pm\)40'07 7°\(\pm\)08'04 9°\(\pm\)51'59 29°\(\pm\)27'57 24°\(\pm\)32'48 24°\(\pm\)23'21 0°\(\pm\) 8°\(\pm\)17'13 11°\(\pm\)24'52 11°\(\pm\)24'54   | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55  |
| conjunction minimum elong morning rise retrograde opposition min. Earth dist. direct evening set max. Earth dist.   | -3237 Sep 30 j 14:42<br>-3237 Oct 02 j 09:38<br>-3237 Oct 02 j 09:41<br>-3237 Oct 14 j 21:28<br>-3237 Dec 21 j 16:14<br>-3236 Feb 15 j 07:48<br>-3236 Apr 13 j 06:52<br>-3236 Apr 16 j 09:24<br>-3236 Apr 17 j 13:18<br>-3236 Jun 17 j 03:47<br>-3236 Aug 17 j 14:02<br>-3236 Oct 20 j 10:26<br>-3236 Oct 31 j 17:11   | 13° m 50'22 13° m 50'23 16° m 39'13 0° Ω 4° Ω 28'46 30° R m 29° m 36'18 29° m 27'25 24° m 39'09 0° Ω 12° Ω 59'02 15° Ω 35'05  | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU  | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist.  | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32<br>-3231 Mar 25 j 13:24<br>-3231 Apr 06 j 07:14<br>-3231 Aug 13 j 16:54<br>-3231 Oct 11 j 00:48<br>-3231 Oct 12 j 05:07<br>-3231 Dec 09 j 20:25<br>-3230 Mar 08 j 06:24<br>-3230 Apr 15 j 12:12<br>-3230 Apr 29 j 06:52<br>-3230 Apr 29 j 06:56<br>-3230 Apr 30 j 20:21  | 6°\;\;\40'05 6°\;\;\40'07 7°\;\\$08'04 9°\;\\$51'59 29°\;\\$27'57 24°\;\\$32'48 24°\;\\$23'07 19°\;\\$23'21 0°\;\\$0°\\$\\$8°\\$\\$17'13  11°\\$\\$24'52 11°\\$\\$24'54 11°\\$\\$46'11   | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57   |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction   | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Oct 14 j 21:28  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Jun 17 j 03:47  -3236 Oct 20 j 10:26  -3236 Oct 31 j 17:11  -3236 Nov 02 j 00:32   | 13° m 50'22 13° m 50'23 16° m 39'13 0° Ω 4° Ω 28'46 30° R m 29° m 36'18 29° m 27'25 24° m 39'09 0° Ω 12° Ω 59'02 15° Ω 35'05  | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU<br>0°43'05                                     | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong   | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32<br>-3231 Mar 25 j 13:24<br>-3231 Apr 06 j 07:14<br>-3231 Aug 13 j 16:54<br>-3231 Oct 11 j 00:48<br>-3231 Oct 12 j 05:07<br>-3231 Dec 09 j 20:25<br>-3230 Mar 08 j 06:24<br>-3230 Apr 15 j 12:12<br>-3230 Apr 29 j 06:52<br>-3230 Apr 29 j 06:56<br>-3230 Apr 30 j 20:21<br>-3230 May 13 j 01:35  | 6°\tau40'05 6°\tau40'07 7°\tau8'04 9°\tau51'59 29°\tau27'57 24°\tau3'07 19°\tau23'21 0°\tau8'\tau7'13 11°\tau24'52 11°\tau24'54 11°\tau46'11 14°\tau3'220  | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55  |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong   | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Oct 14 j 21:28  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Jun 17 j 03:47  -3236 Oct 20 j 10:26  -3236 Oct 31 j 17:11  -3236 Nov 02 j 00:32  -3236 Nov 02 j 00:35   | 13° № 50'22 13° № 50'23 16° № 39'13 0° № 4° № 28'46 30° № № 29° № 36'18 29° № 27'25 24° № 39'09 0° № 12° № 59'02 15° № 35'05  | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU  | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set conjunction minimum elong max. Earth dist. morning rise  | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32<br>-3231 Mar 25 j 13:24<br>-3231 Apr 06 j 07:14<br>-3231 Aug 13 j 16:54<br>-3231 Oct 11 j 00:48<br>-3231 Oct 12 j 05:07<br>-3231 Dec 09 j 20:25<br>-3230 Mar 08 j 06:24<br>-3230 Apr 15 j 12:12<br>-3230 Apr 29 j 06:56<br>-3230 Apr 29 j 06:56<br>-3230 Apr 30 j 20:21<br>-3230 May 13 j 01:35<br>-3230 Aug 01 j 23:02  | 6°\tau40'05 6°\tau40'07 7°\tau8'04 9°\tau51'59 29°\tau27'57 24°\tau3'07 19°\tau23'21 0°\tau8'\tau7'13  11°\tau24'52 11°\tau24'54 11°\tau46'11 14°\tau32'20 0°\tau8   | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55  |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction   | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Oct 14 j 21:28  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Jun 17 j 03:47  -3236 Aug 17 j 14:02  -3236 Oct 20 j 10:26  -3236 Oct 31 j 17:11  -3236 Nov 02 j 00:32  -3236 Nov 02 j 00:35  -3236 Nov 14 j 14:55   | 13° M 50'22 13° M 50'23 16° M 39'13 0° \( \Oldsymbol{\Omega} \) 4° \( \Oldsymbol{\Omega} \) 4° \( \Oldsymbol{\Omega} \) 29° M 36'18 29° M 27'25 24° M 39'09 0° \( \Oldsymbol{\Omega} \) 12° \( \Oldsymbol{\Omega} \) 12° \( \Oldsymbol{\Omega} \) 15° \( \Oldsymbol{\Omega} \) | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU<br>0°43'05                                     | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist.  | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32<br>-3231 Mar 25 j 13:24<br>-3231 Apr 06 j 07:14<br>-3231 Aug 13 j 16:54<br>-3231 Oct 11 j 00:48<br>-3231 Oct 12 j 05:07<br>-3231 Dec 09 j 20:25<br>-3230 Mar 08 j 06:24<br>-3230 Apr 15 j 12:12<br>-3230 Apr 29 j 06:56<br>-3230 Apr 29 j 06:56<br>-3230 Apr 30 j 20:21<br>-3230 May 13 j 01:35<br>-3230 Aug 01 j 23:02<br>-3230 Sep 15 j 23:34  | 6°\tau40'05 6°\tau40'07 7°\tau8'04 9°\tau51'59 29°\tau27'57 24°\tau32'48 24°\tau23'07 19°\tau23'21 0°\tau8'\tau7'13  11°\tau24'52 11°\tau24'54 11°\tau46'11 14°\tau32'20 0°\tau30'\tau7'22   | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55  |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Oct 14 j 21:28  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Jun 17 j 03:47  -3236 Aug 17 j 14:02  -3236 Oct 20 j 10:26  -3236 Oct 31 j 17:11  -3236 Nov 02 j 00:32  -3236 Nov 02 j 00:35  -3236 Nov 14 j 14:55  -3235 Jan 06 j 11:27   | 13° № 50'22 13° № 50'23 16° № 39'13 0° № 4° № 28'46 30° № № 29° № 36'18 29° № 27'25 24° № 39'09 0° № 12° № 59'02 15° № 53'13 15° № 53'15 18° № 47'48 0° №   | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU<br>0°43'05                                     | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde   | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32<br>-3231 Mar 25 j 13:24<br>-3231 Apr 06 j 07:14<br>-3231 Aug 13 j 16:54<br>-3231 Oct 11 j 00:48<br>-3231 Oct 12 j 05:07<br>-3231 Dec 09 j 20:25<br>-3230 Mar 08 j 06:24<br>-3230 Apr 15 j 12:12<br>-3230 Apr 29 j 06:56<br>-3230 Apr 29 j 06:56<br>-3230 Apr 30 j 20:21<br>-3230 Aug 01 j 23:02<br>-3230 Sep 15 j 23:34<br>-3230 Oct 30 j 21:52  | 6°\tau40'05 6°\tau40'07 7°\tau8'04 9°\tau51'59 29°\tau27'57 24°\tau32'48 24°\tau23'07 19°\tau23'21 0°\tau8'\tau7'13  11°\tau24'52 11°\tau24'54 11°\tau46'11 14°\tau32'20 0°\tau30'\tau8'\tau7'22 30°\tau7'22 30°\tau7'22   | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55<br>6.17207 AU  |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde  | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Oct 14 j 21:28  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Jun 17 j 03:47  -3236 Aug 17 j 14:02  -3236 Oct 20 j 10:26  -3236 Oct 31 j 17:11  -3236 Nov 02 j 00:32  -3236 Nov 02 j 00:35  -3236 Nov 14 j 14:55  -3235 Jan 06 j 11:27  -3235 Mar 21 j 09:04   | 13° m 50'22 13° m 50'23 16° m 39'13 0° \( \Omega\) 4° \( \Omega\) 28'46 30° R m 29° m 36'18 29° m 27'25 24° m 39'09 0° \( \Omega\) 12° \( \Omega\) 59'02 15° \( \Omega\) 35'05 15° \( \Omega\) 53'13 15° \( \Omega\) 53'15 18° \( \Omega\) 47'48 0° m. 7° m 32'01   | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU<br>0°43'05<br>0°43'04                          | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde opposition  | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32<br>-3231 Mar 25 j 13:24<br>-3231 Apr 06 j 07:14<br>-3231 Aug 13 j 16:54<br>-3231 Oct 11 j 00:48<br>-3231 Oct 12 j 05:07<br>-3231 Dec 09 j 20:25<br>-3230 Mar 08 j 06:24<br>-3230 Apr 15 j 12:12<br>-3230 Apr 29 j 06:56<br>-3230 Apr 29 j 06:56<br>-3230 Apr 30 j 20:21<br>-3230 Aug 01 j 23:02<br>-3230 Sep 15 j 23:34<br>-3230 Oct 30 j 21:52<br>-3230 Nov 14 j 10:05  | 6°\tau40'05 6°\tau40'07 7°\tau8'04 9°\tau51'59 29°\tau27'57 24°\tau32'48 24°\tau23'07 19°\tau23'21 0°\tau8'\tau7'13 11°\tau24'52 11°\tau24'54 11°\tau46'11 14°\tau32'20 0°\tau8 3°\tau60'7'22 30°\tau7'22 30°\tau7'21  | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55<br>6.17207 AU  |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition   | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Jun 17 j 03:47  -3236 Aug 17 j 14:02  -3236 Oct 20 j 10:26  -3236 Nov 02 j 00:32  -3236 Nov 02 j 00:35  -3236 Nov 14 j 14:55  -3235 Jan 06 j 11:27  -3235 Mar 21 j 09:04  -3235 May 21 j 08:54   | 13° \$\mathbf{m}\$50'22 13° \$\mathbf{m}\$50'23 16° \$\mathbf{m}\$39'13 0° \$\Omega\$ 4° \$\Omega\$28'46 30° \$\mathbf{m}\$\$29° \$\mathbf{m}\$27'25 24° \$\mathbf{m}\$39'09 0° \$\Omega\$ 12° \$\Omega\$59'02 15° \$\Omega\$53'15 15° \$\Omega\$53'15 18° \$\Omega\$47'48 0° \$\mathbf{m}\$ 7° \$\mathbf{m}\$32'01 2° \$\mathbf{m}\$36'59  | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU<br>0°43'05<br>0°43'04                          | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise retrograde  opposition min. Earth dist.   | -3231 Mar 23 j 13:30<br>-3231 Mar 23 j 13:32<br>-3231 Mar 25 j 13:24<br>-3231 Apr 06 j 07:14<br>-3231 Aug 13 j 16:54<br>-3231 Oct 11 j 00:48<br>-3231 Oct 12 j 05:07<br>-3231 Dec 09 j 20:25<br>-3230 Mar 08 j 06:24<br>-3230 Apr 15 j 12:12<br>-3230 Apr 29 j 06:52<br>-3230 Apr 29 j 06:56<br>-3230 Apr 30 j 20:21<br>-3230 May 13 j 01:35<br>-3230 Aug 01 j 23:02<br>-3230 Oct 30 j 21:52<br>-3230 Nov 14 j 10:05<br>-3230 Nov 13 j 17:38  | 6°\tau40'05 6°\tau40'07 7°\tau8'04 9°\tau51'59 29°\tau27'57 24°\tau32'48 24°\tau23'07 19°\tau23'21 0°\tau8'\tau7'13 11°\tau24'52 11°\tau24'54 11°\tau46'11 14°\tau32'20 0°\tau8 3°\tau60'722 30°\tau7'22 30°\tau7'22 30°\tau7'21   | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55<br>6.17207 AU  |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde  | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Oct 14 j 21:28  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Jun 17 j 03:47  -3236 Aug 17 j 14:02  -3236 Oct 20 j 10:26  -3236 Oct 31 j 17:11  -3236 Nov 02 j 00:32  -3236 Nov 02 j 00:35  -3236 Nov 14 j 14:55  -3235 Jan 06 j 11:27  -3235 Mar 21 j 09:04  -3235 May 21 j 08:54  -3235 May 22 j 00:48   | 13° \$\mu\$50'22 13° \$\mu\$50'23 16° \$\mu\$39'13 0° \$\Oldots\$ 4° \$\Oldots 28'46 30° \$\mu\$ \$\mu\$27'25 24° \$\mu\$39'09 0° \$\Oldots\$ 12° \$\Oldots 59'02 15° \$\Oldots 53'13 15° \$\Oldots 53'15 18° \$\Oldots 47'48 0° \$\mu\$. 7° \$\mu\$32'01 2° \$\mu\$36'59 2° \$\mu\$31'52   | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU<br>0°43'05<br>0°43'04                          | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde opposition  | -3231 Mar 23 j 13:30 -3231 Mar 23 j 13:32 -3231 Mar 25 j 13:24 -3231 Apr 06 j 07:14 -3231 Aug 13 j 16:54 -3231 Oct 11 j 00:48 -3231 Oct 12 j 05:07 -3231 Dec 09 j 20:25 -3230 Mar 08 j 06:24 -3230 Apr 15 j 12:12 -3230 Apr 29 j 06:52 -3230 Apr 29 j 06:56 -3230 Apr 30 j 20:21 -3230 May 13 j 01:35 -3230 Aug 01 j 23:02 -3230 Sep 15 j 23:34 -3230 Oct 30 j 21:52 -3230 Nov 14 j 10:05 -3230 Nov 13 j 17:38 -3229 Jan 13 j 06:47   | 6°\tau40'05 6°\tau40'07 7°\tau8'04 9°\tau51'59 29°\tau27'57 24°\tau32'48 24°\tau23'07 19°\tau23'21 0°\tau8'\tau7'13 11°\tau24'54 11°\tau4'54 11°\tau4'54 11°\tau4'54 30°\tau8'\tau7'22 30°\tau8'\tau8'\tau7'22 30°\tau8'\tau8'\tau7'22 30°\tau8'\tau7'25   | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55<br>6.17207 AU  |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist.  | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Oct 14 j 21:28  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Aug 17 j 14:02  -3236 Oct 20 j 10:26  -3236 Oct 31 j 17:11  -3236 Nov 02 j 00:32  -3236 Nov 02 j 00:32  -3236 Nov 14 j 14:55  -3235 Mar 21 j 09:04  -3235 May 21 j 08:54  -3235 May 22 j 00:48  -3235 Jun 11 j 20:14   | 13° \$\mathbf{m}\$50'22 13° \$\mathbf{m}\$50'23 16° \$\mathbf{m}\$39'13 0° \$\Omega\$ 4° \$\Omega\$28'46 30° \$\mathbf{m}\$\text{m}\$27'25 24° \$\mathbf{m}\$39'09 0° \$\Omega\$ 12° \$\Omega\$59'02 15° \$\Omega\$53'13 15° \$\Omega\$53'15 18° \$\Omega\$47'48 0° \$\mathbf{m}\$. 7° \$\mathbf{m}\$32'01 2° \$\mathbf{m}\$36'59 2° \$\mathbf{m}\$31'52 30° \$\mathbf{n}\$   | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU<br>0°43'05<br>0°43'04                          | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise retrograde  opposition min. Earth dist. direct  | -3231 Mar 23 j 13:30 -3231 Mar 23 j 13:32 -3231 Mar 25 j 13:24 -3231 Apr 06 j 07:14 -3231 Aug 13 j 16:54 -3231 Oct 11 j 00:48 -3231 Oct 12 j 05:07 -3231 Dec 09 j 20:25 -3230 Mar 08 j 06:24 -3230 Apr 15 j 12:12 -3230 Apr 29 j 06:52 -3230 Apr 29 j 06:56 -3230 Apr 30 j 20:21 -3230 May 13 j 01:35 -3230 Aug 01 j 23:02 -3230 Sep 15 j 23:34 -3230 Nov 14 j 10:05 -3230 Nov 13 j 17:38 -3229 Jan 13 j 06:47 -3229 Mar 25 j 00:56   | 6°\tau40'05 6°\tau40'07 7°\tau8'04 9°\tau51'59 29°\tau27'57 24°\tau3'07 19°\tau23'21 0°\tau8'\tau52'11 11°\tau24'52 11°\tau46'11 14°\tau3'220 0°\tau8'\tau50'7 28°\tau60'122 30°\tau7'22 30°\tau7'22 30°\tau8'\tau7'25 28°\tau7'05'18 28°\tau7'02'58 0°\tau8'  | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55<br>6.17207 AU  |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition   | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Oct 14 j 21:28  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Aug 17 j 14:02  -3236 Oct 20 j 10:26  -3236 Oct 31 j 17:11  -3236 Nov 02 j 00:32  -3236 Nov 02 j 00:35  -3236 Nov 14 j 14:55  -3235 Mar 21 j 09:04  -3235 May 21 j 08:54  -3235 May 22 j 00:48  -3235 Jun 11 j 20:14  -3235 Jul 20 j 22:04   | 13° \$\mu\$50'22 13° \$\mu\$50'23 16° \$\mu\$39'13 0° \$\Omega\$ 4° \$\Omega\$28'46 30° \$\mu\$ \$\mu\$27'25 24° \$\mu\$39'09 0° \$\Omega\$ 12° \$\Omega\$59'02 15° \$\Omega\$53'13 15° \$\Omega\$53'15 18° \$\Omega\$47'48 0° \$\mu\$. 7° \$\mu\$32'01 2° \$\mu\$36'59 2° \$\mu\$31'52 30° \$\mu\$\Omega\$27° \$\Omega\$42'28  | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU<br>0°43'05<br>0°43'04                          | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise retrograde  opposition min. Earth dist.   | -3231 Mar 23 j 13:30 -3231 Mar 23 j 13:32 -3231 Mar 25 j 13:24 -3231 Apr 06 j 07:14 -3231 Aug 13 j 16:54 -3231 Oct 11 j 00:48 -3231 Oct 12 j 05:07 -3231 Dec 09 j 20:25 -3230 Mar 08 j 06:24 -3230 Apr 15 j 12:12 -3230 Apr 29 j 06:52 -3230 Apr 29 j 06:56 -3230 Apr 30 j 20:21 -3230 May 13 j 01:35 -3230 Aug 01 j 23:02 -3230 Sep 15 j 23:34 -3230 Oct 30 j 21:52 -3230 Nov 14 j 10:05 -3230 Nov 13 j 17:38 -3229 Jan 13 j 06:47   | 6°\tau40'05 6°\tau40'07 7°\tau8'04 9°\tau51'59 29°\tau27'57 24°\tau32'48 24°\tau23'07 19°\tau23'21 0°\tau8'\tau7'13 11°\tau24'54 11°\tau4'54 11°\tau4'54 11°\tau4'54 30°\tau8'\tau7'22 30°\tau8'\tau8'\tau7'22 30°\tau8'\tau8'\tau7'22 30°\tau8'\tau7'25   | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55<br>6.17207 AU  |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist.  | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Oct 14 j 21:28  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Aug 17 j 14:02  -3236 Oct 20 j 10:26  -3236 Oct 31 j 17:11  -3236 Nov 02 j 00:32  -3236 Nov 02 j 00:35  -3236 Nov 14 j 14:55  -3235 May 21 j 09:04  -3235 May 21 j 09:04  -3235 May 22 j 00:48  -3235 Jun 11 j 20:14  -3235 Aug 28 j 07:34   | 13° m 50'22 13° m 50'23 16° m 39'13 0° \( \Omega\) 4° \( \Omega\) 28'46 30° R m 29° m 36'18 29° m 27'25 24° m 39'09 0° \( \Omega\) 12° \( \Omega\) 59'02 15° \( \Omega\) 53'13 15° \( \Omega\) 53'15 18° \( \Omega\) 47'48 0° m. 7° m 32'01 2° m 36'59 2° m 31'52 30° R \( \Omega\) 27° \( \Omega\) 42'28 0° m.   | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU<br>0°43'05<br>0°43'04                          | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde  opposition min. Earth dist. direct  evening set  | -3231 Mar 23 j 13:30 -3231 Mar 23 j 13:32 -3231 Mar 25 j 13:24 -3231 Apr 06 j 07:14 -3231 Aug 13 j 16:54 -3231 Oct 11 j 00:48 -3231 Oct 12 j 05:07 -3231 Dec 09 j 20:25 -3230 Mar 08 j 06:24 -3230 Apr 15 j 12:12 -3230 Apr 29 j 06:52 -3230 Apr 29 j 06:56 -3230 Apr 30 j 20:21 -3230 May 13 j 01:35 -3230 Aug 01 j 23:02 -3230 Sep 15 j 23:34 -3230 Nov 14 j 10:05 -3230 Nov 13 j 17:38 -3229 Jan 13 j 06:47 -3229 Mar 25 j 00:56 -3229 May 20 j 15:32  | 6°\tau40'05 6°\tau40'07 7°\tau8'04 9°\tau51'59 29°\tau27'57 24°\tau3'07 19°\tau23'21 0°\tau8'\tau52'1 0°\tau8'\tau52'1 11°\tau24'52 11°\tau24'54 11°\tau46'11 14°\tau32'20 0°\tau8'\tau52'20 0°\tau8'\tau52'20 28°\tau50'518 28°\tau7'22 30°\tau7'22 30°\tau7'22 30°\tau7'22 30°\tau7'22 30°\tau7'22 30°\tau7'25 11°\tau528'55   | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55<br>6.17207 AU<br>-0°40'32<br>4.23047 AU                        |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist.  direct  | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Oct 14 j 21:28  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Jun 17 j 03:47  -3236 Aug 17 j 14:02  -3236 Oct 20 j 10:26  -3236 Oct 31 j 17:11  -3236 Nov 02 j 00:32  -3236 Nov 02 j 00:35  -3236 Nov 14 j 14:55  -3235 Jan 06 j 11:27  -3235 May 21 j 08:54  -3235 May 21 j 08:54  -3235 Jun 11 j 20:14  -3235 Jul 20 j 22:04  -3235 Aug 28 j 07:34  -3235 Nov 16 j 02:37   | 13° m 50'22 13° m 50'23 16° m 39'13 0° \( \Omega\) 4° \( \Omega\) 28'46 30° R m 29° m 36'18 29° m 27'25 24° m 39'09 0° \( \Omega\) 12° \( \Omega\) 59'02 15° \( \Omega\) 53'13 15° \( \Omega\) 53'15 18° \( \Omega\) 47'48 0° m. 7° m 32'01 2° m 36'59 2° m 31'52 30° R \( \Omega\) 27° \( \Omega\) 42'28 0° m. 15° m.  | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU<br>0°43'05<br>0°43'04                          | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde  opposition min. Earth dist. direct  evening set  conjunction                                     | -3231 Mar 23 j 13:30 -3231 Mar 23 j 13:32 -3231 Mar 25 j 13:24 -3231 Apr 06 j 07:14 -3231 Aug 13 j 16:54 -3231 Oct 11 j 00:48 -3231 Oct 12 j 05:07 -3231 Dec 09 j 20:25 -3230 Mar 08 j 06:24 -3230 Apr 15 j 12:12 -3230 Apr 29 j 06:56 -3230 Apr 29 j 06:56 -3230 Apr 30 j 20:21 -3230 May 13 j 01:35 -3230 Aug 01 j 23:02 -3230 Sep 15 j 23:34 -3230 Nov 14 j 10:05 -3230 Nov 14 j 10:05 -3230 Nov 13 j 17:38 -3229 Jan 13 j 06:47 -3229 Mar 25 j 00:56 -3229 May 20 j 15:32   | 6°\tau40'05 6°\tau40'07 7°\tau80'04 9°\tau51'59 29°\tau27'57 24°\tau32'48 24°\tau23'07 19°\tau23'21 0°\tau8'\tau52'13 11°\tau24'52 11°\tau24'54 11°\tau46'11 14°\tau32'20 0°\tau30'\tau8'\tau52'20 0°\tau8'\tau52'20 0°\tau8'\tau52'20 0°\tau8'\tau52'20 0°\tau8'\tau52'20 0°\tau8'\tau52'20 0°\tau8'\tau52'20 0°\tau8'\tau52'20 0°\tau5'\ | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55<br>6.17207 AU<br>-0°40'32<br>4.23047 AU                        |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist.  | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Jun 17 j 03:47  -3236 Aug 17 j 14:02  -3236 Oct 20 j 10:26  -3236 Oct 31 j 17:11  -3236 Nov 02 j 00:32  -3236 Nov 02 j 00:35  -3236 Nov 14 j 14:55  -3235 Jun 06 j 11:27  -3235 Mar 21 j 09:04  -3235 May 22 j 00:48  -3235 Jun 11 j 20:14  -3235 Jun 120 j 22:04  -3235 Aug 28 j 07:34  -3235 Nov 16 j 02:37  -3235 Nov 18 j 18:34  | 13° \$\mathbf{m}\$50'22 13° \$\mathbf{m}\$50'23 16° \$\mathbf{m}\$39'13 0° \$\oldsymbol{\Omega}\$ 4° \$\oldsymbol{\Omega}\$28'46 30° \$\mathbf{m}\$ 29° \$\mathbf{m}\$36'18 29° \$\mathbf{m}\$27'25 24° \$\mathbf{m}\$39'09 0° \$\oldsymbol{\Omega}\$ 12° \$\oldsymbol{\Omega}\$59'02 15° \$\oldsymbol{\Omega}\$53'13 15° \$\oldsymbol{\Omega}\$53'15 18° \$\oldsymbol{\Omega}\$47'48 0° \$\mathbf{m}\$. 7° \$\mathbf{m}\$32'01 2° \$\mathbf{m}\$36'59 2° \$\mathbf{m}\$31'52 30° \$\mathbf{n}\$\$\oldsymbol{\Omega}\$42'28 0° \$\mathbf{m}\$. 15° \$\mathbf{m}\$.  | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU<br>0°43'05<br>0°43'04                          | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise retrograde opposition min. Earth dist. direct evening set  conjunction min. Earth dist. direct evening set    | -3231 Mar 23 j 13:30 -3231 Mar 23 j 13:32 -3231 Mar 25 j 13:24 -3231 Apr 06 j 07:14 -3231 Aug 13 j 16:54 -3231 Oct 11 j 00:48 -3231 Oct 12 j 05:07 -3231 Dec 09 j 20:25 -3230 Mar 08 j 06:24 -3230 Apr 15 j 12:12 -3230 Apr 29 j 06:56 -3230 Apr 29 j 06:56 -3230 Apr 30 j 20:21 -3230 May 13 j 01:35 -3230 Aug 01 j 23:02 -3230 Sep 15 j 23:34 -3230 Oct 30 j 21:52 -3230 Nov 14 j 10:05 -3230 Nov 13 j 17:38 -3229 Jan 13 j 06:47 -3229 Mar 25 j 00:56 -3229 May 20 j 15:32 -3229 Jun 03 j 07:35 -3229 Jun 03 j 07:35   | 6°\tau40'05 6°\tau40'07 7°\tau80'04 9°\tau51'59 29°\tau27'57 24°\tau32'48 24°\tau23'07 19°\tau23'21 0°\tau8'\tau7'13  11°\tau24'52 11°\tau24'52 11°\tau24'54 11°\tau46'11 14°\tau32'20 0°\tau30'\tau8'\tau7'22 30°\tau7'22 30°\tau8'\tau7'22 30°\tau8'\tau7'25 11°\tau8'\tau7'35'55 14°\tau30'40 14°\tau30'40  | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55<br>6.17207 AU<br>-0°40'32<br>4.23047 AU                        |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist.  direct  | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Oct 14 j 21:28  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Jun 17 j 03:47  -3236 Aug 17 j 14:02  -3236 Oct 20 j 10:26  -3236 Oct 31 j 17:11  -3236 Nov 02 j 00:32  -3236 Nov 02 j 00:35  -3236 Nov 14 j 14:55  -3235 Jan 06 j 11:27  -3235 May 21 j 08:54  -3235 May 21 j 08:54  -3235 Jun 11 j 20:14  -3235 Jul 20 j 22:04  -3235 Aug 28 j 07:34  -3235 Nov 16 j 02:37   | 13° m 50'22 13° m 50'23 16° m 39'13 0° \( \Omega\) 4° \( \Omega\) 28'46 30° R m 29° m 36'18 29° m 27'25 24° m 39'09 0° \( \Omega\) 12° \( \Omega\) 59'02 15° \( \Omega\) 53'13 15° \( \Omega\) 53'15 18° \( \Omega\) 47'48 0° m. 7° m 32'01 2° m 36'59 2° m 31'52 30° R \( \Omega\) 27° \( \Omega\) 42'28 0° m. 15° m.  | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU<br>0°43'05<br>0°43'04                          | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise retrograde  opposition min. Earth dist. direct  evening set  conjunction min. Earth dist. direct  evening set | -3231 Mar 23 j 13:30 -3231 Mar 23 j 13:32 -3231 Mar 25 j 13:24 -3231 Apr 06 j 07:14 -3231 Aug 13 j 16:54 -3231 Oct 11 j 00:48 -3231 Oct 12 j 05:07 -3231 Dec 09 j 20:25 -3230 Mar 08 j 06:24 -3230 Apr 15 j 12:12 -3230 Apr 29 j 06:56 -3230 Apr 29 j 06:56 -3230 Apr 30 j 20:21 -3230 May 13 j 01:35 -3230 Aug 01 j 23:02 -3230 Sep 15 j 23:34 -3230 Nov 14 j 10:05 -3230 Nov 14 j 10:05 -3230 Nov 13 j 17:38 -3229 Jan 13 j 06:47 -3229 Mar 25 j 00:56 -3229 May 20 j 15:32 -3229 Jun 03 j 07:35 -3229 Jun 02 j 23:32  | 6°\tau40'05 6°\tau40'07 7°\tau8'04 9°\tau51'59 29°\tau27'57 24°\tau32'48 24°\tau23'07 19°\tau23'21 0°\tau8'\tau52'13 11°\tau24'52 11°\tau24'54 11°\tau4'54 11°\tau4'54 11°\tau5'22'0 0°\tau8 3°\tau6'\tau5'22 30°\tau7'22 30°\tau7'22 30°\tau7'22 30°\tau7'22 30°\tau8'\tau5'11 28°\tau7'05'18 28°\tau5'10'51 23°\tau6'\tau5'8 0°\tau8'\tau5'11  | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55<br>6.17207 AU<br>-0°40'32<br>4.23047 AU                        |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist.  direct  desc. node  | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Jun 17 j 03:47  -3236 Aug 17 j 14:02  -3236 Oct 20 j 10:26  -3236 Oct 31 j 17:11  -3236 Nov 02 j 00:32  -3236 Nov 02 j 00:35  -3236 Nov 14 j 14:55  -3235 Jun 06 j 11:27  -3235 Mar 21 j 09:04  -3235 May 22 j 00:48  -3235 Jun 11 j 20:14  -3235 Jun 120 j 22:04  -3235 Aug 28 j 07:34  -3235 Nov 16 j 02:37  -3235 Nov 18 j 18:34  | 13° \$\mathbf{m}\$50'22 13° \$\mathbf{m}\$50'23 16° \$\mathbf{m}\$39'13 0° \$\oldsymbol{\Omega}\$ 4° \$\oldsymbol{\Omega}\$28'46 30° \$\mathbf{m}\$ 29° \$\mathbf{m}\$36'18 29° \$\mathbf{m}\$27'25 24° \$\mathbf{m}\$39'09 0° \$\oldsymbol{\Omega}\$ 12° \$\oldsymbol{\Omega}\$59'02 15° \$\oldsymbol{\Omega}\$53'13 15° \$\oldsymbol{\Omega}\$53'15 18° \$\oldsymbol{\Omega}\$47'48 0° \$\mathbf{m}\$. 7° \$\mathbf{m}\$32'01 2° \$\mathbf{m}\$36'59 2° \$\mathbf{m}\$31'52 30° \$\mathbf{n}\$\$\oldsymbol{\Omega}\$42'28 0° \$\mathbf{m}\$. 15° \$\mathbf{m}\$.  | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU<br>0°43'05<br>0°43'04                          | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise retrograde opposition min. Earth dist. direct evening set  conjunction min. Earth dist. direct evening set    | -3231 Mar 23 j 13:30 -3231 Mar 23 j 13:32 -3231 Mar 25 j 13:24 -3231 Apr 06 j 07:14 -3231 Aug 13 j 16:54 -3231 Oct 11 j 00:48 -3231 Oct 12 j 05:07 -3231 Dec 09 j 20:25 -3230 Mar 08 j 06:24 -3230 Apr 15 j 12:12 -3230 Apr 29 j 06:56 -3230 Apr 29 j 06:56 -3230 Apr 30 j 20:21 -3230 May 13 j 01:35 -3230 Aug 01 j 23:02 -3230 Sep 15 j 23:34 -3230 Oct 30 j 21:52 -3230 Nov 14 j 10:05 -3230 Nov 13 j 17:38 -3229 Jan 13 j 06:47 -3229 Mar 25 j 00:56 -3229 May 20 j 15:32 -3229 Jun 03 j 07:35 -3229 Jun 03 j 07:35   | 6°\tau40'05 6°\tau40'07 7°\tau8'04 9°\tau51'59 29°\tau27'57 24°\tau32'48 24°\tau23'07 19°\tau23'21 0°\tau8'\tau52'13 11°\tau24'52 11°\tau24'54 11°\tau4'54 11°\tau4'54 11°\tau5'210 0°\tau8'\tau5'20 0°\tau8'\tau5'20 0°\tau8'\tau5'20 0°\tau8'\tau5'20 0°\tau8'\tau5'20 11°\tau5'25'55 14°\tau5'30'40 14°\tau5'35'07  | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55<br>6.17207 AU<br>-0°40'32<br>4.23047 AU                        |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist.  direct  desc. node  | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Jun 17 j 03:47  -3236 Aug 17 j 14:02  -3236 Oct 20 j 10:26  -3236 Oct 31 j 17:11  -3236 Nov 02 j 00:32  -3236 Nov 02 j 00:35  -3236 Nov 14 j 14:55  -3235 Jun 06 j 11:27  -3235 Mar 21 j 09:04  -3235 May 22 j 00:48  -3235 Jun 11 j 20:14  -3235 Jun 120 j 22:04  -3235 Aug 28 j 07:34  -3235 Nov 16 j 02:37  -3235 Nov 18 j 18:34  | 13° \$\mathbf{m}\$50'22 13° \$\mathbf{m}\$50'23 16° \$\mathbf{m}\$39'13 0° \$\oldsymbol{\Omega}\$ 4° \$\oldsymbol{\Omega}\$28'46 30° \$\mathbf{m}\$ 29° \$\mathbf{m}\$36'18 29° \$\mathbf{m}\$27'25 24° \$\mathbf{m}\$39'09 0° \$\oldsymbol{\Omega}\$ 12° \$\oldsymbol{\Omega}\$59'02 15° \$\oldsymbol{\Omega}\$53'13 15° \$\oldsymbol{\Omega}\$53'15 18° \$\oldsymbol{\Omega}\$47'48 0° \$\mathbf{m}\$. 7° \$\mathbf{m}\$32'01 2° \$\mathbf{m}\$36'59 2° \$\mathbf{m}\$31'52 30° \$\mathbf{n}\$\$\oldsymbol{\Omega}\$42'28 0° \$\mathbf{m}\$. 15° \$\mathbf{m}\$.  | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU<br>0°43'05<br>0°43'04<br>0°31'54<br>4.14251 AU | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise retrograde  opposition min. Earth dist. direct  evening set  conjunction min. Earth dist. direct  evening set | -3231 Mar 23 j 13:30 -3231 Mar 23 j 13:32 -3231 Mar 25 j 13:24 -3231 Apr 06 j 07:14 -3231 Aug 13 j 16:54 -3231 Oct 11 j 00:48 -3231 Oct 12 j 05:07 -3231 Dec 09 j 20:25 -3230 Mar 08 j 06:24 -3230 Apr 15 j 12:12 -3230 Apr 29 j 06:56 -3230 Apr 29 j 06:56 -3230 Apr 30 j 20:21 -3230 May 13 j 01:35 -3230 Aug 01 j 23:02 -3230 Sep 15 j 23:34 -3230 Nov 14 j 10:05 -3230 Nov 14 j 10:05 -3230 Nov 13 j 17:38 -3229 Jan 13 j 06:47 -3229 Mar 25 j 00:56 -3229 May 20 j 15:32 -3229 Jun 03 j 07:35 -3229 Jun 02 j 23:32  | 6°\tau40'05 6°\tau40'07 7°\tau8'04 9°\tau51'59 29°\tau27'57 24°\tau32'48 24°\tau23'07 19°\tau23'21 0°\tau8'\tau52'13 11°\tau24'52 11°\tau24'54 11°\tau4'54 11°\tau4'54 11°\tau5'22'0 0°\tau8 3°\tau6'\tau5'22 30°\tau7'22 30°\tau7'22 30°\tau7'22 30°\tau7'22 30°\tau8'\tau5'11 28°\tau7'05'18 28°\tau5'10'51 23°\tau6'\tau5'8 0°\tau8'\tau5'11  | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55<br>6.17207 AU<br>-0°40'32<br>4.23047 AU                        |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist.  direct  desc. node evening set                            | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Jun 17 j 03:47  -3236 Aug 17 j 14:02  -3236 Oct 20 j 10:26  -3236 Nov 02 j 00:32  -3236 Nov 02 j 00:35  -3236 Nov 14 j 14:55  -3235 Jun 06 j 11:27  -3235 Mar 21 j 09:04  -3235 May 22 j 00:48  -3235 Jun 11 j 20:14  -3235 Aug 28 j 07:34  -3235 Nov 18 j 18:34  -3235 Nov 22 j 09:42   | 13° \$\mathbf{m}\$50'22 13° \$\mathbf{m}\$50'23 16° \$\mathbf{m}\$39'13 0° \$\oldsymbol{\Omega}\$ 4° \$\oldsymbol{\Omega}\$28'46 30° \$\mathbf{m}\$ 29° \$\mathbf{m}\$36'18 29° \$\mathbf{m}\$27'25 24° \$\mathbf{m}\$39'09 0° \$\oldsymbol{\Omega}\$ 12° \$\oldsymbol{\Omega}\$59'02 15° \$\oldsymbol{\Omega}\$53'13 15° \$\oldsymbol{\Omega}\$53'15 18° \$\oldsymbol{\Omega}\$47'48 0° \$\mathbf{m}\$. 7° \$\mathbf{m}\$32'01 2° \$\mathbf{m}\$36'59 2° \$\mathbf{m}\$31'52 30° \$\mathbf{n}\$\$\oldsymbol{\Omega}\$27° \$\oldsymbol{\Omega}\$42'28 0° \$\mathbf{m}\$. 15° \$\mathbf{m}\$.37'15 16° \$\mathbf{m}\$.28'16  | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU<br>0°43'05<br>0°43'04<br>0°31'54<br>4.14251 AU | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise retrograde  opposition min. Earth dist. direct evening set  conjunction min. Earth dist. direct evening set   | -3231 Mar 23 j 13:30 -3231 Mar 23 j 13:32 -3231 Mar 25 j 13:24 -3231 Apr 06 j 07:14 -3231 Aug 13 j 16:54 -3231 Oct 11 j 00:48 -3231 Oct 12 j 05:07 -3231 Dec 09 j 20:25 -3230 Mar 08 j 06:24 -3230 Apr 15 j 12:12 -3230 Apr 29 j 06:56 -3230 Apr 29 j 06:56 -3230 Apr 30 j 20:21 -3230 May 13 j 01:35 -3230 Aug 01 j 23:02 -3230 Sep 15 j 23:34 -3230 Oct 30 j 21:52 -3230 Nov 14 j 10:05 -3230 Nov 14 j 10:05 -3230 Nov 13 j 17:38 -3229 Jan 13 j 06:47 -3229 Mar 25 j 00:56 -3229 May 20 j 15:32 -3229 Jun 03 j 07:35 -3229 Jun 03 j 15:38   | 6°\tau40'05 6°\tau40'07 7°\tau8'04 9°\tau51'59 29°\tau27'57 24°\tau32'48 24°\tau23'07 19°\tau23'21 0°\tau8'\tau52'13 11°\tau24'52 11°\tau24'54 11°\tau4'54 11°\tau4'54 11°\tau5'210 0°\tau8'\tau5'20 0°\tau8'\tau5'20 0°\tau8'\tau5'20 0°\tau8'\tau5'20 0°\tau8'\tau5'20 11°\tau5'25'55 14°\tau5'30'40 14°\tau5'35'07  | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55<br>6.17207 AU<br>-0°40'32<br>4.23047 AU<br>-0°05'08<br>0°05'04 |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist.  direct  desc. node evening set conjunction                | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 14 j 21:28  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Jun 17 j 03:47  -3236 Aug 17 j 14:02  -3236 Oct 20 j 10:26  -3236 Oct 31 j 17:11  -3236 Nov 02 j 00:32  -3236 Nov 02 j 00:35  -3236 Nov 14 j 14:55  -3235 Jan 06 j 11:27  -3235 Mar 21 j 09:04  -3235 May 21 j 08:54  -3235 May 22 j 00:48  -3235 Jun 11 j 20:14  -3235 Jul 20 j 22:04  -3235 Nov 18 j 18:34  -3235 Nov 22 j 09:42  -3235 Dec 05 j 04:28   | 13° \$\mu\$50'22 13° \$\mu\$50'23 16° \$\mu\$39'13 0° \$\Omega\$ 4° \$\Omega\$28'46 30° \$\mu\$ \$\mu\$27'25 24° \$\mu\$39'09 0° \$\Omega\$ 12° \$\Omega\$59'02 15° \$\Omega\$53'13 15° \$\Omega\$53'15 18° \$\Omega\$47'48 0° \$\mu\$. 7° \$\mu\$32'01 2° \$\mu\$36'59 2° \$\mu\$31'52 30° \$\mu\$\$2" \$\Omega\$42'28 0° \$\mu\$. 15° \$\mu\$37'15 16° \$\mu\$28'16   | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU<br>0°43'05<br>0°43'04<br>0°31'54<br>4.14251 AU | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise retrograde  opposition min. Earth dist. direct evening set  conjunction min. Earth dist. direct evening set   | -3231 Mar 23 j 13:30 -3231 Mar 23 j 13:32 -3231 Mar 25 j 13:24 -3231 Apr 06 j 07:14 -3231 Aug 13 j 16:54 -3231 Oct 11 j 00:48 -3231 Oct 12 j 05:07 -3231 Dec 09 j 20:25 -3230 Mar 08 j 06:24 -3230 Apr 15 j 12:12 -3230 Apr 29 j 06:56 -3230 Apr 29 j 06:56 -3230 Apr 29 j 06:56 -3230 Apr 30 j 20:21 -3230 May 13 j 01:35 -3230 Aug 01 j 23:02 -3230 Sep 15 j 23:34 -3230 Oct 30 j 21:52 -3230 Nov 14 j 10:05 -3230 Nov 14 j 10:05 -3230 Nov 13 j 17:38 -3229 Jan 13 j 06:47 -3229 Mar 25 j 00:56 -3229 May 20 j 15:32 -3229 Jun 03 j 07:35 -3229 Jun 03 j 07:35 -3229 Jun 03 j 15:38   | 6°\tau\00000000000000000000000000000000000   | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55<br>6.17207 AU<br>-0°40'32<br>4.23047 AU<br>-0°05'08<br>0°05'04 |
| conjunction minimum elong morning rise  retrograde  opposition min. Earth dist. direct  evening set max. Earth dist.  conjunction minimum elong morning rise  retrograde opposition min. Earth dist.  direct  desc. node evening set  conjunction minimum elong | -3237 Sep 30 j 14:42  -3237 Oct 02 j 09:38  -3237 Oct 02 j 09:41  -3237 Dec 21 j 16:14  -3236 Feb 15 j 07:48  -3236 Apr 13 j 06:52  -3236 Apr 16 j 09:24  -3236 Apr 17 j 13:18  -3236 Jun 17 j 03:47  -3236 Aug 17 j 14:02  -3236 Oct 20 j 10:26  -3236 Oct 31 j 17:11  -3236 Nov 02 j 00:32  -3236 Nov 02 j 00:35  -3236 Nov 14 j 14:55  -3235 Jan 06 j 11:27  -3235 May 21 j 08:54  -3235 May 21 j 08:54  -3235 May 22 j 00:48  -3235 Jun 11 j 20:14  -3235 Jul 20 j 22:04  -3235 Nov 18 j 18:34  -3235 Nov 18 j 18:34  -3235 Dec 05 j 04:28  -3235 Dec 05 j 04:28  -3235 Dec 05 j 04:28 | 13° \$\mu\$50'22 13° \$\mu\$50'23 16° \$\mu\$39'13 0° \$\Omega\$ 4° \$\Omega\$28'46 30° \$\mu\$ \$\mu\$27'25 24° \$\mu\$39'09 0° \$\Omega\$ 12° \$\Omega\$59'02 15° \$\Omega\$53'15 18° \$\Omega\$53'15 18° \$\Omega\$53'15 18° \$\Omega\$47'48 0° \$\mu\$. 7° \$\mu\$32'01 2° \$\mu\$36'59 2° \$\mu\$31'52 30° \$\mu\$0 \$\mu\$20'15 15° \$\mu\$37'15 16° \$\mu\$28'16   | 1°13'02<br>1°13'03<br>1°29'07<br>4.25875 AU<br>6.20109 AU<br>0°43'05<br>0°43'04<br>0°31'54<br>4.14251 AU | conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde opposition min. Earth dist. direct evening set conjunction min. Earth dist. direct evening set      | -3231 Mar 23 j 13:30 -3231 Mar 23 j 13:32 -3231 Mar 25 j 13:24 -3231 Apr 06 j 07:14 -3231 Aug 13 j 16:54 -3231 Oct 11 j 00:48 -3231 Oct 12 j 05:07 -3231 Dec 09 j 20:25 -3230 Mar 08 j 06:24 -3230 Apr 15 j 12:12 -3230 Apr 29 j 06:56 -3230 Apr 29 j 06:56 -3230 Apr 29 j 06:56 -3230 Apr 30 j 20:21 -3230 May 13 j 01:35 -3230 Aug 01 j 23:02 -3230 Sep 15 j 23:34 -3230 Oct 30 j 21:52 -3230 Nov 14 j 10:05 -3230 Nov 14 j 10:05 -3230 Nov 13 j 17:38 -3229 Jan 13 j 06:47 -3229 Mar 25 j 00:56 -3229 May 20 j 15:32 -3229 Jun 03 j 07:35 -3229 Jun 03 j 07:35 -3229 Jun 03 j 15:38 -3229 Jun 03 j 15:38 -3229 Jun 03 j 21:04 -3229 Jun 03 j 21:04 -3229 Jun 03 j 21:04 -3229 Jun 05 j 12:25 | 6°\tau40'05 6°\tau40'07 7°\tau8'04 9°\tau51'59 29°\tau27'57 24°\tau32'48 24°\tau23'07 19°\tau23'21 0°\tau8'\tau5'21 11°\tau24'52 11°\tau24'54 11°\tau46'11 14°\tau32'20 0°\tau8'\tau5'22 30°\tau7'22 30°\tau7'22 30°\tau7'22 30°\tau7'22 30°\tau7'22 30°\tau7'22 30°\tau7'22 30°\tau7'22 30°\tau7'22 30'\tau7'22   | 1°15'52<br>6.06476 AU<br>4.11545 AU<br>-1°35'57<br>-0°47'57<br>0°47'55<br>6.17207 AU<br>-0°40'32<br>4.23047 AU<br>-0°05'08<br>0°05'04 |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 16 Attention, astronomical year style is used: The year -3229 in astronomical counting style is the year 3230 BCE in historical counting style.

| Attention, astronom | ical year style is used: Th                  | e year -3229 i                      | n astronomical cou | inting style is the year | 3230 BCE in historical c                     | ounting style.                  |                |
|---------------------|--|-------------------------------------|--------------------|--------------------------|--|---------------------------------|----------------|
|                     | -3229 Aug 19 j 02:16                         | $\Pi$ °0                            |                    | retrograde               | -3223 Mar 26 j 11:43                         | 12°M29'53                       |                |
| retrograde          | -3229 Oct 17 j 13:22                         | 5° <b>Ⅱ</b> 11'17                   |                    | opposition               | -3223 May 26 j 11:36                         | 7° <b>M</b> L34'27              | 0°22'02        |
| opposition          | -3229 Dec 16 j 05:41                         | 0° <b>Ⅱ</b> 13′05                   | 0°24'44            | min. Earth dist.         | -3223 May 27 j 00:08                         | 7° <b>M</b> 30'25               | 4.12534 AU     |
| min. Earth dist.    | -3229 Dec 16 j 04:41                         | 0° <b>Ⅱ</b> 13′25                   | 4.33419 AU         | direct                   | -3223 Jul 25 j 18:22                         | 2° <b>M</b> 40'21               |                |
|                     | -3229 Dec 17 j 21:03                         | 30° <b>₹</b> 8                      |                    | desc. node               | -3223 Sep 27 j 11:40                         | 8°MJ38'53                       |                |
| direct              | -3228 Feb 15 j 09:27                         | 25° <b>8</b> 09'30                  |                    |                          | -3223 Oct 29 j 17:33                         | 15° <b>™</b>                    |                |
|                     | -3228 Apr 14 j 08:49                         | $\Pi^{\circ}0$                      |                    | evening set              | -3223 Nov 27 j 06:28                         | 21°M30'29                       |                |
| evening set         | -3228 Jun 22 j 01:58                         | 13° <b>Ⅱ</b> 12'27                  |                    |                          | ·  |                                 |                |
| Č                   | ,  |                                     |                    | conjunction              | -3223 Dec 10 j 02:01                         | 24°M32'28                       | -0°08'56       |
| conjunction         | -3228 Jul 05 j 10:39                         | 16° <b>Ⅱ</b> 07'37                  | 0°37'58            | minimum elong            | -3223 Dec 10 j 01:59                         | 24°M32'27                       | 0°09'01        |
| minimum elong       | -3228 Jul 05 j 10:36                         | 16° <b>Ⅱ</b> 07'36                  | 0°38'05            | behind sun begin         | -3223 Dec 09 j 19:04                         | 24°M28'22                       |                |
| max. Earth dist.    | -3228 Jul 04 j 23:18                         | 16° <b>Ⅱ</b> 01'24                  |                    | behind sun end           | -3223 Dec 10 j 08:54                         | 24°M36'32                       |                |
| morning rise        | -3228 Jul 18 j 16:09                         | 19° <b>Ⅱ</b> 01'11                  | ,                  | max. Earth dist.         | -3223 Dec 09 j 20:38                         | 24°M29'18                       | 6.07452 AU     |
| morning rise        | -3228 Sep 11 j 20:40                         | 0.ಕ                                 |                    | morning rise             | -3223 Dec 22 j 23:46                         | 27°M35'47                       | 0.07 132 710   |
| retrograde          | -3228 Nov 16 j 07:59                         | 6°906'57                            |                    | morning rise             | -3222 Jan 02 j 06:35                         | 0° <b>₹</b>                     |                |
| opposition          | -3227 Jan 15 j 08:41                         | 1°9612'25                           | 1°20'30            | retrograde               | -3222 May 02 j 09:33                         | 17° <b>×7</b> 24'47             |                |
| min. Earth dist.    | -3227 Jan 15 j 03:47                         | 1°907'30                            | 4.39617 AU         | opposition               | -3222 Jul 02 j 01:38                         | 12° <b>×</b> <sup>7</sup> 25'27 | -0°49'18       |
| iiiii. Lattii dist. | -3227 Jan 13 j 23.47                         | 30°RⅡ                               | 4.57017 AU         | min. Earth dist.         | -3222 Jul 02 j 01:58                         |                                 | 4.03398 AU     |
| direct              | -3227 Jan 24 j 17.14<br>-3227 Mar 18 j 13:31 | 26° <b>∏</b> 09'04                  |                    | direct                   | -3222 Jul 01 j 18.33                         | 7° <b>x</b> 32'26               | 4.03396 AU     |
| unect               |  | 20 <b>ந</b> 09 04                   |                    |                          | -3221 Jan 01 j 09:05                         | 26° <b>√</b> 45'17              |                |
|                     | -3227 May 10 j 04:53<br>-3227 Jul 24 j 02:18 | 13° <b>9</b> 59'40                  |                    | evening set              | -3221 Jan 01 J 09.03                         | 20 <b>x</b> ·43 17              |                |
| evening set         | •  |                                     | C 40457 ATT        |                          | 2221 1 14:11 27                              | 200 7 52111                     | 0052110        |
| max. Earth dist.    | -3227 Aug 04 j 16:32                         | 16° <b>©</b> 31'31                  | 6.40457 AU         | conjunction              | -3221 Jan 14 j 11:37                         | 29° <b>х</b> 53'11              |                |
|                     | 2227 1 06:01 11                              | 1.600.40141                         | 1000115            | minimum elong            | -3221 Jan 14 j 11:34                         | 29° <b>₹</b> '53'09             | 0°53'24        |
| conjunction         | -3227 Aug 06 j 01:44                         | 16°549'41                           | 1°09'17            | P 4 P                    | -3221 Jan 14 j 23:00                         | 0°る                             | C 000 10 1 1 1 |
| minimum elong       | -3227 Aug 06 j 01:41                         | 16°5549'40                          | 1°09'23            | max. Earth dist.         | -3221 Jan 15 j 11:05                         | 0° <b>る</b> 07'14               | 6.00849 AU     |
| morning rise        | -3227 Aug 18 j 22:04                         | 19° <b>5</b> 38'10                  |                    | morning rise             | -3221 Jan 27 j 17:13                         | 3° <b>る</b> 02'49               |                |
|                     | -3227 Oct 09 j 13:54                         | $0$ $^{\circ}\Omega$                |                    | retrograde               | -3221 Jun 08 j 21:55                         | 23° <b>る</b> 24'05              |                |
| retrograde          | -3227 Dec 17 j 03:44                         | 6° <b>Ω</b> 35'54                   |                    | min. Earth dist.         | -3221 Aug 07 j 02:12                         | 18° <b>る</b> 28'51              | 4.00155 AU     |
| opposition          | -3226 Feb 15 j 14:18                         | 1° <b>Ω</b> 43'45                   | 1°53'14            | opposition               | -3221 Aug 08 j 01:33                         | 18° <b>る</b> 21'01              | -1°44'05       |
| min. Earth dist.    | -3226 Feb 16 j 17:53                         | 1° <b>Ω</b> 34'54                   | 4.39929 AU         | direct                   | -3221 Oct 05 j 04:17                         | 13° <b>る</b> 26'57              |                |
|                     | -3226 Mar 01 j 08:27                         | 30° <b>₹</b> 5                      |                    |                          | -3220 Jan 25 j 23:50                         | 0° <b>≈</b>                     |                |
| direct              | -3226 Apr 19 j 07:00                         | 26° <b>©</b> 41'45                  |                    | evening set              | -3220 Feb 07 j 00:33                         | 2° <b>≈</b> 49'07               |                |
|                     | -3226 Jun 06 j 20:35                         | $0 ^{\circ} \Omega$                 |                    |                          |  |                                 |                |
| evening set         | -3226 Aug 24 j 05:45                         | 14° <b>Ω</b> 32'30                  |                    | conjunction              | -3220 Feb 20 j 10:16                         | 6° <b>≈</b> 00'01               | -1°18'08       |
|                     | -3226 Aug 26 j 07:47                         | 15° <b>Ω</b>                        |                    | minimum elong            | -3220 Feb 20 j 10:15                         | 6° <b>≈</b> 00'00               | 1°18'14        |
| max. Earth dist.    | -3226 Sep 04 j 03:19                         | 16° <b>Ω</b> 56'52                  | 6.37665 AU         | max. Earth dist.         | -3220 Feb 22 j 05:14                         | 6° <b>≈</b> 25'32               | 6.01095 AU     |
|                     |  |                                     |                    | morning rise             | -3220 Mar 04 j 23:20                         | 9° <b>≈</b> 12'31               |                |
| conjunction         | -3226 Sep 05 j 22:02                         | 17° <b>£</b> 20′31                  | 1°21'09            |                          | -3220 Mar 30 j 04:01                         | 15° <b>≈</b>                    |                |
| minimum elong       | -3226 Sep 05 j 22:01                         | 17° <b>Ω</b> 20'31                  | 1°21'13            | retrograde               | -3220 Jul 14 j 12:57                         | 29° <b>≈</b> 25'16              |                |
| morning rise        | -3226 Sep 18 j 11:37                         | 20° <b>Ω</b> 07'24                  |                    | min. Earth dist.         | -3220 Sep 11 j 00:04                         | 24° <b>≈</b> 30'42              | 4.03995 AU     |
|                     | -3226 Nov 05 j 16:10                         | 0° <b>m</b> )                       |                    | opposition               | -3220 Sep 12 j 07:15                         | 24° <b>≈</b> 20′04              | -1°58'50       |
| retrograde          | -3225 Jan 17 j 20:18                         | 7° <b>m</b> 23'18                   |                    | direct                   | -3220 Nov 09 j 08:17                         | 19° <b>≈</b> 23'09              |                |
| opposition          | -3225 Mar 19 j 16:50                         | 2° m/31'48                          | 1°54'47            |                          | -3219 Feb 04 j 08:09                         | 0° <b>∀</b>                     |                |
| min. Earth dist.    | -3225 Mar 21 j 00:35                         |                                     | 4.34275 AU         | evening set              | -3219 Mar 15 j 03:08                         | 8° <b>¥</b> 35'53               |                |
|                     | -3225 Apr 09 j 13:45                         | 30° <b>₽</b> Ω                      |                    | -                        |  |                                 |                |
| direct              | -3225 May 21 j 04:04                         | 27° <b>Ω</b> 32'15                  |                    | conjunction              | -3219 Mar 28 j 19:18                         | 11° <b>)</b> 46′24              | -1°13'19       |
|                     | -3225 Jul 01 j 10:58                         | 0° m/p                              |                    | minimum elong            | -3219 Mar 28 j 19:21                         | 11° <b>)</b> 46′25              |                |
| evening set         | -3225 Sep 24 j 06:27                         | 15° <b>m</b> ) 34'47                |                    | max. Earth dist.         | -3219 Mar 30 j 19:28                         | 12° <b>¥</b> 14'24              |                |
| max. Earth dist.    | -3225 Oct 05 j 00:49                         |                                     | 6.29542 AU         | morning rise             | -3219 Apr 11 j 13:15                         | 14° <b>)</b> 57'40              |                |
|                     | ·  |                                     |                    | •                        | -3219 Jun 25 j 09:42                         | $0^{\circ}$ Y                   |                |
| conjunction         | -3225 Oct 06 j 19:28                         | 18° <b>m</b> 24'40                  | 1°10'02            | retrograde               | -3219 Aug 18 j 12:14                         | 4° <b>Υ</b> ′24'28              |                |
| minimum elong       | -3225 Oct 06 j 19:30                         | 18° <b>m</b> ) 24'41                | 1°10'03            | 8                        | -3219 Oct 12 j 01:30                         | 30° <b>₹</b>                    |                |
| morning rise        | -3225 Oct 19 j 07:28                         | 21° m/ 14'12                        |                    | opposition               | -3219 Oct 16 j 23:19                         | 29° <b>¥</b> 19'55              | -1°29'33       |
| morning rise        | -3225 Nov 29 j 10:29                         | 0∘ <del>ರ</del>                     |                    | min. Earth dist.         | -3219 Oct 15 j 20:58                         |                                 | 4.13356 AU     |
| retrograde          | -3224 Feb 20 j 05:44                         | ა <b>–</b><br>9° <b>ჲ</b> 11'14     |                    | direct                   | -3219 Dec 14 j 19:11                         | 24° <b>)</b> 19'45              | 4.13330710     |
| opposition          | -3224 Apr 21 j 06:12                         | 4° <b>₾</b> 18'34                   | 1°22'33            | direct                   | -3218 Feb 14 j 18:09                         | 0° <b>Υ</b>                     |                |
| min. Earth dist.    | -3224 Apr 22 j 09:49                         | 4° <b>£</b> 09'46                   | 4.24135 AU         | evening set              | -3218 Apr 20 j 12:12                         | 13° <b>Υ</b> 08'44              |                |
| mm. Larm dist.      |  |                                     | 4.24133 AO         | evening set              | -3210 Apr 20 j 12.12                         | 13 1 00 44                      |                |
| direct              | -3224 Jun 01 j 12:48<br>-3224 Jun 21 j 21:33 | 30°R, Mp<br>29° Mp 21'50            |                    | conjunction              | -3218 May 04 j 06:46                         | 16° <b>Ƴ</b> 15'33              | 0.042120       |
| unect               | -  |                                     |                    | v                        |  | 16°Υ15'35                       |                |
| arranin+            | -3224 Jul 12 j 03:59                         | 0° <b>⊽</b>                         |                    | minimum elong            | -3218 May 04 j 06:49                         |                                 |                |
| evening set         | -3224 Oct 25 j 00:32                         | 17° <b>£</b> 45'46                  | C 10200 477        | max. Earth dist.         | -3218 May 05 j 16:48                         |                                 | 6.19053 AU     |
| max. Earth dist.    | -3224 Nov 05 j 10:23                         | ∠U- <b>≥£</b> ∠4'14                 | 6.18299 AU         | morning rise             | -3218 May 18 j 01:14                         | 19° <b>Y</b> 22'05              |                |
|                     | 222431 06:1515                               | 200 2 40150                         | 0027110            | , ,                      | -3218 Jul 07 j 23:36                         | 0°8                             |                |
| conjunction         | -3224 Nov 06 j 15:12                         | 20° <b>Ω</b> 40'58                  |                    | retrograde               | -3218 Sep 20 j 10:07                         | 7° <b>8</b> 48'04               | 0021120        |
| minimum elong       | -3224 Nov 06 j 15:15                         | 20° <b>♀</b> 40'59                  | 0°37'16            | opposition               | -3218 Nov 18 j 22:05                         | 2° <b>8</b> 46'29               | -0~31'30       |
|                     | -  |                                     |                    |                          |  |                                 |                |
| morning rise        | -3224 Nov 19 j 06:19<br>-3224 Dec 17 j 19:26 | 23° <b>£</b> 36′38<br>0° <b>I</b> L |                    | min. Earth dist.         | -3218 Nov 18 j 07:17<br>-3218 Dec 10 j 18:46 |                                 | 4.24758 AU     |

| -                | -                    |                     | •          | , , , , , , , , , , , , , , , , , , , | 3218 BCE in historical c | , .                             | .gc 17     |
|------------------|----------------------|---------------------|------------|---------------------------------------|--------------------------|---------------------------------|------------|
| direct           | -3217 Jan 17 j 22:47 | 27° <b>Ƴ</b> 43'52  |            | conjunction                           | -3212 Nov 11 j 07:24     | 25° <b>£</b> 32'21              | 0°31'13    |
|                  | -3217 Feb 25 j 14:50 | 0°8                 |            | minimum elong                         | -3212 Nov 11 j 07:26     | 25° <b>≏</b> 32'22              | 0°31'10    |
|                  | -3217 May 20 j 09:08 | 15° <b>8</b>        |            | morning rise                          | -3212 Nov 23 j 23:23     | 28° <b>≏</b> 29'04              |            |
| evening set      | -3217 May 25 j 09:20 | 16° <b>8</b> 05'50  |            |                                       | -3212 Nov 30 j 13:13     | 0° <b>M</b> ₊                   |            |
| asc. node        | -3217 May 28 j 03:08 | 16° <b>8</b> 42'03  |            |                                       | -3211 Feb 18 j 19:59     | 15° <b>M</b> ₊                  |            |
|                  |                      |                     |            | retrograde                            | -3211 Mar 31 j 16:16     | 17°ML30'14                      |            |
| conjunction      | -3217 Jun 08 j 00:36 | 19° <b>8</b> 06'39  | 0°01'16    |                                       | -3211 May 11 j 22:08     | 15°RM                           |            |
| minimum elong    | -3217 Jun 08 j 00:35 | 19° <b>8</b> 06'39  | 0°01'21    | opposition                            | -3211 May 31 j 15:20     | 12°MJ34'14                      | 0°11'55    |
| behind sun begin | -3217 Jun 07 j 16:18 | 19° <b>8</b> 02'04  |            | min. Earth dist.                      | -3211 Jun 01 j 01:14     | 12°MJ31'01                      | 4.11151 AU |
| behind sun end   | -3217 Jun 08 j 08:53 | 19° <b>8</b> 11'13  |            | direct                                | -3211 Jul 30 j 18:13     | 7°M40'21                        |            |
| max. Earth dist. | -3217 Jun 08 j 10:04 | 19° <b>8</b> 11'53  | 6.30090 AU | desc. node                            | -3211 Aug 06 j 04:07     | 7°M44'23                        |            |
| morning rise     | -3217 Jun 21 j 13:46 | 22° <b>8</b> 06'16  |            |                                       | -3211 Oct 09 j 19:56     | 15°M₊                           |            |
|                  | -3217 Jul 29 j 04:51 | $\Pi^{\circ}0$      |            | evening set                           | -3211 Dec 02 j 03:38     | $26^{\circ}$ ML $33^{\circ}$ 20 |            |
| retrograde       | -3217 Oct 21 j 22:01 | 9° <b>Ⅱ</b> 40'11   |            |                                       |                          |                                 |            |
| opposition       | -3217 Dec 20 j 14:17 | 4° <b>Ⅱ</b> 42'34   | 0°33'26    | conjunction                           | -3211 Dec 15 j 00:10     | 29°MJ36'11                      | -0°15'48   |
| min. Earth dist. | -3217 Dec 20 j 16:25 | 4° <b>Ⅱ</b> 41'51   | 4.34506 AU | minimum elong                         | -3211 Dec 15 j 00:08     | 29°M36'10                       | 0°15'53    |
|                  | -3216 Feb 04 j 22:02 | 30° <b>₹</b> 8      |            | behind sun begin                      | -3211 Dec 14 j 22:27     | 29°M35'10                       |            |
| direct           | -3216 Feb 19 j 22:35 | 29° <b>8</b> 38'56  |            | behind sun end                        | -3211 Dec 15 j 01:50     | 29°M37'10                       |            |
|                  | -3216 Mar 06 j 00:58 | $\Pi$ $^{\circ}0$   |            | max. Earth dist.                      | -3211 Dec 14 j 23:59     | 29°M36'04                       | 6.06405 AU |
| evening set      | -3216 Jun 26 j 14:48 | 17° <b>Ⅲ</b> 39'50  |            |                                       | -3211 Dec 16 j 16:15     | 0°⊀                             |            |
|                  |                      |                     |            | morning rise                          | -3211 Dec 27 j 22:53     | 2° <b>҂</b> ¹40′24              |            |
| conjunction      | -3216 Jul 09 j 22:14 | 20° <b>Ⅲ</b> 34′15  | 0°43'15    | retrograde                            | -3210 May 07 j 17:05     | 22° <b>х</b> 34′46              |            |
| minimum elong    | -3216 Jul 09 j 22:12 | 20° <b>Ⅲ</b> 34'14  | 0°43'21    | opposition                            | -3210 Jul 07 j 07:33     | 17° <b>∡</b> ³34'53             | -0°58'45   |
| max. Earth dist. | -3216 Jul 09 j 06:23 | 20° <b>Ⅲ</b> 25'34  | 6.37803 AU | min. Earth dist.                      | -3210 Jul 06 j 22:11     | 17° <b>∡</b> ³37'58             | 4.02800 AU |
| morning rise     | -3216 Jul 23 j 02:32 | 23° <b>II</b> 27'03 |            | direct                                | -3210 Sep 04 j 03:31     | 12° <b>∡</b> ¹41'53             |            |
|                  | -3216 Aug 23 j 07:21 | 0°€                 |            |                                       | -3210 Dec 29 j 07:29     | 5°0                             |            |
| retrograde       | -3216 Nov 20 j 15:06 | 10°530'49           |            | evening set                           | -3209 Jan 06 j 11:39     | 1° <b>る</b> 55'56               |            |
| opposition       | -3215 Jan 19 j 16:53 | 5° <b>5</b> 36'41   | 1°26'41    |                                       |                          |                                 |            |
| min. Earth dist. | -3215 Jan 20 j 10:06 | 5° <b>©</b> 31'05   | 4.39777 AU | conjunction                           | -3209 Jan 19 j 14:58     | 5° <b>る</b> 04'15               | -0°58'21   |
| direct           | -3215 Mar 22 j 23:24 | 0° <b>©</b> 33'23   |            | minimum elong                         | -3209 Jan 19 j 14:55     | 5° <b>る</b> 04'13               | 0°58'27    |
| evening set      | -3215 Jul 28 j 12:05 | 18° <b>5</b> 24'15  |            | max. Earth dist.                      | -3209 Jan 20 j 16:38     | 5° <b>る</b> 19'36               | 6.00716 AU |
| max. Earth dist. | -3215 Aug 09 j 00:14 | 20° <b>©</b> 55'08  | 6.40138 AU | morning rise                          | -3209 Feb 01 j 21:44     | 8° <b>る</b> 14'23               |            |
|                  |                      |                     |            | retrograde                            | -3209 Jun 14 j 02:06     | 28° <b>る</b> 35'58              |            |
| conjunction      | -3215 Aug 10 j 10:30 | 21°513'56           | 1°12'12    | min. Earth dist.                      | -3209 Aug 12 j 03:50     | 23° <b>る</b> 41'02              | 4.00523 AU |
| minimum elong    | -3215 Aug 10 j 10:27 | 21° <b>©</b> 13'55  | 1°12'19    | opposition                            | -3209 Aug 13 j 05:22     | 23° <b>る</b> 32'26              | -1°48'53   |
| morning rise     | -3215 Aug 23 j 05:37 | 24° <b>©</b> 02'04  |            | direct                                | -3209 Oct 10 j 06:28     | 18° <b>る</b> 38'02              |            |
|                  | -3215 Sep 20 j 11:01 | $0^{\circ}\Omega$   |            |                                       | -3208 Jan 08 j 01:00     | 0° <b>≈</b>                     |            |
| retrograde       | -3215 Dec 21 j 13:36 | 11° <b>Ω</b> 01'47  |            | evening set                           | -3208 Feb 12 j 05:23     | 7° <b>≈</b> 59'09               |            |
| opposition       | -3214 Feb 20 j 01:24 | 6° <b>Ω</b> 09'52   | 1°55'25    |                                       |                          |                                 |            |
| min. Earth dist. | -3214 Feb 21 j 05:57 | 6° <b>Ω</b> 00'43   | 4.39174 AU | conjunction                           | -3208 Feb 25 j 16:13     | 11° <b>≈</b> 10′07              | -1°19'18   |
| direct           | -3214 Apr 23 j 17:41 | 1° <b>Ω</b> 08'12   |            | minimum elong                         | -3208 Feb 25 j 16:13     | 11° <b>≈</b> 10′07              | 1°19'22    |
|                  | -3214 Aug 10 j 01:21 | 15° <b>Ω</b>        |            | max. Earth dist.                      | -3208 Feb 27 j 13:45     | 11° <b>≈</b> 37'06              | 6.01924 AU |
| evening set      | -3214 Aug 28 j 15:03 | 19° <b>Ω</b> 00'56  |            | morning rise                          | -3208 Mar 10 j 05:58     | 14° <b>≈</b> 22'32              |            |
| max. Earth dist. | -3214 Sep 08 j 10:05 | 21° <b>Ω</b> 24'24  | 6.36518 AU |                                       | -3208 Mar 12 j 21:52     | 15° <b>≈</b>                    |            |
|                  |                      |                     |            |                                       | -3208 May 25 j 19:08     | 0° <b>∀</b>                     |            |
| conjunction      | -3214 Sep 10 j 06:31 | 21° <b>Ω</b> 49′06  | 1°20'57    | retrograde                            | -3208 Jul 19 j 13:55     | 4° <b>)</b> 30′02               |            |
| minimum elong    | -3214 Sep 10 j 06:31 | 21° <b>Ω</b> 49'06  | 1°21'00    | •                                     | -3208 Sep 12 j 22:41     | 30°R <b>≈</b>                   |            |
| morning rise     | -3214 Sep 22 j 19:48 | 24° <b>Ω</b> 36′16  |            | min. Earth dist.                      | -3208 Sep 15 j 23:58     | 29° <b>≈</b> 35'05              | 4.05194 AU |
|                  | -3214 Oct 17 j 21:00 | 0° <b>m</b> y       |            | opposition                            | -3208 Sep 17 j 06:09     | 29° <b>≈</b> 24'48              | -1°57'09   |
| retrograde       | -3213 Jan 22 j 12:51 | 11° <b>m</b> 57'36  |            | direct                                | -3208 Nov 14 j 09:28     | 24° <b>≈</b> 27'27              |            |
| opposition       | -3213 Mar 24 j 09:12 | 7° Mp 06'01         | 1°52'11    |                                       | -3207 Jan 13 j 14:20     | 0° <b>)</b> €                   |            |
| min. Earth dist. | -3213 Mar 25 j 17:08 | 6° <b>₯</b> 55'51   | 4.32819 AU | evening set                           | -3207 Mar 20 j 06:28     | 13° <b>)</b> ₹36′59             |            |
| direct           | -3213 May 25 j 18:23 | 2° Mp 06'49         |            |                                       |                          |                                 |            |
| evening set      | -3213 Sep 28 j 17:46 | 20° <b>m</b> 12'35  |            | conjunction                           | -3207 Apr 02 j 23:11     | 16° <b>)</b> 47′07              | -1°10'19   |
| max. Earth dist. | -3213 Oct 09 j 14:56 | 22°M/40'25          | 6.27914 AU | minimum elong                         | -3207 Apr 02 j 23:14     | 16° <b>)</b> 47′09              | 1°10'21    |
|                  |                      |                     |            | max. Earth dist.                      | -3207 Apr 04 j 21:53     | 17° <b>₩</b> 14'10              | 6.09553 AU |
| conjunction      | -3213 Oct 11 j 06:56 | 23°M/03'09          | 1°06'31    | morning rise                          | -3207 Apr 16 j 17:37     | 19° <b>∺</b> 57'55              |            |
| minimum elong    | -3213 Oct 11 j 06:59 | 23°M 03'11          | 1°06'33    |                                       | -3207 Jun 02 j 04:31     | $0$ ° $\Upsilon$                |            |
| morning rise     | -3213 Oct 23 j 19:01 | 25° M 53'26         |            | retrograde                            | -3207 Aug 23 j 04:21     | 9° <b>Ƴ</b> 16'24               |            |
|                  | -3213 Nov 11 j 06:56 | 0∘ <b>⊽</b>         |            | opposition                            | -3207 Oct 21 j 15:56     | 4° <b>Υ</b> 12'11               | -1°22'39   |
| retrograde       | -3212 Feb 25 j 03:17 | 13° <b>≏</b> 58′03  |            | min. Earth dist.                      | -3207 Oct 20 j 14:12     | 4° <b>Υ</b> 20'58               | 4.14927 AU |
| opposition       | -3212 Apr 26 j 04:30 | 9° <b>≙</b> 05'04   | 1°15'18    |                                       | -3207 Nov 27 j 15:20     | 30° <b>₹</b> ₩                  |            |
| min. Earth dist. | -3212 Apr 27 j 05:43 | 8° <b>≏</b> 57'02   | 4.22450 AU | direct                                | -3207 Dec 19 j 14:36     | 29° <b>∺</b> 11'37              |            |
| direct           | -3212 Jun 26 j 14:59 | 4° <b>£</b> 08'48   |            |                                       | -3206 Jan 10 j 20:22     | $0$ ° $\Upsilon$                |            |
| evening set      | -3212 Oct 29 j 16:21 | 22° <b>≏</b> 36'18  |            | evening set                           | -3206 Apr 25 j 11:15     | 17° <b>Ƴ</b> 56'53              |            |
| max. Earth dist. | -3212 Nov 10 j 05:20 | 25° <b>≏</b> 17'10  | 6.16711 AU |                                       |                          |                                 |            |
|                  |                      |                     |            | conjunction                           | -3206 May 09 j 05:41     | 21° <b>Y</b> 03'00              | -0°36'48   |
|                  |                      |                     |            |                                       |                          |                                 |            |

| •                | omena of Jupiter fro |                     |            |                  |                            |                     | ge 18      |
|------------------|----------------------|---------------------|------------|------------------|----------------------------|---------------------|------------|
|                  |                      | -                   |            |                  | r 3207 BCE in historical c |                     | 1907127    |
| minimum elong    | -3206 May 09 j 05:44 | 21°Υ03'02           |            | opposition       | -3200 May 01 j 02:47       | 13° <b>£</b> 51'37  |            |
| max. Earth dist. | -3206 May 10 j 11:44 | 21° <b>Υ</b> 19'57  | 6.20627 AU | min. Earth dist. | -3200 May 02 j 01:52       | 13° <b>Ω</b> 44'14  | 4.21121 AU |
| morning rise     | -3206 May 22 j 23:45 | 24° <b>Y</b> ′08'41 |            | direct           | -3200 Jul 01 j 09:34       | 8° <b>Ω</b> 55'43   |            |
|                  | -3206 Jun 18 j 21:15 | 0°8                 |            | evening set      | -3200 Nov 03 j 07:05       | 27° <b>£</b> 25'31  |            |
| retrograde       | -3206 Sep 24 j 22:48 | 12° <b>8</b> 26'53  |            |                  | -3200 Nov 14 j 08:33       | 0°M₊                |            |
| opposition       | -3206 Nov 23 j 09:49 | 7° <b>8</b> 25'52   |            |                  |                            |                     |            |
| min. Earth dist. | -3206 Nov 22 j 22:15 |                     | 4.26179 AU | conjunction      | -3200 Nov 15 j 22:49       | 0°M22'21            | 0°25'01    |
| direct           | -3205 Jan 22 j 15:46 | 2° <b>8</b> 23'01   |            | minimum elong    | -3200 Nov 15 j 22:51       | 0°M22'22            | 0°24'57    |
| asc. node        | -3205 Apr 06 j 19:54 | 9° <b>8</b> 52'01   |            | max. Earth dist. | -3200 Nov 15 j 01:15       | 0° <b>™</b> 09'45   | 6.15490 AU |
|                  | -3205 May 03 j 10:53 | 15° <b>8</b>        |            | morning rise     | -3200 Nov 28 j 15:23       | 3°M₁9'53            |            |
| evening set      | -3205 May 30 j 03:09 | 20° <b>8</b> 42'06  |            |                  | -3199 Jan 22 j 09:11       | 15°M                |            |
|                  |                      |                     |            | retrograde       | -3199 Apr 05 j 18:23       | 22°M27'36           |            |
| conjunction      | -3205 Jun 12 j 17:39 | 23° <b>8</b> 42'06  | 0°07'34    | opposition       | -3199 Jun 05 j 17:16       | 17°M31'06           | 0°01'53    |
| minimum elong    | -3205 Jun 12 j 17:39 | 23° <b>8</b> 42'06  | 0°07'40    | min. Earth dist. | -3199 Jun 06 j 00:45       | 17° <b>™</b> 28'41  | 4.10137 AU |
| behind sun begin | -3205 Jun 12 j 10:13 | 23° <b>8</b> 38'01  |            | desc. node       | -3199 Jun 16 j 03:44       | 16°M11'02           |            |
| behind sun end   | -3205 Jun 13 j 01:06 | 23° <b>8</b> 46'12  |            |                  | -3199 Jun 26 j 03:57       | 15°RM               |            |
| max. Earth dist. | -3205 Jun 12 j 23:43 | 23° <b>8</b> 45'26  | 6.31254 AU | direct           | -3199 Aug 04 j 16:26       | 12° <b>™</b> 37'28  |            |
| morning rise     | -3205 Jun 26 j 05:47 | 26° <b>8</b> 40'50  |            |                  | -3199 Sep 12 j 12:02       | 15° <b>™</b>        |            |
|                  | -3205 Jul 11 j 13:45 | $\Pi$ °0            |            |                  | -3199 Nov 30 j 10:17       | 0° <b>∡</b> ¹       |            |
| retrograde       | -3205 Oct 26 j 05:36 | 14° <b>Ⅱ</b> 09'46  |            | evening set      | -3199 Dec 06 j 23:21       | 1° <b>∡</b> ³32′16  |            |
| opposition       | -3205 Dec 24 j 23:26 | 9° <b>∏</b> 12'42   | 0°41'59    |                  |                            |                     |            |
| min. Earth dist. | -3205 Dec 25 j 03:09 | 9° <b>Ⅱ</b> 11'28   | 4.35349 AU | conjunction      | -3199 Dec 19 j 20:30       | 4° <b>∡</b> ³35'44  |            |
| direct           | -3204 Feb 24 j 09:53 | 4° <b>∏</b> 09'03   |            | minimum elong    | -3199 Dec 19 j 20:28       | 4° <b>∡</b> ³35'43  |            |
| evening set      | -3204 Jul 01 j 04:10 | 22° <b>∏</b> 08'43  |            | max. Earth dist. | -3199 Dec 19 j 22:36       | 4° <b>∡</b> ³36'58  | 6.05671 AU |
|                  |                      | _                   |            | morning rise     | -3198 Jan 01 j 20:21       | 7° <b>∡</b> ¹40'43  |            |
| conjunction      | -3204 Jul 14 j 10:21 | 25° <b>Ⅱ</b> 02'27  |            | retrograde       | -3198 May 12 j 20:04       | 27° <b>∡</b> ³39'15 |            |
| minimum elong    | -3204 Jul 14 j 10:18 | 25° <b>Ⅲ</b> 02'25  | 0°48'25    | opposition       | -3198 Jul 12 j 10:16       | 22° <b>∡</b> ³38'45 |            |
| max. Earth dist. | -3204 Jul 13 j 15:21 | 24° <b>∏</b> 52'02  | 6.38258 AU | min. Earth dist. | -3198 Jul 11 j 21:59       | 22° <b>₹</b> 42'49  | 4.02430 AU |
| morning rise     | -3204 Jul 27 j 13:22 | 27° <b>∏</b> 54'32  |            | direct           | -3198 Sep 09 j 03:00       | 17° <b>∡</b> ¹45'36 |            |
|                  | -3204 Aug 06 j 05:51 | $0$ $\circ$         |            |                  | -3198 Dec 12 j 00:46       | 0°ಕ                 |            |
| retrograde       | -3204 Nov 25 j 00:50 | 14° <b>9</b> 57'00  |            | evening set      | -3197 Jan 11 j 11:32       | 7° <b>る</b> 00'23   |            |
| opposition       | -3203 Jan 24 j 02:36 | 10° <b>©</b> 03'21  | 1°32'27    |                  |                            |                     |            |
| min. Earth dist. | -3203 Jan 24 j 22:15 | 9° <b>©</b> 56'58   | 4.39836 AU | conjunction      | -3197 Jan 24 j 15:57       | 10° <b>る</b> 09'07  |            |
| direct           | -3203 Mar 27 j 11:32 | 5° <b>©</b> 00'17   |            | minimum elong    | -3197 Jan 24 j 15:54       | 10° <b>る</b> 09'05  |            |
| evening set      | -3203 Aug 01 j 22:42 | 22° <b>©</b> 51'30  |            | max. Earth dist. | -3197 Jan 25 j 21:45       | 10° <b>る</b> 26'55  | 6.00730 AU |
| max. Earth dist. | -3203 Aug 13 j 07:08 | 25° <b>©</b> 20'38  | 6.39778 AU | morning rise     | -3197 Feb 06 j 23:31       | 13° <b>る</b> 19'36  |            |
|                  |                      |                     |            |                  | -3197 Apr 30 j 19:20       | 0° <b>≈</b>         |            |
| conjunction      | -3203 Aug 14 j 19:58 | 25° <b>©</b> 40'52  | 1°14'47    | retrograde       | -3197 Jun 19 j 04:52       | 3° <b>≈</b> 40'52   |            |
| minimum elong    | -3203 Aug 14 j 19:56 | 25° <b>©</b> 40'50  | 1°14'53    |                  | -3197 Aug 07 j 20:34       | 30°Ŗ₹               |            |
| morning rise     | -3203 Aug 27 j 14:09 | 28° <b>©</b> 28'45  |            | min. Earth dist. | -3197 Aug 17 j 04:25       |                     | 4.00934 AU |
|                  | -3203 Sep 03 j 14:07 | $0$ ° $\Omega$      |            | opposition       | -3197 Aug 18 j 05:58       | 28° <b>る</b> 36'59  | -1°52'44   |
|                  | -3203 Dec 08 j 00:09 | 15° <b>Ω</b>        |            | direct           | -3197 Oct 15 j 07:07       | 23° <b>る</b> 42'13  |            |
| retrograde       | -3203 Dec 26 j 01:04 | 15° <b>Ω</b> 30'42  |            |                  | -3197 Dec 18 j 08:22       | 0° <b>≈</b>         |            |
|                  | -3202 Jan 13 j 02:21 | 15°R <b>Ω</b>       |            | evening set      | -3196 Feb 17 j 07:25       | 13° <b>≈</b> 02'19  |            |
| opposition       | -3202 Feb 24 j 13:57 | 10° <b>Ω</b> 38'57  |            |                  | -3196 Feb 25 j 15:01       | 15° <b>≈</b>        |            |
| min. Earth dist. | -3202 Feb 25 j 18:57 | 10° <b>Ω</b> 29'40  | 4.38461 AU |                  |                            |                     |            |
| direct           | -3202 Apr 28 j 05:12 | 5° <b>Ω</b> 37'37   |            | conjunction      | -3196 Mar 01 j 19:04       | 16° <b>≈</b> 13′19  |            |
|                  | -3202 Jul 23 j 03:26 | 15°Ω                |            | minimum elong    | -3196 Mar 01 j 19:04       | 16° <b>≈</b> 13′19  |            |
| evening set      | -3202 Sep 02 j 01:04 | 23° <b>Ω</b> 32'04  |            | max. Earth dist. | -3196 Mar 03 j 16:51       | 16° <b>≈</b> 40′22  | 6.02669 AU |
| max. Earth dist. | -3202 Sep 12 j 21:16 | 25° <b>Ω</b> 56'32  | 6.35526 AU | morning rise     | -3196 Mar 15 j 09:44       | 19° <b>≈</b> 25'45  |            |
|                  |                      | _                   |            |                  | -3196 May 02 j 11:50       | 0° <b>∀</b>         |            |
| conjunction      | -3202 Sep 14 j 16:02 | 26° <b>Ω</b> 20′23  | 1°20'18    | retrograde       | -3196 Jul 24 j 10:05       | 9° <b>∺</b> 28'14   |            |
| minimum elong    | -3202 Sep 14 j 16:03 | 26° <b>Ω</b> 20'24  | 1°20'21    | min. Earth dist. | -3196 Sep 20 j 19:15       |                     |            |
| morning rise     | -3202 Sep 27 j 04:43 | 29° <b>Ω</b> 07'45  |            | opposition       | -3196 Sep 22 j 01:50       | 4° <b>)</b> €23'00  | -1°54'42   |
|                  | -3202 Oct 01 j 03:16 | 0° <b>™</b>         |            |                  | -3196 Oct 31 j 21:02       | 30° <b>R</b> ≈      |            |
| retrograde       | -3201 Jan 27 j 05:03 | 16°M 34'01          |            | direct           | -3196 Nov 19 j 06:01       | 29° <b>≈</b> 25'11  |            |
| opposition       | -3201 Mar 29 j 02:21 | 11° mp 42'24        | 1°48'55    |                  | -3196 Dec 07 j 19:17       | 0° <b>)</b>         |            |
| min. Earth dist. | -3201 Mar 30 j 09:31 | 11° Tp 32'29        | 4.31620 AU | evening set      | -3195 Mar 25 j 07:33       | 18° <b>)</b> 32′28  |            |
| direct           | -3201 May 30 j 09:05 | 6° m 43'42          |            |                  | 2107                       | 0101/               | 100 27     |
| evening set      | -3201 Oct 03 j 05:17 | 24° m 51'41         |            | conjunction      | -3195 Apr 08 j 00:48       | 21° <b>)</b> (42′19 |            |
| max. Earth dist. | -3201 Oct 14 j 02:59 | 27° Mp 20'21        | 6.26612 AU | minimum elong    | -3195 Apr 08 j 00:52       | 21° <b>)</b> 42′21  |            |
|                  |                      |                     |            | max. Earth dist. | -3195 Apr 09 j 20:52       | 22° <b>)</b> €07'46 | 6.10765 AU |
| conjunction      | -3201 Oct 15 j 18:18 | 27° m/42'46         | 1°02'38    | morning rise     | -3195 Apr 21 j 19:33       | 24° <b>)</b> 52'40  |            |
| minimum elong    | -3201 Oct 15 j 18:21 | 27° m/42'48         | 1°02'38    | _                | -3195 May 14 j 16:18       | 0°Υ                 |            |
|                  | -3201 Oct 25 j 19:20 | 0∘ <b>⊽</b>         |            | retrograde       | -3195 Aug 27 j 20:34       | 14° <b>Y</b> °03'57 |            |
| morning rise     | -3201 Oct 28 j 06:48 | 0° <b>Ω</b> 33'44   |            | min. Earth dist. | -3195 Oct 25 j 07:31       | 9° <b>Υ</b> 07'57   | 4.16195 AU |
| retrograde       | -3200 Mar 01 j 01:08 | 18° <b>≏</b> 45'00  |            | opposition       | -3195 Oct 26 j 06:39       | 9° <b>Ƴ</b> 00'04   | -1~15'23   |
|                  |                      |                     |            |                  |                            |                     |            |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 19 Attention, astronomical year style is used: The year -3195 in astronomical counting style is the year 3196 BCE in historical counting style.

| Attention, astronomi | cal year style is used: Th   |                     | n astronomical cou | inting style is the year | 3196 BCE in historical co                    | ounting style.         |            |
|----------------------|------------------------------|---------------------|--------------------|--------------------------|--|------------------------|------------|
| direct               | -3195 Dec 24 j 09:46         | 3° <b>Y</b> 59'05   |                    | max. Earth dist.         | -3189 Oct 18 j 16:14                         | 1° <b>≏</b> 57'55      | 6.25249 AU |
| evening set          | -3194 Apr 30 j 08:48         | 22° <b>Y</b> 41'44  |                    |                          |  |                        |            |
|                      |                              |                     |                    | conjunction              | -3189 Oct 20 j 04:46                         | 2° <b>≙</b> 18'48      | 0°58'23    |
| conjunction          | -3194 May 14 j 03:14         | 25° <b>Ƴ</b> 47'17  |                    | minimum elong            | -3189 Oct 20 j 04:49                         | 2° <b>£</b> 18'50      | 0°58'23    |
| minimum elong        | -3194 May 14 j 03:16         | 25° <b>Ƴ</b> 47'18  | 0°30'55            | morning rise             | -3189 Nov 01 j 17:24                         | 5° <b>≙</b> 10'27      |            |
| max. Earth dist.     | -3194 May 15 j 07:13         | 26° <b>Y</b> 03′02  | 6.21879 AU         | retrograde               | -3188 Mar 05 j 22:21                         | 23° <b>≏</b> 28'40     |            |
| morning rise         | -3194 May 27 j 20:47         | 28° <b>Y</b> 52'14  |                    | opposition               | -3188 May 05 j 23:54                         | 18° <b>≏</b> 34'59     | 0°59'30    |
|                      | -3194 Jun 01 j 22:39         | 0°8                 |                    | min. Earth dist.         | -3188 May 06 j 21:57                         | 18° <b>≏</b> 27'56     | 4.19631 AU |
|                      | -3194 Aug 24 j 03:53         | 15° <b>8</b>        |                    | direct                   | -3188 Jul 06 j 03:25                         | 13° <b>≏</b> 39'29     |            |
| retrograde           | -3194 Sep 29 j 08:48         | 17° <b>8</b> 03'46  |                    |                          | -3188 Oct 29 j 07:40                         | 0° <b>M</b> ₊          |            |
|                      | -3194 Nov 04 j 09:03         | 15° <b>₹</b> 8      |                    | evening set              | -3188 Nov 07 j 21:36                         | 2°M12'30               |            |
| opposition           | -3194 Nov 27 j 20:48         | 12° <b>8</b> 03'16  |                    |                          |  |                        |            |
| min. Earth dist.     | -3194 Nov 27 j 10:24         |                     | 4.27317 AU         | conjunction              | -3188 Nov 20 j 13:49                         | 5°M10'13               | 0°18'38    |
| direct               | -3193 Jan 27 j 05:15         | 7° <b>8</b> 00'16   |                    | minimum elong            | -3188 Nov 20 j 13:50                         | 5°ML10'14              | 0°18'35    |
| asc. node            | -3193 Feb 14 j 22:21         | 7° <b>8</b> 33'07   |                    | max. Earth dist.         | -3188 Nov 19 j 17:30                         | 4°M58'20               | 6.14001 AU |
|                      | -3193 Apr 14 j 11:52         | 15° <b>8</b>        |                    | morning rise             | -3188 Dec 03 j 07:25                         | 8°ML08'49              |            |
| evening set          | -3193 Jun 03 j 20:26         | 25° <b>8</b> 17'12  |                    |                          | -3187 Jan 02 j 18:10                         | 15°M                   |            |
|                      |                              |                     |                    | retrograde               | -3187 Apr 10 j 20:21                         | 27°M24'19              |            |
| conjunction          | -3193 Jun 17 j 09:53         | 28° <b>8</b> 16'26  |                    | desc. node               | -3187 Apr 26 j 03:47                         | 27°ML02'17             |            |
| minimum elong        | -3193 Jun 17 j 09:52         | 28° <b>8</b> 16'25  | 0°13'50            | opposition               | -3187 Jun 10 j 18:55                         | 22°M27'18              |            |
| behind sun begin     | -3193 Jun 17 j 05:45         | 28° <b>8</b> 14'10  |                    | min. Earth dist.         | -3187 Jun 10 j 23:16                         | 22°M25'53              | 4.08763 AU |
| behind sun end       | -3193 Jun 17 j 13:59         | 28° <b>8</b> 18'41  |                    | direct                   | -3187 Aug 09 j 13:06                         | 17° <b>M</b> 33'49     |            |
| max. Earth dist.     | -3193 Jun 17 j 11:31         | 28° <b>8</b> 17'20  | 6.32204 AU         |                          | -3187 Nov 13 j 07:51                         | 0° <b>∡</b> ¹          |            |
|                      | -3193 Jun 25 j 05:42         | $\Pi$ $^{\circ}0$   |                    | evening set              | -3187 Dec 11 j 19:45                         | 6° <b>∡</b> ³32'11     |            |
| morning rise         | -3193 Jun 30 j 21:01         | 1° <b>Ⅱ</b> 14'19   |                    |                          |  |                        |            |
| retrograde           | -3193 Oct 30 j 15:23         | 18° <b>∏</b> 39′00  |                    | conjunction              | -3187 Dec 24 j 18:00                         | 9° <b>∡</b> ³36'35     | -0°28'53   |
| opposition           | -3193 Dec 29 j 08:55         | 13° <b>∏</b> 42′26  | 0°50'14            | minimum elong            | -3187 Dec 24 j 17:58                         | 9° <b>∡</b> ³36'33     | 0°28'58    |
| min. Earth dist.     | -3193 Dec 29 j 15:36         | 13° <b>Ⅱ</b> 40′14  | 4.36055 AU         | max. Earth dist.         | -3187 Dec 25 j 00:51                         | 9° <b>∡</b> ¹40'40     | 6.04544 AU |
| direct               | -3192 Feb 28 j 23:51         | 8° <b>Ⅱ</b> 38'47   |                    | morning rise             | -3186 Jan 06 j 18:46                         | 12° <b>х</b> 42′30     |            |
| evening set          | -3192 Jul 05 j 17:19         | 26° <b>Ⅲ</b> 37′12  |                    |                          | -3186 Apr 05 j 06:39                         | 0°ಕ                    |            |
|                      |                              |                     |                    | retrograde               | -3186 May 18 j 03:21                         | 2° <b>ප්</b> 46'51     |            |
| conjunction          | -3192 Jul 18 j 22:21         | 29° <b>Ⅲ</b> 30′15  | 0°53'05            |                          | -3186 Jun 30 j 02:20                         | 30°₹ <b>҂</b> 7        |            |
| minimum elong        | -3192 Jul 18 j 22:18         | 29° <b>Ⅲ</b> 30′14  | 0°53'12            | opposition               | -3186 Jul 17 j 14:25                         | 27° <b>҂</b> ¹45'52    | -1°15'54   |
| max. Earth dist.     | -3192 Jul 18 j 01:28         | 29° <b>Ⅱ</b> 18'49  | 6.38660 AU         | min. Earth dist.         | -3186 Jul 17 j 00:53                         | 27° <b>∡</b> 750′22    | 4.01667 AU |
|                      | -3192 Jul 21 j 04:41         | $0$ $\circ$ $\odot$ |                    | direct                   | -3186 Sep 14 j 04:13                         | 22° <b>х</b> 52′40     |            |
| morning rise         | -3192 Jul 31 j 23:59         | 2° <b>5</b> 21'39   |                    |                          | -3186 Nov 21 j 20:47                         | 5°0                    |            |
| retrograde           | -3192 Nov 29 j 08:01         | 19° <b>©</b> 22'45  |                    | evening set              | -3185 Jan 16 j 14:07                         | 12° <b>る</b> 09'55     |            |
| opposition           | -3191 Jan 28 j 12:18         | 14°529'23           | 1°37'40            |                          |  |                        |            |
| min. Earth dist.     | -3191 Jan 29 j 08:33         | 14°522'50           | 4.39936 AU         | conjunction              | -3185 Jan 29 j 19:30                         | 15° <b>⋜</b> 19′16     | -1°06'54   |
| direct               | -3191 Mar 31 j 21:58         | 9° <b>5</b> 26'28   |                    | minimum elong            | -3185 Jan 29 j 19:27                         | 15° <b>⋜</b> 19'14     | 1°07'01    |
| evening set          | -3191 Aug 06 j 08:55         | 27°517'31           |                    | max. Earth dist.         | -3185 Jan 31 j 03:20                         | 15° <b>⋜</b> 38'17     | 6.00378 AU |
| max. Earth dist.     | -3191 Aug 17 j 15:23         | 29°545'45           | 6.39550 AU         | morning rise             | -3185 Feb 12 j 04:18                         | 18° <b>る</b> 30'23     |            |
|                      | -3191 Aug 18 j 17:16         | $0^{\circ}\Omega$   |                    |                          | -3185 Apr 05 j 08:08                         | 0° <b>≈</b>            |            |
|                      |                              |                     |                    | retrograde               | -3185 Jun 24 j 08:46                         | 8° <b>≈</b> 52'25      |            |
| conjunction          | -3191 Aug 19 j 05:02         | 0° <b>Ω</b> 06′28   | 1°16'54            | min. Earth dist.         | -3185 Aug 22 j 05:06                         | 3° <b>≈</b> 57'35      | 4.01064 AU |
| minimum elong        | -3191 Aug 19 j 05:00         | 0° <b>Ω</b> 06′27   | 1°16'59            | opposition               | -3185 Aug 23 j 08:42                         | 3° <b>≈</b> 48'16      | -1°55'49   |
| morning rise         | -3191 Aug 31 j 22:09         | 2° <b>Ω</b> 54'01   |                    |                          | -3185 Sep 24 j 17:34                         | 30°Ŗる                  |            |
|                      | -3191 Nov 01 j 20:08         | 15° <b>Ω</b>        |                    | direct                   | -3185 Oct 20 j 07:51                         | 28° <b>ප</b> 53'11     |            |
| retrograde           | -3191 Dec 30 j 12:29         | 19° <b>Ω</b> 57'36  |                    |                          | -3185 Nov 15 j 00:22                         | 0° <b>≈</b>            |            |
| opposition           | -3190 Mar 01 j 02:14         | 15° <b>Ω</b> 05'58  | 1°57'53            |                          | -3184 Feb 08 j 15:50                         | 15° <b>≈</b>           |            |
| 11                   | -3190 Mar 01 j 20:56         | 15°R <b>Ω</b>       |                    | evening set              | -3184 Feb 22 j 13:15                         | 18° <b>≈</b> 13'35     |            |
| min. Earth dist.     | -3190 Mar 02 j 08:32         | 14° <b>Ω</b> 56'18  | 4.37903 AU         | S                        | ,  |                        |            |
| direct               | -3190 May 02 j 18:19         | 10° <b>Ω</b> 04'58  |                    | conjunction              | -3184 Mar 07 j 01:54                         | 21° <b>≈</b> 24'46     | -1°19'47   |
|                      | -3190 Jul 01 j 16:47         | 15° <b>Ω</b>        |                    | minimum elong            | -3184 Mar 07 j 01:55                         | 21° <b>≈</b> 24'46     |            |
| evening set          | -3190 Sep 06 j 09:55         | 28° <b>Ω</b> 00'12  |                    | max. Earth dist.         | -3184 Mar 09 j 00:11                         | 21°≈52'04              | 6.03258 AU |
| <i>3</i>             | -3190 Sep 15 j 09:13         | 0° m                |                    | morning rise             | -3184 Mar 20 j 17:23                         | 24° <b>≈</b> 37'16     |            |
| max. Earth dist.     | -3190 Sep 17 j 04:25         | 0° Mp 24'07         | 6.34646 AU         |                          | -3184 Apr 13 j 06:02                         | 0° <b>)</b> €          |            |
|                      |                              |                     |                    | retrograde               | -3184 Jul 29 j 11:07                         | 14° <b>)</b> € 35'07   |            |
| conjunction          | -3190 Sep 19 j 00:17         | 0° Mp 48'38         | 1°19'11            | min. Earth dist.         | -3184 Sep 25 j 19:07                         | 9° <b>H</b> 40'05      | 4.07192 AU |
| minimum elong        | -3190 Sep 19 j 00:17         | 0° Mp 48'38         | 1°19'14            | opposition               | -3184 Sep 27 j 00:45                         | 9° <b>H</b> 29'58      |            |
| morning rise         | -3190 Scp 19 j 00:18         | 3°My36'13           | /                  | direct                   | -3184 Nov 24 j 07:54                         | 4° <b>H</b> 31'43      |            |
| retrograde           | -3189 Jan 31 j 19:52         | 21° Top 07'08       |                    | evening set              | -3184 Nov 24 j 07:34<br>-3183 Mar 30 j 12:16 | 23°\(\frac{1}{36'51}\) |            |
| opposition           | -3189 Apr 02 j 18:37         | 16° Tp 15'18        | 1°44'59            | J. Jimig 50t             | 5105 Mai 50 J 12.10                          | 25 /(5051              |            |
| min. Earth dist.     | -3189 Apr 04 j 00:46         | 16° Mp 05'43        | 4.30450 AU         | conjunction              | -3183 Apr 13 j 06:12                         | 26° <b>)</b> 46′24     | -1°02'53   |
| direct               | -3189 Jun 03 j 22:35         | 10 mp 16'57         | 50 150 710         | minimum elong            | -3183 Apr 13 j 06:15                         | 26°\(\frac{46}{26}\)   |            |
| evening set          | -3189 Oct 07 j 15:31         | 29° Tp 27'06        |                    | max. Earth dist.         | -3183 Apr 15 j 00:15                         |                        | 6.12087 AU |
| Tronning sot         | -3189 Oct 07 j 13.31         | 0° <b>ರ</b>         |                    | morning rise             | -3183 Apr 13 j 02:30                         | 29° <b>\</b> 56'15     | 0.1200/ AU |
|                      | 510, 5 <b>0</b> 0 10 j 01.50 | · <del>-</del>      |                    |                          | 5105 1pi 27 j 01.05                          | -> /(3013              |            |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 20 Attention, astronomical year style is used: The year -3183 in astronomical counting style is the year 3184 BCE in historical counting style.

| Attention, astronom | nical year style is used: Th |                     | in astronomical co | unting style is the year | 3184 BCE in historical c | ounting style.           |             |
|---------------------|------------------------------|---------------------|--------------------|--------------------------|--------------------------|--------------------------|-------------|
|                     | -3183 Apr 27 j 07:39         | $0^{\circ}$ Y       |                    |                          | -3177 Sep 24 j 12:13     | 0∘ <b>⊽</b>              |             |
| retrograde          | -3183 Sep 01 j 14:19         | 18° <b>Ƴ</b> 59'33  |                    | evening set              | -3177 Oct 11 j 21:51     | 3° <b>ჲ</b> 53′26        |             |
| min. Earth dist.    | -3183 Oct 30 j 01:42         |                     | 4.17745 AU         | max. Earth dist.         | -3177 Oct 22 j 22:06     | 6° <b>£</b> 24'32        | 6.23690 AU  |
| opposition          | -3183 Oct 31 j 00:22         | 13° <b>Y</b> ′56′07 | -1°07'23           |                          |                          |                          |             |
| direct              | -3183 Dec 29 j 06:09         | 8° <b>Y</b> 54'54   |                    | conjunction              | -3177 Oct 24 j 11:15     | 6° <b>≏</b> 45'50        | 0°53'56     |
| evening set         | -3182 May 05 j 09:17         | 27° <b>Y</b> '33'45 |                    | minimum elong            | -3177 Oct 24 j 11:18     | 6° <b>Ω</b> 45'52        | 0°53'56     |
|                     | -3182 May 16 j 06:42         | 0° <b>8</b>         |                    | morning rise             | -3177 Nov 06 j 00:29     | 9° <b>₾</b> 38'22        |             |
|                     |                              |                     |                    | retrograde               | -3176 Mar 10 j 15:37     | 28° <b>≏</b> 04'36       |             |
| conjunction         | -3182 May 19 j 03:09         | 0° <b>8</b> 38'24   |                    | opposition               | -3176 May 10 j 17:43     | 23° <b>△</b> 10'30       | 0°51'18     |
| minimum elong       | -3182 May 19 j 03:11         | 0° <b>8</b> 38'26   |                    | min. Earth dist.         | -3176 May 11 j 13:41     | 23° <b>△</b> 04'06       | 4.17805 AU  |
| max. Earth dist.    | -3182 May 20 j 03:17         |                     | 6.23568 AU         | direct                   | -3176 Jul 10 j 16:00     | 18° <b>≏</b> 15'14       |             |
| morning rise        | -3182 Jun 01 j 20:13         | 3° <b>8</b> 42'23   |                    |                          | -3176 Oct 12 j 18:56     | 0°M                      |             |
|                     | -3182 Jul 27 j 02:35         | 15° <b>8</b>        |                    | evening set              | -3176 Nov 12 j 09:18     | 6°M52'59                 |             |
| retrograde          | -3182 Oct 03 j 21:07         | 21° <b>8</b> 45'39  |                    | max. Earth dist.         | -3176 Nov 24 j 09:32     | 9° <b>™</b> 41'58        | 6.12082 AU  |
| opposition          | -3182 Dec 02 j 09:41         | 16° <b>8</b> 45'41  |                    |                          | 215(3) 25:02.22          | 00 <b>W</b> 51151        | 0010101     |
| min. Earth dist.    | -3182 Dec 02 j 01:43         |                     | 4.29014 AU         | conjunction              | -3176 Nov 25 j 02:22     | 9°M51'51                 |             |
|                     | -3182 Dec 15 j 20:16         | 15°₹ <b>8</b>       |                    | minimum elong            | -3176 Nov 25 j 02:22     | 9°M51'51                 | 0°12'16     |
| asc. node           | -3182 Dec 25 j 08:47         | 13° <b>8</b> 52'55  |                    | behind sun begin         | -3176 Nov 24 j 20:56     | 9°M48'40                 |             |
| direct              | -3181 Jan 31 j 23:38         | 11° <b>8</b> 42'31  |                    | behind sun end           | -3176 Nov 25 j 07:49     | 9°M.55'02                |             |
|                     | -3181 Mar 20 j 11:02         | 15° <b>8</b>        |                    | morning rise             | -3176 Dec 07 j 20:46     | 12°M51'40                |             |
| evening set         | -3181 Jun 08 j 14:23         | 29° <b>8</b> 55'09  |                    |                          | -3176 Dec 17 j 02:04     | 15°M                     |             |
|                     | -3181 Jun 08 j 23:16         | $\Pi$ $^{\circ}0$   |                    | desc. node               | -3175 Mar 07 j 21:13     | 29°M58'20                |             |
|                     |                              |                     |                    |                          | -3175 Mar 08 j 03:05     | 0° <b>∡</b> 7            |             |
| conjunction         | -3181 Jun 22 j 02:54         | 2° <b>Ⅱ</b> 53'17   |                    | retrograde               | -3175 Apr 15 j 23:25     | 2° <b>√</b> 16'50        |             |
| minimum elong       | -3181 Jun 22 j 02:52         | 2° <b>Ⅱ</b> 53'16   |                    |                          | -3175 May 24 j 23:45     | 30°RM₁                   |             |
| max. Earth dist.    | -3181 Jun 22 j 03:10         | 2° <b>Ⅱ</b> 53'26   | 6.33802 AU         | opposition               | -3175 Jun 15 j 18:50     | 27° <b>™</b> 19'18       |             |
| morning rise        | -3181 Jul 05 j 12:33         | 5° <b>Ⅱ</b> 49'56   |                    | min. Earth dist.         | -3175 Jun 15 j 22:00     | 27° <b>™</b> 18'16       | 4.06909 AU  |
| retrograde          | -3181 Nov 03 j 21:32         | 23° <b>Ⅱ</b> 08'12  |                    | direct                   | -3175 Aug 14 j 08:45     | 22° <b>M</b> 25'57       |             |
| opposition          | -3180 Jan 02 j 18:07         | 18° <b>Ⅱ</b> 12'08  | 0°58'04            | _                        | -3175 Oct 25 j 03:12     | 0° <b>∡</b> 7            |             |
| min. Earth dist.    | -3180 Jan 03 j 01:46         |                     | 4.37451 AU         | evening set              | -3175 Dec 16 j 15:43     | 11° <b>∡</b> ¹29'54      |             |
| direct              | -3180 Mar 04 j 12:12         | 13° <b>Ⅱ</b> 08'32  |                    |                          |                          |                          |             |
| _                   | -3180 Jul 05 j 07:46         | 0°50                |                    | conjunction              | -3175 Dec 29 j 14:56     | 14° <b>∡</b> ³35′28      |             |
| evening set         | -3180 Jul 10 j 04:52         | 1° <b>©</b> 03'14   |                    | minimum elong            | -3175 Dec 29 j 14:53     | 14° <b>∡</b> ³35′26      |             |
| max. Earth dist.    | -3180 Jul 22 j 07:52         | 3° <b>©</b> 41'51   | 6.39730 AU         | max. Earth dist.         | -3175 Dec 30 j 00:18     | 14° <b>∡</b> °41′04<br>− | 6.02925 AU  |
|                     |                              |                     |                    | morning rise             | -3174 Jan 11 j 17:04     | 17° <b>∡</b> 742'41      |             |
| conjunction         | -3180 Jul 23 j 08:21         | 3° <b>©</b> 55'14   |                    | _                        | -3174 Mar 09 j 02:28     | 0°⋜                      |             |
| minimum elong       | -3180 Jul 23 j 08:18         | 3° <b>©</b> 55'13   | 0°57'34            | retrograde               | -3174 May 23 j 08:21     | 7° <b>る</b> 54'30        |             |
| morning rise        | -3180 Aug 05 j 08:43         | 6° <b>5</b> 45'39   |                    | opposition               | -3174 Jul 22 j 18:06     | 2° <b>ろ</b> 53'00        |             |
| retrograde          | -3180 Dec 03 j 14:42         |                     |                    | min. Earth dist.         | -3174 Jul 22 j 01:15     |                          | 4.00486 AU  |
| opposition          | -3179 Feb 01 j 20:17         | 18°950'31           |                    |                          | -3174 Aug 14 j 23:35     | 30°₹ <b>⋌</b>            |             |
| min. Earth dist.    | -3179 Feb 02 j 19:12         | 18° <b>©</b> 43'07  | 4.40614 AU         | direct                   | -3174 Sep 19 j 02:58     | 27° <b>х</b> 59'40       |             |
| direct              | -3179 Apr 05 j 09:44         | 13° <b>©</b> 47'45  |                    | _                        | -3174 Oct 23 j 23:40     | 0° <b>ろ</b>              |             |
| _                   | -3179 Aug 03 j 05:20         | $0$ ° $\Omega$      |                    | evening set              | -3173 Jan 21 j 17:45     | 17° <b>る</b> 21'04       |             |
| evening set         | -3179 Aug 10 j 15:28         | 1° <b>Ω</b> 36'34   |                    |                          |                          |                          |             |
| max. Earth dist.    | -3179 Aug 21 j 19:18         | 4° <b>Ω</b> 03′23   | 6.39754 AU         | conjunction              | -3173 Feb 04 j 00:20     | 20° <b>පි</b> 31'13      |             |
|                     |                              |                     |                    | minimum elong            | -3173 Feb 04 j 00:18     | 20° <b>පි</b> 31'12      |             |
| conjunction         | -3179 Aug 23 j 10:35         | 4°Ω24'59            | 1°18'29            | max. Earth dist.         | -3173 Feb 05 j 11:31     |                          | 5.99729 AU  |
| minimum elong       | -3179 Aug 23 j 10:33         | 4° <b>Ω</b> 24'59   | 1°18'34            | morning rise             | -3173 Feb 17 j 10:16     | 23° <b>る</b> 43'07       |             |
| morning rise        | -3179 Sep 05 j 02:39         | 7° <b>Ω</b> 12'02   |                    |                          | -3173 Mar 16 j 15:39     | 0° <b>≈</b>              |             |
|                     | -3179 Oct 12 j 12:12         | 15° <b>Ω</b>        |                    | retrograde               | -3173 Jun 29 j 15:13     | 14°≈06'45                |             |
| retrograde          | -3178 Jan 03 j 18:13         | 24°Ω16'15           | 1055150            | min. Earth dist.         | -3173 Aug 27 j 08:04     | 9°≈11'54                 |             |
| opposition          | -3178 Mar 05 j 10:58         | 19° <b>Ω</b> 24'37  |                    | opposition               | -3173 Aug 28 j 12:38     | 9°≈02'12                 | -1°57'54    |
| min. Earth dist.    | -3178 Mar 06 j 17:23         |                     | 4.37628 AU         | direct                   | -3173 Oct 25 j 12:04     | 4°≈06'42                 |             |
|                     | -3178 Apr 17 j 01:21         | 15°R <b>Ω</b>       |                    | _                        | -3172 Jan 21 j 04:53     | 15° <b>≈</b>             |             |
| direct              | -3178 May 07 j 02:18         | 14° <b>Ω</b> 23'51  |                    | evening set              | -3172 Feb 27 j 20:34     | 23° <b>≈</b> 27'38       |             |
|                     | -3178 May 27 j 06:22         | 15° <b>Ω</b>        |                    |                          |                          |                          |             |
| • .                 | -3178 Aug 31 j 01:32         | 0° Mp               |                    | conjunction              | -3172 Mar 12 j 10:20     | 26°≈39'02                |             |
| evening set         | -3178 Sep 10 j 14:41         | 2° m 19'09          | C 22001 : **       | minimum elong            | -3172 Mar 12 j 10:21     | 26°≈39'03                | 1°19'05     |
| max. Earth dist.    | -3178 Sep 21 j 08:33         | 4° Mp 43'01         | 6.33901 AU         | max. Earth dist.         | -3172 Mar 14 j 11:42     | 27°≈08'04                | 6.03829 AU  |
|                     | 2150 6 25 25 25 25           | #0 == 0 ===         | 101577             | morning rise             | -3172 Mar 26 j 02:35     | 29°≈51'35                |             |
| conjunction         | -3178 Sep 23 j 04:32         | 5° m, 07'39         |                    |                          | -3172 Mar 26 j 17:01     | 0° <b>)</b> {            |             |
| minimum elong       | -3178 Sep 23 j 04:33         |                     | 1°17'41            | retrograde               | -3172 Aug 03 j 12:13     | 19° <b>)</b> (44′05      | 4.00505 :== |
| morning rise        | -3178 Oct 05 j 16:35         | 7° m 55'24          |                    | min. Earth dist.         | -3172 Sep 30 j 18:31     | 14° <b>)</b> (49'12      | 4.08295 AU  |
| retrograde          | -3177 Feb 05 j 07:44         | 25° m/30'49         |                    | opposition               | -3172 Oct 02 j 00:36     | 14° <b>)</b> €38'56      | -1°46'58    |
| opposition          | -3177 Apr 07 j 06:55         | 20° m/38'50         | 1°40'34            | direct                   | -3172 Nov 29 j 09:13     | 9° <b>)</b> (40′13       |             |
| min. Earth dist.    | -3177 Apr 08 j 14:05         | 20° m 28'56         | 4.29251 AU         | evening set              | -3171 Apr 04 j 18:09     | 28° <b>)</b> 42′20       |             |
| direct              | -3177 Jun 08 j 09:36         | 15° <b>m</b> 40'47  |                    |                          | -3171 Apr 10 j 10:04     | 0° <b>Υ</b>              |             |
|                     |                              |                     |                    |                          |                          |                          |             |

| Attention, astronom  | ical year style is used: Th  | e vear -3171 i  | n astronomical co  |  | 3172 BCE in historical c   | _   |  |
|--|--|---|--|--|--|---|--|
| conjunction  | -3171 Apr 18 j 12:16   | 1° <b>Υ</b> 51'20   |  | direct   | -3165 Jun 12 j 23:54   | 20° <b>m</b> ) 19'51  |  |
| minimum elong  | -3171 Apr 18 j 12:20   | 1° <b>Υ</b> 51'22   |  |  | -3165 Sep 06 j 14:42   | 0∘ <u>⊽</u>   |  |
| max. Earth dist.   | -3171 Apr 20 j 06:14   | 2° <b>Υ</b> 15'24   | 6.13595 AU   | evening set  | -3165 Oct 16 j 10:30   | 8° <b>≏</b> 36'16   |  |
| morning rise   | -3171 May 02 j 07:24   | 5° <b>Y</b> 00′34   |  | max. Earth dist.   | -3165 Oct 27 j 13:45   | 11° <b>≏</b> 09'41  | 6.21918 AU   |
| retrograde   | -3171 Sep 06 j 07:21   | 23° <b>Y</b> 54'53  |  |  |  |   |  |
| opposition   | -3171 Nov 04 j 18:13   | 18° <b>Ƴ</b> 51'44  | -0°58'52   | conjunction  | -3165 Oct 29 j 00:12   | 11° <b>≏</b> 29'32  | 0°48'54  |
| min. Earth dist.   | -3171 Nov 03 j 21:06   | 18° <b>Ƴ</b> 58'54  | 4.19453 AU   | minimum elong  | -3165 Oct 29 j 00:15   | 11° <b>≏</b> 29'34  | 0°48'53  |
| direct   | -3170 Jan 03 j 04:40   | 13° <b>Y</b> 50'04  |  | morning rise   | -3165 Nov 10 j 13:55   | 14° <b>≙</b> 23'03  |  |
|  | -3170 Apr 29 j 11:10   | $0^{\circ}$ 8   |  |  | -3164 Jan 31 j 00:51   | 0°M₊  |  |
| evening set  | -3170 May 10 j 09:23   | 2° <b>8</b> 24'25   |  | retrograde   | -3164 Mar 15 j 18:40   | 2°M58'05  |  |
|  |  |   |  |  | -3164 Apr 30 j 04:58   | 30° <b>₹</b> Ω  |  |
| conjunction  | -3170 May 24 j 02:57   | 5° <b>8</b> 28'09   | -0°18'25   | opposition   | -3164 May 15 j 18:40   | 28° <b>ഫ</b> 03'39  | 0°42'12  |
| minimum elong  | -3170 May 24 j 02:58   | 5° <b>8</b> 28'10   | 0°18'21  | min. Earth dist.   | -3164 May 16 j 13:32   | 27° <b>≙</b> 57'36  | 4.15989 AU   |
| max. Earth dist.   | -3170 May 25 j 01:25   | 5° <b>8</b> 40'42   | 6.25329 AU   | direct   | -3164 Jul 15 j 13:11   | 23° <b>≙</b> 08'46  |  |
| morning rise   | -3170 Jun 06 j 19:02   | 8° <b>8</b> 31'00   |  |  | -3164 Sep 22 j 14:58   | 0°M₊  |  |
|  | -3170 Jul 07 j 00:28   | 15° <b>8</b>  |  | evening set  | -3164 Nov 17 j 03:56   | 11°ML51'02  |  |
| retrograde   | -3170 Oct 08 j 08:34   | 26° <b>8</b> 25'58  |  |  |  |   |  |
| asc. node  | -3170 Nov 03 j 01:35   | 25° <b>8</b> 21'27  |  | conjunction  | -3164 Nov 29 j 21:45   | 14°M50'58   | 0°05'35  |
| opposition   | -3170 Dec 06 j 22:27   | 21° <b>8</b> 26'34  | 0°05'37  | minimum elong  | -3164 Nov 29 j 21:46   | 14°M50'58   | 0°05'30  |
| min. Earth dist.   | -3170 Dec 06 j 16:18   | 21° <b>8</b> 28'37  | 4.30640 AU   | behind sun begin   | -3164 Nov 29 j 14:01   | 14°M46'25   |  |
| direct   | -3169 Feb 05 j 16:50   | 16° <b>8</b> 23'17  |  | behind sun end   | -3164 Nov 30 j 05:31   | 14°M55'31   |  |
|  | -3169 May 23 j 02:56   | $\Pi^{\circ}0$  |  | max. Earth dist.   | -3164 Nov 29 j 07:52   | 14°M42'48   | 6.10414 AU   |
| evening set  | -3169 Jun 13 j 08:01   | 4° <b>Ⅱ</b> 31'58   |  |  | -3164 Nov 30 j 13:05   | 15°M₊   |  |
|  |  |   |  | morning rise   | -3164 Dec 12 j 17:18   | 17°M52'00   |  |
| conjunction  | -3169 Jun 26 j 19:11   | 7° <b>Ⅱ</b> 29'02   | 0°25'56  | desc. node   | -3163 Jan 14 j 18:26   | 25°M19'40   |  |
| minimum elong  | -3169 Jun 26 j 19:09   | 7° <b>Ⅱ</b> 29'00   | 0°26'01  |  | -3163 Feb 07 j 06:05   | 0° <b>∡</b> ¹   |  |
| max. Earth dist.   | -3169 Jun 26 j 14:29   | 7° <b>Ⅱ</b> 26'27   | 6.35139 AU   | retrograde   | -3163 Apr 21 j 05:45   | 7° <b>∡</b> ¹25'32  |  |
| morning rise   | -3169 Jul 10 j 03:43   | 10° <b>Ⅱ</b> 24'38  |  | opposition   | -3163 Jun 21 j 00:43   | 2° <b>∡</b> ¹27'29  | -0°28'19   |
| retrograde   | -3169 Nov 08 j 06:31   | 27° <b>Ⅱ</b> 37'55  |  | min. Earth dist.   | -3163 Jun 20 j 23:51   | 2° <b>∡</b> ¹27'46  | 4.05574 AU   |
| opposition   | -3168 Jan 07 j 04:15   | 22° <b>I</b> I42'20   | 1°05'43  |  | -3163 Jul 10 j 18:37   | 30°RM₊  |  |
| min. Earth dist.   | -3168 Jan 07 j 14:51   | 22° <b>Ⅱ</b> 38'51  | 4.38416 AU   | direct   | -3163 Aug 19 j 08:19   | 27°M34'22   |  |
| direct   | -3168 Mar 09 j 02:43   | 17° <b>Ⅱ</b> 38'45  |  |  | -3163 Sep 27 j 07:27   | 0° <b>∡</b> ¹   |  |
|  | -3168 Jun 18 j 12:17   | 0ಂತ   |  | evening set  | -3163 Dec 21 j 17:12   | 16° <b>∡</b> ¹41'50   |  |
| evening set  | -3168 Jul 14 j 17:09   | 5° <b>©</b> 31'22   |  | -  | v  |   |  |
| Ü  | ,  |   |  | conjunction  | -3162 Jan 03 j 17:26   | 19° <b>∡</b> ¹48'13   | -0°41'14   |
| conjunction  | -3168 Jul 27 j 19:29   | 8° <b>5</b> 22'39   | 1°01'36  | minimum elong  | -3162 Jan 03 j 17:23   | 19° <b>∡¹</b> 48'11   | 0°41'20  |
| minimum elong  | -3168 Jul 27 j 19:26   | 8° <b>5</b> 22'38   | 1°01'42  | max. Earth dist.   | -3162 Jan 04 j 07:28   | 19° <b>∡</b> 756'36   | 6.02057 AU   |
| max. Earth dist.   |  |   |  | max. Lamin dist.   | -3102 Jan 04   07.20   | 19 8.3030   | 0.02037 AU   |
|  | -3168 Jul 26 j 17:24   | 8° <b>©</b> 08'24   | 6.40236 AU   |  | -3162 Jan 16 j 20:39   | 19 <b>x</b> 30 30<br>22° <b>x</b> 56'17   | 0.02037 AC   |
| morning rise   | •  |   | 6.40236 AU   | morning rise   | -3162 Jan 16 j 20:39   | 22° <b>∡</b> ¹56'17   | 0.02037 AO   |
| morning rise retrograde  | -3168 Aug 09 j 18:20   | 8°508'24<br>11°512'18<br>28°509'12  | 6.40236 AU   | morning rise   | -3162 Jan 16 j 20:39<br>-3162 Feb 16 j 14:23   |   | 0.02037 AO   |
| retrograde   | -3168 Aug 09 j 18:20<br>-3168 Dec 07 j 22:08   | 11°©12'18<br>28°©09'12  | 6.40236 AU<br>1°46'14  |  | -3162 Jan 16 j 20:39<br>-3162 Feb 16 j 14:23<br>-3162 May 28 j 17:28   | 22° <b>₰</b> 56'17<br>0°る   | 4.00205 AU   |
| retrograde opposition  | -3168 Aug 09 j 18:20<br>-3168 Dec 07 j 22:08<br>-3167 Feb 06 j 06:23   | 11°512'18   | 1°46'14  | morning rise retrograde min. Earth dist.   | -3162 Jan 16 j 20:39<br>-3162 Feb 16 j 14:23<br>-3162 May 28 j 17:28<br>-3162 Jul 27 j 06:21   | 22° <b>メ</b> 56'17<br>0°る<br>13°る12'14<br>8°る16'31  | 4.00205 AU   |
| retrograde<br>opposition<br>min. Earth dist.   | -3168 Aug 09 j 18:20<br>-3168 Dec 07 j 22:08<br>-3167 Feb 06 j 06:23<br>-3167 Feb 07 j 06:11   | 11°©12'18<br>28°©09'12<br>23°©16'29<br>23°©08'49  |  | morning rise retrograde min. Earth dist. opposition  | -3162 Jan 16 j 20:39<br>-3162 Feb 16 j 14:23<br>-3162 May 28 j 17:28<br>-3162 Jul 27 j 06:21<br>-3162 Jul 28 j 01:21   | 22° x 56'17<br>0° පි<br>13° පි12'14<br>8° පි16'31<br>8° පි10'10   | 4.00205 AU   |
| retrograde opposition  | -3168 Aug 09 j 18:20<br>-3168 Dec 07 j 22:08<br>-3167 Feb 06 j 06:23<br>-3167 Feb 07 j 06:11<br>-3167 Apr 09 j 20:35   | 11°5012'18<br>28°509'12<br>23°5016'29<br>23°508'49<br>18°5013'59  | 1°46'14  | retrograde<br>min. Earth dist.<br>opposition<br>direct   | -3162 Jan 16 j 20:39<br>-3162 Feb 16 j 14:23<br>-3162 May 28 j 17:28<br>-3162 Jul 27 j 06:21<br>-3162 Jul 28 j 01:21<br>-3162 Sep 24 j 08:46   | 22° \$756'17<br>0° で<br>13° で 12'14<br>8° で 16'31<br>8° で 10'10<br>3° で 16'38   | 4.00205 AU   |
| retrograde<br>opposition<br>min. Earth dist.<br>direct   | -3168 Aug 09 j 18:20<br>-3168 Dec 07 j 22:08<br>-3167 Feb 06 j 06:23<br>-3167 Feb 07 j 06:11<br>-3167 Apr 09 j 20:35<br>-3167 Jul 17 j 10:15   | 11°\$12'18<br>28°\$09'12<br>23°\$16'29<br>23°\$08'49<br>18°\$13'59<br>0°\$\$\Omega\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$0\$^{\text{CM}}\$\$\$\$   | 1°46'14  | morning rise retrograde min. Earth dist. opposition  | -3162 Jan 16 j 20:39<br>-3162 Feb 16 j 14:23<br>-3162 May 28 j 17:28<br>-3162 Jul 27 j 06:21<br>-3162 Jul 28 j 01:21   | 22° x 56'17<br>0° පි<br>13° පි12'14<br>8° පි16'31<br>8° පි10'10   | 4.00205 AU   |
| retrograde<br>opposition<br>min. Earth dist.   | -3168 Aug 09 j 18:20<br>-3168 Dec 07 j 22:08<br>-3167 Feb 06 j 06:23<br>-3167 Feb 07 j 06:11<br>-3167 Apr 09 j 20:35<br>-3167 Jul 17 j 10:15<br>-3167 Aug 15 j 00:59   | 11°S12'18 28°S09'12 23°S16'29 23°S08'49 18°S13'59 0°A 6°A02'51  | 1°46'14  | retrograde min. Earth dist. opposition direct evening set  | -3162 Jan 16 j 20:39<br>-3162 Feb 16 j 14:23<br>-3162 May 28 j 17:28<br>-3162 Jul 27 j 06:21<br>-3162 Jul 28 j 01:21<br>-3162 Sep 24 j 08:46<br>-3161 Jan 27 j 00:03   | 22° \$756'17<br>0° で<br>13° で 12'14<br>8° で 16'31<br>8° で 10'10<br>3° で 16'38   | 4.00205 AU<br>-1°30′57   |
| retrograde<br>opposition<br>min. Earth dist.<br>direct   | -3168 Aug 09 j 18:20<br>-3168 Dec 07 j 22:08<br>-3167 Feb 06 j 06:23<br>-3167 Feb 07 j 06:11<br>-3167 Apr 09 j 20:35<br>-3167 Jul 17 j 10:15   | 11°\$12'18<br>28°\$09'12<br>23°\$16'29<br>23°\$08'49<br>18°\$13'59<br>0°\$\$\Omega\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$0\$^{\text{CM}}\$\$\$\$   | 1°46'14<br>4.40653 AU  | retrograde<br>min. Earth dist.<br>opposition<br>direct   | -3162 Jan 16 j 20:39<br>-3162 Feb 16 j 14:23<br>-3162 May 28 j 17:28<br>-3162 Jul 27 j 06:21<br>-3162 Jul 28 j 01:21<br>-3162 Sep 24 j 08:46<br>-3161 Jan 27 j 00:03<br>-3161 Feb 09 j 07:44   | 22° \$\frac{7}{56'17}<br>0° පි<br>13° පි12'14<br>8° පි16'31<br>8° පි10'10<br>3° පි16'38<br>22° පි38'37  | 4.00205 AU<br>-1°30′57   |
| retrograde<br>opposition<br>min. Earth dist.<br>direct   | -3168 Aug 09 j 18:20<br>-3168 Dec 07 j 22:08<br>-3167 Feb 06 j 06:23<br>-3167 Feb 07 j 06:11<br>-3167 Apr 09 j 20:35<br>-3167 Jul 17 j 10:15<br>-3167 Aug 15 j 00:59   | 11°S12'18 28°S09'12 23°S16'29 23°S08'49 18°S13'59 0° \( \Omega{O}\) 6°\( \Omega{O}\) 27'59  | 1°46'14<br>4.40653 AU<br>6.39306 AU  | retrograde min. Earth dist. opposition direct evening set conjunction  | -3162 Jan 16 j 20:39<br>-3162 Feb 16 j 14:23<br>-3162 May 28 j 17:28<br>-3162 Jul 27 j 06:21<br>-3162 Jul 28 j 01:21<br>-3162 Sep 24 j 08:46<br>-3161 Jan 27 j 00:03<br>-3161 Feb 09 j 07:44<br>-3161 Feb 09 j 07:41   | 22° \$\frac{7}{56'17}<br>0° \$\frac{7}{56'16'31}<br>8° \$\frac{7}{510'10}<br>3° \$\frac{7}{516'38}<br>22° \$\frac{7}{538'37}<br>25° \$\frac{7}{549'05}  | 4.00205 AU<br>-1°30'57<br>-1°13'27   |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction   | -3168 Aug 09 j 18:20<br>-3168 Dec 07 j 22:08<br>-3167 Feb 06 j 06:23<br>-3167 Feb 07 j 06:11<br>-3167 Apr 09 j 20:35<br>-3167 Jul 17 j 10:15<br>-3167 Aug 15 j 00:59<br>-3167 Aug 26 j 01:12   | 11°S12'18 28°S09'12 23°S16'29 23°S08'49 18°S13'59 0° \( \Omega{O}\) 6°\( \Omega{O}\) 27'59  | 1°46'14<br>4.40653 AU  | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist.  | -3162 Jan 16 j 20:39<br>-3162 Feb 16 j 14:23<br>-3162 May 28 j 17:28<br>-3162 Jul 27 j 06:21<br>-3162 Jul 28 j 01:21<br>-3162 Sep 24 j 08:46<br>-3161 Jan 27 j 00:03<br>-3161 Feb 09 j 07:44   | 22° ₹56'17<br>0° ₹<br>13° ₹12'14<br>8° ₹16'31<br>8° ₹10'10<br>3° ₹16'38<br>22° ₹38'37<br>25° ₹49'05<br>25° ₹49'03   | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32  |
| retrograde<br>opposition<br>min. Earth dist.<br>direct<br>evening set<br>max. Earth dist.  | -3168 Aug 09 j 18:20<br>-3168 Dec 07 j 22:08<br>-3167 Feb 06 j 06:23<br>-3167 Feb 07 j 06:11<br>-3167 Apr 09 j 20:35<br>-3167 Jul 17 j 10:15<br>-3167 Aug 15 j 00:59<br>-3167 Aug 26 j 01:12<br>-3167 Aug 27 j 18:58<br>-3167 Aug 27 j 18:58   | 11°\$12'18 28°\$09'12 23°\$16'29 23°\$08'49 18°\$13'59 0°\$\Omega\$6°\$\Omega\$02'51 8°\$\Omega\$27'59  8°\$\Omega\$51'01 8°\$\Omega\$51'00   | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45   | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong   | -3162 Jan 16 j 20:39<br>-3162 Feb 16 j 14:23<br>-3162 May 28 j 17:28<br>-3162 Jul 27 j 06:21<br>-3162 Jul 28 j 01:21<br>-3162 Sep 24 j 08:46<br>-3161 Jan 27 j 00:03<br>-3161 Feb 09 j 07:44<br>-3161 Feb 09 j 07:41<br>-3161 Feb 10 j 23:12<br>-3161 Feb 22 j 18:35   | 22° \$\frac{7}{56'17}<br>0° \frac{7}{6'13'} \frac{7}{6'16'31}<br>8° \frac{7}{6'10'10}<br>3° \frac{7}{6'16'38}<br>22° \frac{7}{6'38'37}<br>25° \frac{7}{6'49'03}<br>26° \frac{7}{6'12'37}<br>29° \frac{7}{6'12'37}   | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32  |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong   | -3168 Aug 09 j 18:20<br>-3168 Dec 07 j 22:08<br>-3167 Feb 06 j 06:23<br>-3167 Feb 07 j 06:11<br>-3167 Apr 09 j 20:35<br>-3167 Jul 17 j 10:15<br>-3167 Aug 15 j 00:59<br>-3167 Aug 26 j 01:12<br>-3167 Aug 27 j 18:58<br>-3167 Aug 27 j 18:57<br>-3167 Sep 09 j 10:18   | 11°\$12'18 28°\$09'12 23°\$16'29 23°\$08'49 18°\$13'59 0°\$\Omega\$ 6°\$\Omega\$02'51 8°\$\Omega\$27'59  8°\$\Omega\$51'01 8°\$\Omega\$51'00 11°\$\Omega\$7'55  | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45   | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist.  | -3162 Jan 16 j 20:39<br>-3162 Feb 16 j 14:23<br>-3162 May 28 j 17:28<br>-3162 Jul 27 j 06:21<br>-3162 Jul 28 j 01:21<br>-3162 Sep 24 j 08:46<br>-3161 Jan 27 j 00:03<br>-3161 Feb 09 j 07:44<br>-3161 Feb 09 j 07:41<br>-3161 Feb 10 j 23:12<br>-3161 Feb 22 j 18:35<br>-3161 Feb 26 j 22:14   | 22° ₹56'17<br>0° ₹<br>13° ₹12'14<br>8° ₹16'31<br>8° ₹10'10<br>3° ₹16'38<br>22° ₹38'37<br>25° ₹49'05<br>25° ₹49'03<br>26° ₹12'37<br>29° ₹01'12<br>0° ≈   | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32  |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise  | -3168 Aug 09 j 18:20<br>-3168 Dec 07 j 22:08<br>-3167 Feb 06 j 06:23<br>-3167 Feb 07 j 06:11<br>-3167 Apr 09 j 20:35<br>-3167 Jul 17 j 10:15<br>-3167 Aug 15 j 00:59<br>-3167 Aug 26 j 01:12<br>-3167 Aug 27 j 18:58<br>-3167 Sep 09 j 10:18<br>-3167 Sep 25 j 00:04   | 11°\$12'18 28°\$09'12 23°\$16'29 23°\$08'49 18°\$13'59 0°\$\Omega\$ 6°\$\Omega\$02'51 8°\$\Omega\$27'59  8°\$\Omega\$51'01 8°\$\Omega\$51'00 11°\$\Omega\$755 15°\$\Omega\$   | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45   | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise   | -3162 Jan 16 j 20:39<br>-3162 Feb 16 j 14:23<br>-3162 May 28 j 17:28<br>-3162 Jul 27 j 06:21<br>-3162 Jul 28 j 01:21<br>-3162 Sep 24 j 08:46<br>-3161 Jan 27 j 00:03<br>-3161 Feb 09 j 07:44<br>-3161 Feb 09 j 07:41<br>-3161 Feb 22 j 18:35<br>-3161 Feb 26 j 22:14<br>-3161 May 11 j 21:18   | 22° ₹56'17<br>0° ₹<br>13° ₹12'14<br>8° ₹16'31<br>8° ₹10'10<br>3° ₹16'38<br>22° ₹38'37<br>25° ₹49'05<br>25° ₹49'03<br>26° ₹12'37<br>29° ₹01'12<br>0° ≈<br>15° ≈  | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32  |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde   | -3168 Aug 09 j 18:20<br>-3168 Dec 07 j 22:08<br>-3167 Feb 06 j 06:23<br>-3167 Feb 07 j 06:11<br>-3167 Apr 09 j 20:35<br>-3167 Jul 17 j 10:15<br>-3167 Aug 15 j 00:59<br>-3167 Aug 26 j 01:12<br>-3167 Aug 27 j 18:58<br>-3167 Aug 27 j 18:57<br>-3167 Sep 09 j 10:18<br>-3167 Sep 25 j 00:04<br>-3166 Jan 08 j 07:21   | 11°\$12'18 28°\$09'12 23°\$16'29 23°\$08'49 18°\$13'59 0°\$\Omega\$ 6°\$\Omega\$02'51 8°\$\Omega\$27'59  8°\$\Omega\$51'00 11°\$\Omega\$37'55 15°\$\Omega\$28°\$\Omega\$45'07   | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45<br>1°19'50  | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist.  | -3162 Jan 16 j 20:39<br>-3162 Feb 16 j 14:23<br>-3162 May 28 j 17:28<br>-3162 Jul 27 j 06:21<br>-3162 Jul 28 j 01:21<br>-3162 Sep 24 j 08:46<br>-3161 Jan 27 j 00:03<br>-3161 Feb 09 j 07:44<br>-3161 Feb 09 j 07:41<br>-3161 Feb 22 j 18:35<br>-3161 Feb 26 j 22:14<br>-3161 May 11 j 21:18<br>-3161 Jul 04 j 20:30   | 22° ズ 56'17<br>0° で<br>13° で 12'14<br>8° で 16'31<br>8° で 10'10<br>3° で 16'38<br>22° で 38'37<br>25° で 49'05<br>25° で 49'03<br>26° で 12'37<br>29° で 01'12<br>0° ※<br>15° ※<br>19° ※ 21'50   | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32  |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde opposition  | -3168 Aug 09 j 18:20<br>-3168 Dec 07 j 22:08<br>-3167 Feb 06 j 06:23<br>-3167 Feb 07 j 06:11<br>-3167 Apr 09 j 20:35<br>-3167 Jul 17 j 10:15<br>-3167 Aug 15 j 00:59<br>-3167 Aug 26 j 01:12<br>-3167 Aug 27 j 18:58<br>-3167 Aug 27 j 18:57<br>-3167 Sep 09 j 10:18<br>-3167 Sep 25 j 00:04<br>-3166 Jan 08 j 07:21<br>-3166 Mar 10 j 00:23   | 11°\$12'18 28°\$09'12 23°\$16'29 23°\$08'49 18°\$13'59 0°\$\Omega\$ 6°\$\Omega\$27'59 8°\$\Omega\$27'59 8°\$\Omega\$51'01 8°\$\Omega\$37'55 15°\$\Omega\$28°\$\Omega\$45'07 23°\$\Omega\$53'36  | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45<br>1°19'50  | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise   | -3162 Jan 16 j 20:39<br>-3162 Feb 16 j 14:23<br>-3162 May 28 j 17:28<br>-3162 Jul 27 j 06:21<br>-3162 Jul 28 j 01:21<br>-3162 Sep 24 j 08:46<br>-3161 Jan 27 j 00:03<br>-3161 Feb 09 j 07:41<br>-3161 Feb 09 j 07:41<br>-3161 Feb 22 j 18:35<br>-3161 Feb 26 j 22:14<br>-3161 May 11 j 21:18<br>-3161 Jul 04 j 20:30<br>-3161 Aug 28 j 09:04   | 22° ズ 56'17<br>0° で<br>13° で 12'14<br>8° で 16'31<br>8° で 10'10<br>3° で 16'38<br>22° で 38'37<br>25° で 49'05<br>25° で 49'03<br>26° で 12'37<br>29° で 01'12<br>0° ※<br>15° ※<br>19° ※ 21'50<br>15° R※   | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32<br>6.00056 AU  |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde opposition min. Earth dist.   | -3168 Aug 09 j 18:20 -3168 Dec 07 j 22:08 -3167 Feb 06 j 06:23 -3167 Feb 07 j 06:11 -3167 Apr 09 j 20:35 -3167 Jul 17 j 10:15 -3167 Aug 15 j 00:59 -3167 Aug 26 j 01:12 -3167 Aug 27 j 18:58 -3167 Sep 09 j 10:18 -3167 Sep 09 j 10:18 -3166 Jan 08 j 07:21 -3166 Mar 10 j 00:23 -3166 Mar 11 j 08:35  | 11°\$12'18 28°\$09'12 23°\$16'29 23°\$08'49 18°\$13'59 0°\$\Omega\$ 6°\$\Omega\$27'59 8°\$\Omega\$27'59 8°\$\Omega\$51'00 11°\$\Omega\$37'55 15°\$\Omega\$28°\$\Omega\$45'07 23°\$\Omega\$3'36 23°\$\Omega\$43'21   | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45<br>1°19'50  | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist.  | -3162 Jan 16 j 20:39 -3162 Feb 16 j 14:23 -3162 May 28 j 17:28 -3162 Jul 27 j 06:21 -3162 Jul 28 j 01:21 -3162 Sep 24 j 08:46 -3161 Jan 27 j 00:03  -3161 Feb 09 j 07:41 -3161 Feb 09 j 07:41 -3161 Feb 22 j 18:35 -3161 Feb 26 j 22:14 -3161 May 11 j 21:18 -3161 Jul 04 j 20:30 -3161 Aug 28 j 09:04 -3161 Sep 01 j 10:17  | 22° ズ 56'17<br>0° で<br>13° で 12'14<br>8° で 16'31<br>8° で 10'10<br>3° で 16'38<br>22° で 38'37<br>25° で 49'05<br>25° で 49'03<br>26° で 12'37<br>29° で 01'12<br>0° ※<br>15° ※<br>19° ※ 21'50<br>15° R※<br>14° ※ 27'08  | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32<br>6.00056 AU  |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde opposition  | -3168 Aug 09 j 18:20 -3168 Dec 07 j 22:08 -3167 Feb 06 j 06:23 -3167 Feb 07 j 06:11 -3167 Apr 09 j 20:35 -3167 Jul 17 j 10:15 -3167 Aug 15 j 00:59 -3167 Aug 26 j 01:12 -3167 Aug 27 j 18:58 -3167 Sep 09 j 10:18 -3167 Sep 25 j 00:04 -3166 Jan 08 j 07:21 -3166 Mar 10 j 00:23 -3166 Mar 11 j 08:35 -3166 May 11 j 16:00   | 11°\$12'18 28°\$09'12 23°\$16'29 23°\$08'49 18°\$13'59 0°\$\Omega\$6'\$\Omega\$02'51 8°\$\Omega\$27'59 8°\$\Omega\$51'01 8°\$\Omega\$51'00 11°\$\Omega\$7'55 15°\$\Omega\$28°\$\Omega\$45'07 23°\$\Omega\$3'36 23°\$\Omega\$3'11  | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45<br>1°19'50  | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition   | -3162 Jan 16 j 20:39 -3162 Feb 16 j 14:23 -3162 May 28 j 17:28 -3162 Jul 27 j 06:21 -3162 Jul 28 j 01:21 -3162 Sep 24 j 08:46 -3161 Jan 27 j 00:03  -3161 Feb 09 j 07:44 -3161 Feb 09 j 07:41 -3161 Feb 10 j 23:12 -3161 Feb 22 j 18:35 -3161 Feb 26 j 22:14 -3161 May 11 j 21:18 -3161 Jul 04 j 20:30 -3161 Aug 28 j 09:04 -3161 Sep 01 j 10:17 -3161 Sep 02 j 16:04  | 22° \$756'17<br>0° で<br>13° でる12'14<br>8° でる16'31<br>8° でる10'10<br>3° でる16'38<br>22° でる38'37<br>25° でる49'05<br>25° でる49'03<br>26° でる12'37<br>29° でる01'12<br>0° ※<br>15° ※<br>19° ※21'50<br>15° R※<br>14° ※27'08<br>14° ※17'02   | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32<br>6.00056 AU  |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde opposition min. Earth dist. direct  | -3168 Aug 09 j 18:20 -3168 Dec 07 j 22:08 -3167 Feb 06 j 06:23 -3167 Feb 07 j 06:11 -3167 Apr 09 j 20:35 -3167 Jul 17 j 10:15 -3167 Aug 15 j 00:59 -3167 Aug 26 j 01:12 -3167 Aug 27 j 18:58 -3167 Aug 27 j 18:57 -3167 Sep 09 j 10:18 -3166 Jan 08 j 07:21 -3166 Mar 10 j 00:23 -3166 May 11 j 16:00 -3166 Aug 14 j 00:28   | 11°\$12'18 28°\$09'12 23°\$16'29 23°\$08'49 18°\$13'59 0°\$\Omega\$6'\$\Omega\$02'51 8°\$\Omega\$27'59 8°\$\Omega\$51'01 8°\$\Omega\$51'00 11°\$\Omega\$755 15°\$\Omega\$28°\$\Omega\$45'07 23°\$\Omega\$53'36 23°\$\Omega\$43'21 18°\$\Omega\$53'11 0°\$\Omega\$   | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45<br>1°19'50  | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist.  | -3162 Jan 16 j 20:39 -3162 Feb 16 j 14:23 -3162 May 28 j 17:28 -3162 Jul 27 j 06:21 -3162 Jul 28 j 01:21 -3162 Sep 24 j 08:46 -3161 Jan 27 j 00:03  -3161 Feb 09 j 07:44 -3161 Feb 09 j 07:41 -3161 Feb 10 j 23:12 -3161 Feb 22 j 18:35 -3161 Feb 26 j 22:14 -3161 May 11 j 21:18 -3161 Jul 04 j 20:30 -3161 Aug 28 j 09:04 -3161 Sep 01 j 10:17 -3161 Sep 02 j 16:04 -3161 Oct 30 j 15:22   | 22° \$756'17<br>0° で<br>13° で 12'14<br>8° で 16'31<br>8° で 10'10<br>3° で 16'38<br>22° で 38'37<br>25° で 49'05<br>25° で 49'03<br>26° で 12'37<br>29° で 01'12<br>0° ※<br>15° ※<br>19° ※ 21'50<br>15° R※<br>14° ※ 27'08<br>14° ※ 17'02<br>9° ※ 21'07  | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32<br>6.00056 AU  |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde opposition min. Earth dist. direct evening set  | -3168 Aug 09 j 18:20 -3168 Dec 07 j 22:08 -3167 Feb 06 j 06:23 -3167 Feb 07 j 06:11 -3167 Apr 09 j 20:35 -3167 Jul 17 j 10:15 -3167 Aug 15 j 00:59 -3167 Aug 26 j 01:12 -3167 Aug 27 j 18:58 -3167 Aug 27 j 18:57 -3167 Sep 09 j 10:18 -3166 Jan 08 j 07:21 -3166 Mar 10 j 00:23 -3166 Mar 11 j 08:35 -3166 Aug 14 j 00:28 -3166 Sep 14 j 23:56  | 11°\$12'18 28°\$09'12 23°\$16'29 23°\$08'49 18°\$13'59 0°\$\Omega\$6'\$\Omega\$02'51 8°\$\Omega\$27'59  8°\$\Omega\$51'00 11°\$\Omega\$7'55 15°\$\Omega\$28°\$\Omega\$43'21 18°\$\Omega\$53'11 0°\$\Omega\$6"\$\Omega\$50'31  | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45<br>1°19'50<br>1°57'34<br>4.36718 AU                                     | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  | -3162 Jan 16 j 20:39 -3162 Feb 16 j 14:23 -3162 May 28 j 17:28 -3162 Jul 27 j 06:21 -3162 Jul 28 j 01:21 -3162 Sep 24 j 08:46 -3161 Jan 27 j 00:03  -3161 Feb 09 j 07:44 -3161 Feb 09 j 07:41 -3161 Feb 10 j 23:12 -3161 Feb 22 j 18:35 -3161 Feb 22 j 18:35 -3161 Heb 26 j 22:14 -3161 May 11 j 21:18 -3161 Jul 04 j 20:30 -3161 Sep 01 j 10:17 -3161 Sep 02 j 16:04 -3161 Oct 30 j 15:22 -3161 Dec 30 j 03:09  | 22° \$\frac{7}{56'17} 0° \$\frac{7}{0°} \$\frac{7}{512'14} 8° \$\frac{7}{616'31} 8° \$\frac{7}{610'10} 3° \$\frac{7}{616'38} 22° \$\frac{7}{38'37} 25° \$\frac{7}{349'03} 26° \$\frac{7}{612'37} 29° \$\frac{7}   | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32<br>6.00056 AU  |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde opposition min. Earth dist. direct  | -3168 Aug 09 j 18:20 -3168 Dec 07 j 22:08 -3167 Feb 06 j 06:23 -3167 Feb 07 j 06:11 -3167 Apr 09 j 20:35 -3167 Jul 17 j 10:15 -3167 Aug 15 j 00:59 -3167 Aug 26 j 01:12 -3167 Aug 27 j 18:58 -3167 Aug 27 j 18:57 -3167 Sep 09 j 10:18 -3166 Jan 08 j 07:21 -3166 Mar 10 j 00:23 -3166 May 11 j 16:00 -3166 Aug 14 j 00:28   | 11°\$12'18 28°\$09'12 23°\$16'29 23°\$08'49 18°\$13'59 0°\$\Omega\$6'\$\Omega\$02'51 8°\$\Omega\$27'59 8°\$\Omega\$51'01 8°\$\Omega\$51'00 11°\$\Omega\$755 15°\$\Omega\$28°\$\Omega\$45'07 23°\$\Omega\$53'36 23°\$\Omega\$43'21 18°\$\Omega\$53'11 0°\$\Omega\$   | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45<br>1°19'50  | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition   | -3162 Jan 16 j 20:39 -3162 Feb 16 j 14:23 -3162 May 28 j 17:28 -3162 Jul 27 j 06:21 -3162 Jul 28 j 01:21 -3162 Sep 24 j 08:46 -3161 Jan 27 j 00:03  -3161 Feb 09 j 07:44 -3161 Feb 10 j 23:12 -3161 Feb 22 j 18:35 -3161 Feb 26 j 22:14 -3161 May 11 j 21:18 -3161 Jul 04 j 20:30 -3161 Aug 28 j 09:04 -3161 Sep 01 j 10:17 -3161 Sep 02 j 16:04 -3161 Oct 30 j 15:22 -3161 Dec 30 j 03:09 -3160 Mar 04 j 03:10  | 22° \$\frac{7}{56'17} 0° \$\frac{7}{0}\$ 13° \$\frac{7}{512'14} 8° \$\frac{7}{616'31} 8° \$\frac{7}{610'10} 3° \$\frac{7}{616'38} 22° \$\frac{7}{38'37} 25° \$\frac{7}{349'03} 26° \$\frac{7}{612'37} 29° \$\frac{7}{610'12} 0° \$\approx 15° \$\approx 19° \$\approx 21'50\$ 15° \$\approx 14° \$\approx 27'08\$ 14° \$\approx 27'08\$ 14° \$\approx 21'07\$ 15° \$\approx 28° \$\approx 39'10\$   | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32<br>6.00056 AU  |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde opposition min. Earth dist. direct evening set max. Earth dist.   | -3168 Aug 09 j 18:20 -3168 Dec 07 j 22:08 -3167 Feb 06 j 06:23 -3167 Feb 07 j 06:11 -3167 Apr 09 j 20:35 -3167 Jul 17 j 10:15 -3167 Aug 15 j 00:59 -3167 Aug 26 j 01:12  -3167 Aug 27 j 18:58 -3167 Aug 27 j 18:57 -3167 Sep 09 j 10:18 -3167 Sep 25 j 00:04 -3166 Jan 08 j 07:21 -3166 Mar 10 j 00:23 -3166 Mar 11 j 08:35 -3166 Aug 14 j 00:28 -3166 Sep 14 j 23:56 -3166 Sep 25 j 17:28   | 11°S12'18 28°S09'12 23°S16'29 23°S08'49 18°S13'59 0°N 6°N02'51 8°N27'59 8°N51'00 11°N37'55 15°N 28°N45'07 23°N53'36 23°N43'21 18°N53'11 0°M 6°M50'31 9°M14'39   | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45<br>1°19'50<br>1°57'34<br>4.36718 AU                                     | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct  | -3162 Jan 16 j 20:39 -3162 Feb 16 j 14:23 -3162 May 28 j 17:28 -3162 Jul 27 j 06:21 -3162 Jul 28 j 01:21 -3162 Sep 24 j 08:46 -3161 Jan 27 j 00:03  -3161 Feb 09 j 07:44 -3161 Feb 09 j 07:41 -3161 Feb 10 j 23:12 -3161 Feb 22 j 18:35 -3161 Feb 22 j 18:35 -3161 Heb 26 j 22:14 -3161 May 11 j 21:18 -3161 Jul 04 j 20:30 -3161 Sep 01 j 10:17 -3161 Sep 02 j 16:04 -3161 Oct 30 j 15:22 -3161 Dec 30 j 03:09  | 22° \$\frac{7}{56'17} 0° \$\frac{7}{0°} \$\frac{7}{512'14} 8° \$\frac{7}{616'31} 8° \$\frac{7}{610'10} 3° \$\frac{7}{616'38} 22° \$\frac{7}{38'37} 25° \$\frac{7}{349'03} 26° \$\frac{7}{612'37} 29° \$\frac{7}   | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32<br>6.00056 AU  |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde opposition min. Earth dist. direct evening set max. Earth dist.   | -3168 Aug 09 j 18:20 -3168 Dec 07 j 22:08 -3167 Feb 06 j 06:23 -3167 Feb 07 j 06:11 -3167 Apr 09 j 20:35 -3167 Jul 17 j 10:15 -3167 Aug 15 j 00:59 -3167 Aug 26 j 01:12 -3167 Aug 27 j 18:58 -3167 Aug 27 j 18:57 -3167 Sep 09 j 10:18 -3167 Sep 25 j 00:04 -3166 Jan 08 j 07:21 -3166 Mar 10 j 00:23 -3166 Mar 11 j 08:35 -3166 Sep 14 j 23:56 -3166 Sep 25 j 17:28   | 11°\$12'18 28°\$09'12 23°\$16'29 23°\$08'49 18°\$13'59 0°\$\Omega\$ 6°\$\Omega\$27'59  8°\$\Omega\$51'00 11°\$\Omega\$7'55 15°\$\Omega\$28°\$\Omega\$45'07 23°\$\Omega\$53'36 23°\$\Omega\$43'21 18°\$\Omega\$50'31 9°\$\Omega\$14'39  9°\$\Omega\$39'25  | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45<br>1°19'50<br>1°57'34<br>4.36718 AU<br>6.32597 AU<br>1°15'36            | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct evening set  | -3162 Jan 16 j 20:39 -3162 Feb 16 j 14:23 -3162 May 28 j 17:28 -3162 Jul 27 j 06:21 -3162 Jul 28 j 01:21 -3162 Sep 24 j 08:46 -3161 Jan 27 j 00:03  -3161 Feb 09 j 07:44 -3161 Feb 10 j 23:12 -3161 Feb 22 j 18:35 -3161 Feb 26 j 22:14 -3161 May 11 j 21:18 -3161 Jul 04 j 20:30 -3161 Aug 28 j 09:04 -3161 Sep 01 j 10:17 -3161 Sep 02 j 16:04 -3161 Oct 30 j 15:22 -3161 Dec 30 j 03:09 -3160 Mar 04 j 03:10 -3160 Mar 09 j 21:29   | 22° \$\sigma 56'17<br>0° \$\delta\$<br>13° \$\delta 12'14<br>8° \$\delta 10'10<br>3° \$\delta 16'38<br>22° \$\delta 38'37<br>25° \$\delta 49'05<br>25° \$\delta 49'03<br>26° \$\delta 12'37<br>29° \$\delta 01'12<br>0° \$\alpha\$<br>15° \$\alpha\$<br>19° \$\alpha 21'50<br>15° \$\alpha\$<br>14° \$\alpha 27'08<br>14° \$\alpha 17'02<br>9° \$\alpha 21'07<br>15° \$\alpha\$<br>28° \$\alpha 39'10<br>0° \$\delta\$  | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32<br>6.00056 AU<br>4.01953 AU<br>-1°59'03                                      |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong                         | -3168 Aug 09 j 18:20 -3168 Dec 07 j 22:08 -3167 Feb 06 j 06:23 -3167 Feb 07 j 06:11 -3167 Apr 09 j 20:35 -3167 Jul 17 j 10:15 -3167 Aug 15 j 00:59 -3167 Aug 26 j 01:12 -3167 Aug 27 j 18:58 -3167 Aug 27 j 18:57 -3167 Sep 09 j 10:18 -3167 Sep 25 j 00:04 -3166 Jan 08 j 07:21 -3166 Mar 10 j 00:23 -3166 Mar 11 j 08:35 -3166 Sep 14 j 23:56 -3166 Sep 27 j 13:33 -3166 Sep 27 j 13:33  | 11°\$12'18 28°\$09'12 23°\$16'29 23°\$08'49 18°\$13'59 0°\$\Omega\$ 6°\$\Omega\$27'59 8°\$\Omega\$51'00 11°\$\Omega\$755 15°\$\Omega\$28°\$\Omega\$45'07 23°\$\Omega\$53'36 23°\$\Omega\$43'21 18°\$\Omega\$53'11 0°\$\Omega\$6"\$\Omega\$50'31 9°\$\Omega\$14'39 9°\$\Omega\$39'25 9°\$\Omega\$39'26   | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45<br>1°19'50<br>1°57'34<br>4.36718 AU                                     | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct evening set  | -3162 Jan 16 j 20:39 -3162 Feb 16 j 14:23 -3162 May 28 j 17:28 -3162 Jul 27 j 06:21 -3162 Jul 28 j 01:21 -3162 Sep 24 j 08:46 -3161 Jan 27 j 00:03  -3161 Feb 09 j 07:44 -3161 Feb 10 j 23:12 -3161 Feb 22 j 18:35 -3161 Feb 22 j 18:35 -3161 Feb 26 j 22:14 -3161 May 11 j 21:18 -3161 Jul 04 j 20:30 -3161 Aug 28 j 09:04 -3161 Sep 01 j 10:17 -3161 Sep 02 j 16:04 -3161 Oct 30 j 15:22 -3160 Mar 04 j 03:10 -3160 Mar 09 j 21:29   | 22° \$\frac{7}{56'17}<br>0° \$\frac{7}{6'}\$\frac{7}{5'}\$\frac{1}{5'}\$\frac{1}{6'31}\$\frac{8}{8'}\$\frac{7}{616'38}\$\frac{2}{2}{6'}\$\frac{7}{38'37}\$\frac{2}{5'}\$\frac{7}{49'03}\$\frac{2}{5'}\$\frac{7}{49'03}\$\frac{2}{6'}\$\frac{7}{612'37}\$\frac{2}{9}{6'}\$\frac{7}{612'37}\$\frac{2}{9}{6'}\$\frac{7}{612'37}\$\frac{1}{9}{6'}\$\frac{1}{8}\$\frac{1}{8}\$\frac{1}{9}{6'}\$\frac{1}{8}\$\frac{1}{9}{6'}\$\frac{1}{8}\$\frac{1}{9}{6'}\$\frac   | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32<br>6.00056 AU<br>4.01953 AU<br>-1°59'03                                      |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde opposition min. Earth dist. direct evening set max. Earth dist.   | -3168 Aug 09 j 18:20 -3168 Dec 07 j 22:08 -3167 Feb 06 j 06:23 -3167 Feb 07 j 06:11 -3167 Apr 09 j 20:35 -3167 Jul 17 j 10:15 -3167 Aug 15 j 00:59 -3167 Aug 26 j 01:12 -3167 Aug 27 j 18:58 -3167 Aug 27 j 18:57 -3167 Sep 09 j 10:18 -3167 Sep 25 j 00:04 -3166 Jan 08 j 07:21 -3166 Mar 10 j 00:23 -3166 Mar 11 j 08:35 -3166 Sep 14 j 23:56 -3166 Sep 27 j 13:33 -3166 Sep 27 j 13:33 -3166 Sep 27 j 13:33 -3166 Sep 27 j 13:35 -3166 Oct 10 j 01:28   | 11°\$12'18 28°\$09'12 23°\$16'29 23°\$08'49 18°\$13'59 0°\$\Omega\$ 6°\$\Omega\$27'59 8°\$\Omega\$51'00 11°\$\Omega\$755 15°\$\Omega\$28°\$\Omega\$45'07 23°\$\Omega\$3'36 23°\$\Omega\$43'21 18°\$\Omega\$53'11 0°\$\Omega\$6"\$\Omega\$53'11 9°\$\Omega\$14'39 9°\$\Omega\$39'25 9°\$\Omega\$39'26 12°\$\Omega\$7'40  | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45<br>1°19'50<br>1°57'34<br>4.36718 AU<br>6.32597 AU<br>1°15'36            | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct evening set  | -3162 Jan 16 j 20:39 -3162 Feb 16 j 14:23 -3162 May 28 j 17:28 -3162 Jul 27 j 06:21 -3162 Jul 28 j 01:21 -3162 Sep 24 j 08:46 -3161 Jan 27 j 00:03  -3161 Feb 09 j 07:41 -3161 Feb 10 j 23:12 -3161 Feb 22 j 18:35 -3161 Feb 22 j 18:35 -3161 Feb 26 j 22:14 -3161 May 11 j 21:18 -3161 Jul 04 j 20:30 -3161 Aug 28 j 09:04 -3161 Sep 01 j 10:17 -3161 Sep 02 j 16:04 -3161 Oct 30 j 15:22 -3160 Mar 04 j 03:10 -3160 Mar 09 j 21:29  -3160 Mar 17 j 17:32 -3160 Mar 17 j 17:34  | 22° \$\frac{7}{56'17} 0° \frac{7}{0} \frac{7}{56'17} 0° \frac{7}{56'16'31} 8° \frac{7}{510'10} 3° \frac{7}{516'38} 22° \frac{7}{538'37} 25° \frac{7}{549'03} 26° \frac{7}{512'37} 29° \frac{7}{501'12} 0° \times 15° \times 19° \times 21'50 15° \frac{7}{50'13} 1° \frac{7}{50'13} 1° \frac{7}{50'14}  | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32<br>6.00056 AU<br>4.01953 AU<br>-1°59'03                                      |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise            | -3168 Aug 09 j 18:20 -3168 Dec 07 j 22:08 -3167 Feb 06 j 06:23 -3167 Feb 07 j 06:11 -3167 Apr 09 j 20:35 -3167 Jul 17 j 10:15 -3167 Aug 15 j 00:59 -3167 Aug 26 j 01:12 -3167 Aug 27 j 18:58 -3167 Aug 27 j 18:57 -3167 Sep 09 j 10:18 -3167 Sep 25 j 00:04 -3166 Jan 08 j 07:21 -3166 Mar 10 j 00:23 -3166 Mar 11 j 08:35 -3166 Sep 14 j 23:56 -3166 Sep 27 j 13:33 -3166 Sep 27 j 13:33 -3166 Sep 27 j 13:35 -3166 Oct 10 j 01:28 -3165 Jan 30 j 22:11   | 11°\$12'18 28°\$09'12 23°\$16'29 23°\$08'49 18°\$13'59 0°\$\Omega\$ 6°\$\O2'51 8°\$\O27'59  8°\$\O51'01 8°\$\O51'00 11°\$\O37'55 15°\$\Omega\$ 28°\$\O45'07 23°\$\O53'36 23°\$\O43'21 18°\$\O53'11 0°\$\Omega\$ 6°\$\Op\$50'31 9°\$\Op\$14'39  9°\$\Op\$39'25 9°\$\Op\$39'26 12°\$\Op\$27'40 0°\$\Op\$  | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45<br>1°19'50<br>1°57'34<br>4.36718 AU<br>6.32597 AU<br>1°15'36            | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist.                    | -3162 Jan 16 j 20:39 -3162 Feb 16 j 14:23 -3162 May 28 j 17:28 -3162 Jul 27 j 06:21 -3162 Jul 28 j 01:21 -3162 Sep 24 j 08:46 -3161 Jan 27 j 00:03  -3161 Feb 09 j 07:41 -3161 Feb 09 j 07:41 -3161 Feb 10 j 23:12 -3161 Feb 22 j 18:35 -3161 Feb 26 j 22:14 -3161 May 11 j 21:18 -3161 Jul 04 j 20:30 -3161 Aug 28 j 09:04 -3161 Sep 01 j 10:17 -3161 Sep 02 j 16:04 -3161 Oct 30 j 15:22 -3161 Dec 30 j 03:09 -3160 Mar 04 j 03:10 -3160 Mar 09 j 21:29  -3160 Mar 17 j 17:32 -3160 Mar 17 j 17:34 -3160 Mar 19 j 17:46  | 22° \$756'17<br>0° \$3<br>13° \$12'14<br>8° \$16'31<br>8° \$10'10<br>3° \$16'38<br>22° \$38'37<br>25° \$49'05<br>25° \$49'03<br>26° \$12'37<br>29° \$01'12<br>0° \$15° \$19° \$21'50<br>15° \$19° \$21'50<br>15° \$19° \$21'07<br>15° \$10'02<br>9° \$21'07<br>15° \$10'02<br>15° \$1 | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32<br>6.00056 AU<br>4.01953 AU<br>-1°59'03                                      |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong                         | -3168 Aug 09 j 18:20 -3168 Dec 07 j 22:08 -3167 Feb 06 j 06:23 -3167 Feb 07 j 06:11 -3167 Apr 09 j 20:35 -3167 Jul 17 j 10:15 -3167 Aug 15 j 00:59 -3167 Aug 26 j 01:12 -3167 Aug 27 j 18:58 -3167 Aug 27 j 18:57 -3167 Sep 09 j 10:18 -3167 Sep 25 j 00:04 -3166 Jan 08 j 07:21 -3166 Mar 10 j 00:23 -3166 Mar 11 j 08:35 -3166 May 11 j 16:00 -3166 Aug 14 j 00:28 -3166 Sep 14 j 23:56 -3166 Sep 27 j 13:33 -3166 Sep 27 j 13:35 -3166 Oct 10 j 01:28 -3165 Jan 30 j 22:11 -3165 Feb 10 j 00:41 | 11°\$12'18 28°\$09'12 23°\$08'49 18°\$13'59 0°\$\Omega\$ 6°\$\O2'51 8°\$\O27'59 8°\$\O51'00 11°\$\O37'55 15°\$\Omega\$ 28°\$\O45'07 23°\$\O53'36 23°\$\O45'07 23°\$\O53'11 0°\$\Omega\$ 6°\$\O50'31 9°\$\Omega\$14'39 9°\$\Omega\$39'26 12°\$\Omega\$27'40 0°\$\Omega\$   | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45<br>1°19'50<br>1°57'34<br>4.36718 AU<br>6.32597 AU<br>1°15'36            | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. opposition direct  | -3162 Jan 16 j 20:39 -3162 Feb 16 j 14:23 -3162 May 28 j 17:28 -3162 Jul 27 j 06:21 -3162 Jul 28 j 01:21 -3162 Sep 24 j 08:46 -3161 Jan 27 j 00:03  -3161 Feb 09 j 07:41 -3161 Feb 09 j 07:41 -3161 Feb 22 j 18:35 -3161 Feb 26 j 22:14 -3161 May 11 j 21:18 -3161 Jul 04 j 20:30 -3161 Aug 28 j 09:04 -3161 Sep 01 j 10:17 -3161 Sep 02 j 16:04 -3161 Oct 30 j 15:22 -3160 Mar 04 j 03:10 -3160 Mar 09 j 21:29  -3160 Mar 17 j 17:32 -3160 Mar 17 j 17:34 -3160 Mar 19 j 17:46 -3160 Mar 31 j 10:32   | 22° \$56'17<br>0° \$3<br>13° \$12'14<br>8° \$16'31<br>8° \$10'10<br>3° \$16'38<br>22° \$38'37<br>25° \$49'05<br>25° \$49'03<br>26° \$12'37<br>29° \$01'12<br>0° \$15° \$12'37<br>29° \$21'50<br>15° \$19° \$21'50<br>15° \$19° \$21'07<br>15° \$21'07   | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32<br>6.00056 AU<br>4.01953 AU<br>-1°59'03                                      |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde | -3168 Aug 09 j 18:20 -3168 Dec 07 j 22:08 -3167 Feb 06 j 06:23 -3167 Feb 07 j 06:11 -3167 Apr 09 j 20:35 -3167 Jul 17 j 10:15 -3167 Aug 15 j 00:59 -3167 Aug 26 j 01:12 -3167 Aug 27 j 18:58 -3167 Aug 27 j 18:57 -3167 Sep 09 j 10:18 -3167 Sep 25 j 00:04 -3166 Jan 08 j 07:21 -3166 Mar 10 j 00:23 -3166 Mar 11 j 08:35 -3166 May 11 j 16:00 -3166 Aug 14 j 00:28 -3166 Sep 14 j 23:56 -3166 Sep 27 j 13:33 -3166 Sep 27 j 13:35 -3166 Oct 10 j 01:28 -3165 Feb 10 j 00:41 -3165 Feb 20 j 04:38 | 11°\$12'18 28°\$09'12 23°\$08'49 18°\$13'59 0°\$\Omega\$ 6°\$\O2'51 8°\$\O27'59 8°\$\O27'59 8°\$\Oxforal{\Omega}\$51'00 11°\$\Oxforal{\Omega}\$755 15°\$\Omega\$ 28°\$\Oxforal{\Omega}\$45'07 23°\$\Oxforal{\Omega}\$53'36 23°\$\Oxforal{\Omega}\$43'21 18°\$\Oxforal{\Omega}\$53'11 0°\$\Omega\$ 6°\$\Oxforal{\Omega}\$50'31 9°\$\Omega\$\$14'39 9°\$\Omega}\$39'25 9°\$\Omega\$\$39'26 12°\$\Oxforal{\Omega}\$27'40 0°\$\Oxforal{\Omega}\$\$09'37 30°\$\Oxforal{\Omega}\$\$\Omega\$\$ | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45<br>1°19'50<br>1°57'34<br>4.36718 AU<br>6.32597 AU<br>1°15'36<br>1°15'37 | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde  min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. opposition direct | -3162 Jan 16 j 20:39 -3162 Feb 16 j 14:23 -3162 May 28 j 17:28 -3162 Jul 27 j 06:21 -3162 Jul 28 j 01:21 -3162 Sep 24 j 08:46 -3161 Jan 27 j 00:03  -3161 Feb 09 j 07:44 -3161 Feb 09 j 07:41 -3161 Feb 10 j 23:12 -3161 Feb 22 j 18:35 -3161 Feb 22 j 18:35 -3161 Feb 26 j 22:14 -3161 May 11 j 21:18 -3161 Jul 04 j 20:30 -3161 Aug 28 j 09:04 -3161 Sep 01 j 10:17 -3161 Sep 02 j 16:04 -3161 Oct 30 j 15:22 -3161 Dec 30 j 03:09 -3160 Mar 04 j 03:10 -3160 Mar 09 j 21:29  -3160 Mar 17 j 17:34 -3160 Mar 17 j 17:34 -3160 Mar 19 j 17:46 -3160 Mar 31 j 10:32 -3160 Aug 08 j 07:54 | 22° \$56'17<br>0° \$3<br>13° \$12'14<br>8° \$16'31<br>8° \$10'10<br>3° \$16'38<br>22° \$38'37<br>25° \$49'05<br>25° \$49'03<br>26° \$12'37<br>29° \$01'12<br>0° \$21'50<br>15° \$\$19° \$21'50<br>15° \$\$14° \$27'08<br>14° \$27'08<br>14° \$27'08<br>14° \$21'07<br>15° \$\$21'07<br>15° \$\$21'07<br>15° \$\$21'07<br>15° \$\$21'07<br>15° \$\$21'07<br>15° \$\$21'07<br>28° \$39'10<br>0° \$\$21'07<br>28° \$39'10<br>0° \$\$21'07<br>28° \$39'10<br>28° \$39'10<br>28° \$39'10<br>28° \$39'10<br>28° \$39'10<br>28° \$39'10<br>28° \$39'10<br>28° \$39'10<br>28° \$40'23<br>24° \$46'24  | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32<br>6.00056 AU<br>4.01953 AU<br>-1°59'03<br>-1°17'42<br>1°17'45<br>6.05235 AU |
| retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise retrograde opposition min. Earth dist. direct evening set max. Earth dist. conjunction minimum elong morning rise            | -3168 Aug 09 j 18:20 -3168 Dec 07 j 22:08 -3167 Feb 06 j 06:23 -3167 Feb 07 j 06:11 -3167 Apr 09 j 20:35 -3167 Jul 17 j 10:15 -3167 Aug 15 j 00:59 -3167 Aug 26 j 01:12 -3167 Aug 27 j 18:58 -3167 Aug 27 j 18:57 -3167 Sep 09 j 10:18 -3167 Sep 25 j 00:04 -3166 Jan 08 j 07:21 -3166 Mar 10 j 00:23 -3166 Mar 11 j 08:35 -3166 May 11 j 16:00 -3166 Aug 14 j 00:28 -3166 Sep 14 j 23:56 -3166 Sep 27 j 13:33 -3166 Sep 27 j 13:35 -3166 Oct 10 j 01:28 -3165 Jan 30 j 22:11 -3165 Feb 10 j 00:41 | 11°\$12'18 28°\$09'12 23°\$08'49 18°\$13'59 0°\$\Omega\$ 6°\$\O2'51 8°\$\O27'59 8°\$\O51'00 11°\$\O37'55 15°\$\Omega\$ 28°\$\O45'07 23°\$\O53'36 23°\$\O45'07 23°\$\O53'11 0°\$\Omega\$ 6°\$\O50'31 9°\$\Omega\$14'39 9°\$\Omega\$39'26 12°\$\Omega\$27'40 0°\$\Omega\$   | 1°46'14<br>4.40653 AU<br>6.39306 AU<br>1°19'45<br>1°19'50<br>1°57'34<br>4.36718 AU<br>6.32597 AU<br>1°15'36            | retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. morning rise  retrograde min. Earth dist. opposition direct evening set  conjunction minimum elong max. Earth dist. opposition direct  | -3162 Jan 16 j 20:39 -3162 Feb 16 j 14:23 -3162 May 28 j 17:28 -3162 Jul 27 j 06:21 -3162 Jul 28 j 01:21 -3162 Sep 24 j 08:46 -3161 Jan 27 j 00:03  -3161 Feb 09 j 07:41 -3161 Feb 09 j 07:41 -3161 Feb 22 j 18:35 -3161 Feb 26 j 22:14 -3161 May 11 j 21:18 -3161 Jul 04 j 20:30 -3161 Aug 28 j 09:04 -3161 Sep 01 j 10:17 -3161 Sep 02 j 16:04 -3161 Oct 30 j 15:22 -3160 Mar 04 j 03:10 -3160 Mar 09 j 21:29  -3160 Mar 17 j 17:32 -3160 Mar 17 j 17:34 -3160 Mar 19 j 17:46 -3160 Mar 31 j 10:32   | 22° \$ 56'17<br>0° \$ 13° \$ 12'14<br>8° \$ 16'31<br>8° \$ 10'10<br>3° \$ 16'38<br>22° \$ 38'37<br>25° \$ 49'05<br>25° \$ 49'03<br>26° \$ 12'37<br>29° \$ 01'12<br>0° \$ 15° \$ 19° \$ 21'50<br>15° \$ 21'50<br>15° \$ 21'07<br>15° \$ 28° \$ 39'10<br>0° \$ 1° \$ 50'14<br>2° \$ 18'29<br>5° \$ 02'23<br>24° \$ 46'24<br>19° \$ 41'19  | 4.00205 AU<br>-1°30'57<br>-1°13'27<br>1°13'32<br>6.00056 AU<br>4.01953 AU<br>-1°59'03<br>-1°17'42<br>1°17'45<br>6.05235 AU |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -3160 in astronomical counting style is the year 3161 BCE in historical counting style. direct -3160 Dec 04 i 09:10 14°**)**(42'04 min. Earth dist. -3154 Mar 15 j 22:18 28°**Ω**14'02 4.35406 AU -3159 Mar 24 j 12:54  $0^{\circ}\Upsilon$ -3154 May 16 j 03:39 23°**Ω**24'05 direct -3159 Apr 09 j 20:12 3°Y39'20 -3154 Jul 25 j 05:54 0° m evening set -3154 Sep 19 j 10:34 evening set 11° m 24'34 6°**Y**47'37 -0°53'31 -3154 Sep 30 j 04:13 13° Mp 49'23 conjunction -3159 Apr 23 j 14:41 max. Earth dist. 6.31026 AU -3159 Apr 23 j 14:45 minimum elong 6°**Y**47'39 0°53'31 -3159 Apr 25 j 07:16 6.15491 AU -3154 Oct 01 j 23:50 max. Earth dist. 7°**Y**10'47 conjunction 14° m 13'59 1°13'03 -3159 May 07 j 09:33 -3154 Oct 01 j 23:52 morning rise 9°**Y**55'55 minimum elong  $14^{\circ}$  My 14'001°13'05 retrograde -3159 Sep 10 j 21:39 28°**Y**40′29 morning rise -3154 Oct 14 j 11:51 17° m 02'54 opposition -3159 Nov 09 j 08:13 23°Y37'48 -0°50'16 -3154 Dec 18 j 16:25 0°Ω 23°**Y**'44'09 min. Earth dist. -3159 Nov 08 j 13:29 4.21317 AU retrograde -3153 Feb 14 j 22:19 4°**£**52'11 18°**Y**35'49 direct -3158 Jan 07 j 23:48 opposition -3153 Apr 16 j 22:10 29° m 59'50 1°29'24 -3158 Apr 12 j 00:25 0°8 -3153 Apr 16 j 21:37 30°R, M) evening set -3158 May 15 j 05:21 7°**8**05'27 min. Earth dist. -3153 Apr 18 j 03:10  $29^{\circ}$  My 50'364.25903 AU direct -3153 Jun 17 j 17:47 25° m 02'37 conjunction -3158 May 28 j 22:11 10°808'13 -0°12'09 -3153 Aug 15 j 16:08 0∘**⊽** evening set minimum elong -3158 May 28 j 22:12 10°**8**08'13 0°12'05 -3153 Oct 21 j 00:46 13°**£**22'52 behind sun begin -3158 May 28 j 16:41 10°**8**05'10 max. Earth dist. -3153 Nov 01 j 07:23 15°**≏**58'49 6.20188 AU behind sun end -3158 May 29 j 03:43 10°811'17 max. Earth dist. -3158 May 29 j 15:43 10°**8**17'58 6.27004 AU conjunction -3153 Nov 02 j 14:58 16°**♀**17'04 0°43'26 morning rise -3158 Jun 11 j 13:34 13°810'01 minimum elong -3153 Nov 02 j 15:01 16°**♀**17'06 0°43'25 -3158 Jun 19 j 21:51 15°8 morning rise -3153 Nov 15 i 05:19 19°**£**11'36 -3158 Sep 13 i 04:36 29°834'32 -3152 Jan 04 i 22:33 0°M asc. node -3158 Sep 18 j 06:12  $\Pi$ °0 retrograde -3152 Mar 20 j 20:42 7°M55'01 -3158 Oct 12 j 16:23 0°**Д**57'36 opposition -3152 May 20 j 21:14 3°ML00'07 0°32'38 retrograde -3158 Nov 05 j 23:56 min. Earth dist. -3152 May 21 j 12:30 2°M-55'12 4.14403 AU 30°R₩ opposition -3158 Dec 11 j 07:44 25°858'43 0°14'40 -3152 Jun 15 j 01:03 30°R <u>Ω</u> -3158 Dec 11 j 04:10 -3152 Jul 20 j 09:43 28°**£**05'37 min. Earth dist. 25°**8**59'54 4.32003 AU direct -3157 Feb 10 j 06:33 -3152 Aug 24 j 09:00 direct 20°**8**55'13 o°m. -3152 Nov 14 j 00:50 -3157 May 05 j 01:01  $0^{\circ}\Pi$ 15°M 9°**Ⅲ**01'07 -3157 Jun 17 j 22:15 evening set -3152 Nov 21 j 23:49 16°M51'19 evening set desc. node -3152 Nov 23 j 07:55 17°ML10'10 -3157 Jul 01 j 08:24 conjunction 11°**I**57′20 0°31′40 -3157 Jul 01 j 08:22 -3152 Dec 04 j 18:20 19°M52'08 -0°01'25 minimum elong 11°**I**I57'18 0°31'46 conjunction -3157 Jul 01 j 00:44 -3152 Dec 04 j 18:21 max. Earth dist. 11°**Д**53'07 6.36095 AU minimum elong 19°**™**52'08 0°01'30 -3157 Jul 14 j 15:30 -3152 Dec 04 j 10:17 morning rise 14°**Ⅲ**51'59 behind sun begin 19°**™**47'24 -3152 Dec 05 j 02:25 -3157 Oct 07 j 08:05 0ಂತಾ behind sun end 19°M56'53 retrograde -3157 Nov 12 j 13:12 2°9501'48 max. Earth dist. -3152 Dec 04 j 08:42 19°M46'27 6.09110 AU -3157 Dec 18 j 19:52 30°R∏ morning rise -3152 Dec 17 j 14:51 22°M54'11 -3156 Jan 11 j 12:06 27°**I**106'43 1°12'48 -3151 Jan 17 j 21:21 0°**⊼** opposition min. Earth dist. -3156 Jan 12 j 00:55 27°**П**02'31 4.38918 AU retrograde -3151 Apr 26 j 13:15 12°**х** 34'30 -3156 Mar 13 j 13:24 22°II03'13 -3151 Jun 26 j 06:51 7°**₹**35'50 -0°38'26 direct opposition -3156 May 30 j 23:24 0ಂತಾ min. Earth dist. -3151 Jun 26 j 03:29 7°**∡**³36'57 4.04664 AU -3156 Jul 19 j 03:36 9°955'16 -3151 Aug 24 j 11:31 2°**х¹**42'46 evening set direct -3156 Jul 30 j 22:01 12°**5**29'19 6.40221 AU -3151 Dec 26 j 18:43 21°**х** 52'13 max. Earth dist. evening set -3156 Aug 01 i 04:35 -3150 Jan 08 j 19:59 conjunction 12°9546'02 1°05'20 conjunction 24°**×**<sup>7</sup>59'13 -0°47'07 minimum elong -3156 Aug 01 i 04:32 12°9546'00 1°05'25 minimum elong -3150 Jan 08 i 19:56 24°**×**<sup>7</sup>59'11 0°47'13 morning rise -3156 Aug 14 j 02:27 15°935'14 max. Earth dist. -3150 Jan 09 i 14:53 25°**х** 10′32 6.01609 AU -3156 Nov 01 j 06:52  $0^{\circ}\Omega$ -3150 Jan 22 j 00:12 28°**х** 07′56 morning rise -3156 Dec 12 j 07:44 2° **Q**32'56 -3150 Jan 29 j 22:07 0°궁 retrograde -3155 Jan 22 j 18:46 30°R95 -3150 Jun 03 j 00:49 18°る25'54 retrograde -3155 Feb 10 j 16:19 27°540'29 1°49'43 13°る30'28 4.00297 AU opposition min. Earth dist. -3150 Aug 01 j 09:38 4.40157 AU min. Earth dist. -3155 Feb 11 j 18:23 27°932'06 opposition -3150 Aug 02 j 06:44 13°る23'25 -1°37'29 -3150 Sep 29 j 11:48 direct -3155 Apr 14 j 07:47 22°938'10 direct 8°る29'42 -3155 Jun 28 j 11:33  $0^{\circ}\Omega$ evening set -3149 Feb 01 j 05:06 27°る51'17 evening set -3155 Aug 19 j 09:57 10°**Ω**28'37 -3149 Feb 10 j 05:43 0°≈ -3155 Aug 30 j 09:32 12°**Ω**53'45 max. Earth dist. 6.38361 AU -3149 Feb 14 j 13:35 conjunction 1°≈01'52 -1°15'54 -3155 Sep 01 j 03:17 13°**Ω**16′50 1°20′32 conjunction minimum elong -3149 Feb 14 j 13:33 1°≈01'51 1°16'00 minimum elong -3155 Sep 01 j 03:17 13°**Ω**16′50 1°20'37 max. Earth dist. -3149 Feb 16 j 05:54 1°**≈**25'52 6.00634 AU -3155 Sep 08 j 21:56 15°€ morning rise -3149 Feb 28 j 01:31 4°≈14'08 morning rise -3155 Sep 13 j 17:46 16°**Ω**03'48 -3149 Apr 17 j 16:59 15°≈ -3155 Nov 26 j 22:46 0° m retrograde -3149 Jul 09 j 21:16 24°≈30'59 19°≈36'25 4.02968 AU retrograde -3154 Jan 12 j 19:51 3° m 15'33 min. Earth dist. -3149 Sep 06 j 10:22 -3154 Mar 01 j 19:26 30°R€ -3149 Sep 07 j 17:02 opposition 19°≈25'59 -1°59'18

-3154 Mar 14 j 14:42

opposition

28°**Ω**24'05 1°56'26

-3149 Oct 18 j 14:19

| •                               | ical year style is used: Th                  |  | _          | ` //                  |  |   | <b>50</b> 23 |
|---------------------------------|--|--|------------|-----------------------|--|---|--------------|
| direct                          | -3149 Nov 04 j 16:56                         | 14° <b>≈</b> 29'38                       |            | 8                     | -3143 Mar 04 j 07:58                         | 30° <b>ℝ</b> ∽                          |              |
|                                 | -3149 Nov 21 j 22:02                         | 15° <b>≈</b>                             |            | direct                | -3143 Apr 18 j 19:08                         | 27° <b>©</b> 06'08                      |              |
|                                 | -3148 Feb 21 j 23:29                         | 0° <b>)</b>                              |            |                       | -3143 Jun 03 j 02:46                         | $0^{\circ}\Omega$                       |              |
| evening set                     | -3148 Mar 09 j 07:31                         | 3° <b>)</b> 44′56                        |            | evening set           | -3143 Aug 23 j 19:58                         | 14° <b>Ω</b> 57'59                      |              |
|                                 |  |  |            |                       | -3143 Aug 23 j 23:39                         | 15° <b>Ω</b>                            |              |
| conjunction                     | -3148 Mar 22 j 22:48                         | 6° <b>)</b> 55'44                        |            | max. Earth dist.      | -3143 Sep 03 j 16:46                         | 17° <b>Ω</b> 22'00                      | 6.37495 AU   |
| minimum elong                   | -3148 Mar 22 j 22:50                         | 6° <b>¥</b> 55'46                        |            |                       |  |   |              |
| max. Earth dist.                | -3148 Mar 24 j 23:39                         |  | 6.06605 AU | conjunction           | -3143 Sep 05 j 12:22                         |   | 1°20'53      |
| morning rise                    | -3148 Apr 05 j 16:09                         | 10° <b>∺</b> 07'27                       |            | minimum elong         | -3143 Sep 05 j 12:21                         | 17° <b>Ω</b> 46′10                      | 1°20'57      |
| retrograde                      | -3148 Aug 13 j 04:14                         | 29° <b>)</b> 43′35                       |            | morning rise          | -3143 Sep 18 j 02:23                         | 20° <b>Ω</b> 33'15                      |              |
| opposition                      | -3148 Oct 11 j 16:04                         | 24° <b>)</b> 38'46                       |            |                       | -3143 Nov 02 j 21:36                         | 0° <b>m</b> )                           |              |
| min. Earth dist.                | -3148 Oct 10 j 12:21                         |  | 4.11582 AU | retrograde            | -3142 Jan 17 j 11:26                         | 7° mp 49'19                             | 1054120      |
| direct                          | -3148 Dec 09 j 07:41                         | 19° <b>¥</b> 39'09<br>0° <b>Ƴ</b>        |            | opposition            | -3142 Mar 19 j 06:24                         | 2° My 57'50                             | 1°54'38      |
| avanina aat                     | -3147 Mar 06 j 09:05                         | 8° <b>Ƴ</b> 32'29                        |            | min. Earth dist.      | -3142 Mar 20 j 14:15                         | 2°Mp47'42<br>30°R <b>Ω</b>              | 4.34254 AU   |
| evening set                     | -3147 Apr 14 j 20:58                         | 8 1 32 29                                |            | direct                | -3142 Apr 13 j 05:55<br>-3142 May 20 j 17:50 | 30 κδι<br>27° <b>Ω</b> 58'12            |              |
| conjunction                     | -3147 Apr 28 j 15:29                         | 11° <b>Ƴ</b> 40'07                       | -0°48'25   | direct                | -3142 Jun 27 j 01:39                         | 0°m)                                    |              |
| minimum elong                   | -3147 Apr 28 j 15:33                         | 11° <b>Υ</b> 40'09                       | 0°48'24    | evening set           | -3142 Sep 23 j 21:17                         | 16° Mg 00'59                            |              |
| max. Earth dist.                | -3147 Apr 30 j 04:47                         | 12° <b>Υ</b> 01'19                       | 6.17131 AU | max. Earth dist.      | -3142 Oct 04 j 17:31                         | 18° m) 27'40                            | 6.29706 AU   |
| morning rise                    | -3147 May 12 j 10:18                         | 14° <b>Υ</b> 47'39                       | 0.17131110 | max. Earth dist.      | 3112 000 01 17.31                            | 10 11/27 10                             | 0.27700110   |
| morning not                     | -3147 Jul 30 j 08:31                         | 0°8                                      |            | conjunction           | -3142 Oct 06 j 10:33                         | 18° <b>m</b> 50'53                      | 1°10'06      |
| retrograde                      | -3147 Sep 15 j 09:31                         | 3° <b>8</b> 23'44                        |            | minimum elong         | -3142 Oct 06 j 10:36                         | 18° m) 50'55                            | 1°10'07      |
|                                 | -3147 Nov 01 j 12:48                         | 30° <b>R</b> Υ                           |            | morning rise          | -3142 Oct 18 j 22:28                         | 21° <b>m</b> 40'21                      |              |
| opposition                      | -3147 Nov 13 j 21:08                         | 28° <b>Y</b> ′21′34                      | -0°41'28   |                       | -3142 Nov 26 j 20:36                         | 0∘ <b>⊽</b>                             |              |
| min. Earth dist.                | -3147 Nov 13 j 03:54                         | 28° <b>Y</b> ′27'24                      | 4.22880 AU | retrograde            | -3141 Feb 19 j 17:57                         | 9° <b>≏</b> 36'04                       |              |
| direct                          | -3146 Jan 12 j 16:31                         | 23° <b>Y</b> 19'17                       |            | opposition            | -3141 Apr 21 j 19:03                         | 4° <b>≏</b> 43'26                       | 1°22'54      |
|                                 | -3146 Mar 22 j 20:24                         | $0^{\circ}$ 8                            |            | min. Earth dist.      | -3141 Apr 22 j 21:46                         | 4° <b>₽</b> 34'55                       | 4.24504 AU   |
| evening set                     | -3146 May 20 j 00:48                         | 11° <b>8</b> 45'33                       |            |                       | -3141 Jun 10 j 11:21                         | 30°₽, MD                                |              |
|                                 |  |  |            | direct                | -3141 Jun 22 j 10:19                         | 29° <b>M</b> 46'41                      |              |
| conjunction                     | -3146 Jun 02 j 17:01                         | 14° <b>8</b> 47'29                       |            |                       | -3141 Jul 04 j 09:50                         | 0∘ <b>⊽</b>                             |              |
| minimum elong                   | -3146 Jun 02 j 17:02                         | 14° <b>8</b> 47'29                       | 0°05'48    | evening set           | -3141 Oct 25 j 14:49                         | 18° <b>≏</b> 09'27                      |              |
| behind sun begin                | -3146 Jun 02 j 09:07                         | 14° <b>8</b> 43'06                       |            | max. Earth dist.      | -3141 Nov 06 j 00:05                         | 20° <b>≏</b> 47'26                      | 6.18840 AU   |
| behind sun end                  | -3146 Jun 03 j 00:57                         | 14° <b>8</b> 51'52                       |            |                       |  |   |              |
| max. Earth dist.                | -3146 Jun 03 j 06:48                         |  | 6.28390 AU | conjunction           | -3141 Nov 07 j 05:15                         | 21° <b>2</b> 04'21                      | 0°37'46      |
|                                 | -3146 Jun 03 j 15:34                         | 15° <b>8</b>                             |            | minimum elong         | -3141 Nov 07 j 05:18                         | 21° <b>Ω</b> 04'22                      | 0°3/43       |
| morning rise                    | -3146 Jun 16 j 07:27<br>-3146 Jul 24 j 01:46 | 17° <b>8</b> 48'20<br>25° <b>8</b> 45'09 |            | morning rise          | -3141 Nov 19 j 20:19                         | 23° <b>♀</b> 59'44<br>0° <b>ጤ</b>       |              |
| asc. node                       | -3146 Aug 16 j 16:19                         | 0°Ⅱ                                      |            | retrograde            | -3141 Dec 16 j 15:14<br>-3140 Mar 25 j 22:34 | 12°M50'08                               |              |
| retrograde                      | -3146 Oct 17 j 02:27                         | о <u>п</u><br>5° <b>П</b> 29'47          |            | opposition            | -3140 May 25 j 22:39                         | 7°M54'42                                | 0°22'58      |
| opposition                      | -3146 Dec 15 j 17:26                         | 0° <b>П</b> 31'31                        | 0°23'38    | min. Earth dist.      | -3140 May 26 j 11:39                         | 7°M50'30                                | 4.13189 AU   |
| min. Earth dist.                | -3146 Dec 15 j 16:51                         | 0° <b>Д</b> 31'43                        | 4.33100 AU | direct                | -3140 Jul 25 j 07:40                         | 3°M00'27                                | 1.13107110   |
| mm. Zarm dige.                  | -3146 Dec 19 j 16:25                         | 30°R <b>8</b>                            | 55100110   | desc. node            | -3140 Oct 03 j 00:22                         | 10°ML02'07                              |              |
| direct                          | -3145 Feb 14 j 20:50                         | 25° <b>8</b> 27'58                       |            |                       | -3140 Oct 27 j 19:18                         | 15° <b>™</b>                            |              |
|                                 | -3145 Apr 12 j 16:49                         | $\Pi^{\circ}0$                           |            | evening set           | -3140 Nov 26 j 18:22                         | 21°M48'19                               |              |
| evening set                     | -3145 Jun 22 j 12:41                         | 13° <b>Ⅱ</b> 31'51                       |            |                       | ·  |   |              |
|                                 |  |  |            | conjunction           | -3140 Dec 09 j 13:47                         | 24° <b>M</b> 49'54                      | -0°08'10     |
| conjunction                     | -3145 Jul 05 j 21:38                         | 16° <b>Ⅲ</b> 27′18                       | 0°37'14    | minimum elong         | -3140 Dec 09 j 13:46                         | 24°M49'54                               | 0°08'15      |
| minimum elong                   | -3145 Jul 05 j 21:35                         | 16° <b>Ⅲ</b> 27'17                       |            | behind sun begin      | -3140 Dec 09 j 06:37                         | 24° <b>M</b> 45'41                      |              |
| max. Earth dist.                | -3145 Jul 05 j 09:43                         | 16° <b>Ⅱ</b> 20'47                       | 6.36805 AU | behind sun end        | -3140 Dec 09 j 20:56                         | 24°M54'07                               |              |
| morning rise                    | -3145 Jul 19 j 03:33                         | 19° <b>Ⅲ</b> 21'11                       |            | max. Earth dist.      | -3140 Dec 09 j 08:46                         | 24°M46'57                               | 6.08154 AU   |
|                                 | -3145 Sep 10 j 07:44                         | 0° <b>©</b>                              |            | morning rise          | -3140 Dec 22 j 11:09                         | 27°M52'45                               |              |
| retrograde                      | -3145 Nov 16 j 21:06                         | 6° <b>5</b> 28'29                        |            |                       | -3140 Dec 31 j 13:01                         | 0° <b>∡</b> 7                           |              |
| opposition                      | -3144 Jan 15 j 21:12                         | 1°533'51                                 | 1°19'34    | retrograde            | -3139 May 01 j 17:38                         | 17° <b>∡</b> 38'13                      |              |
| min. Earth dist.                | -3144 Jan 16 j 11:58                         | 1°529'02                                 | 4.39228 AU | opposition            | -3139 Jul 01 j 10:19                         | 12° <b>∡</b> 39'00                      |              |
| t' .                            | -3144 Jan 28 j 01:58                         | 30°RⅡ<br>26°₩20'26                       |            | min. Earth dist.      | -3139 Jul 01 j 04:20                         | 12° <b>∡</b> 740'58                     | 4.04069 AU   |
| direct                          | -3144 Mar 18 j 00:27<br>-3144 May 06 j 23:37 | 26°∏30′26<br>0°©                         |            | direct<br>evening set | -3139 Aug 29 j 11:17<br>-3139 Dec 31 j 18:05 | 7° <b>₹</b> 45'58<br>26° <b>₹</b> 56'26 |              |
| arranina aat                    |  |  |            | evening set           | -3139 Dec 31 J 18.03                         | 20 <b>x</b> ·30 20                      |              |
| evening set<br>max. Earth dist. | -3144 Jul 23 j 14:44<br>-3144 Aug 04 j 06:56 | 14° <b>©</b> 22'22<br>16° <b>©</b> 55'20 | 6.40106 AU | conjunction           | -3138 Jan 13 j 20:05                         | 0° <b>る</b> 03'52                       | -0°52'29     |
| man. Darm Uist.                 | 5177 Aug 04 J 00.30                          | 10 23320                                 | 0.70100 AU | minimum elong         | -3138 Jan 13 j 20:02                         | 0°る03′51                                | 0°52'35      |
| conjunction                     | -3144 Aug 05 j 14:36                         | 17°©12'41                                | 1°08'44    | minimum ciong         | -3138 Jan 13 j 13:36                         | 0 <b>3</b> 03 31                        | 0 04 00      |
| minimum elong                   | -3144 Aug 05 j 14:33                         | 17 \$1241<br>17°\$12'40                  | 1°08'50    | max. Earth dist.      | -3138 Jan 14 j 17:01                         | 0° <b>る</b> 16'23                       | 6.01396 AU   |
| morning rise                    | -3144 Aug 18 j 11:09                         | 20°901'25                                |            | morning rise          | -3138 Jan 27 j 01:26                         | 3° <b>ට</b> 13'06                       |              |
|                                 | -3144 Oct 06 j 20:38                         | 0°Ω                                      |            | retrograde            | -3138 Jun 08 j 03:13                         | 23° <b>ප</b> 32'10                      |              |
| retrograde                      | -3144 Dec 16 j 17:35                         | 7° <b>Ω</b> 00'15                        |            | min. Earth dist.      | -3138 Aug 06 j 09:34                         |   | 4.00503 AU   |
| opposition                      | -3143 Feb 15 j 03:28                         | 2° <b>Ω</b> 08'06                        | 1°52'38    | opposition            | -3138 Aug 07 j 08:43                         | 18° <b>る</b> 29'09                      |              |
| min. Earth dist.                | -3143 Feb 16 j 06:34                         |  | 4.39650 AU | direct                | -3138 Oct 04 j 12:03                         | 13° <b>る</b> 35'06                      |              |
|                                 |  |  |            |                       |  |   |              |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 24 Attention, astronomical year style is used: The year -3137 in astronomical counting style is the year 3138 BCE in historical counting style.

| Attention, astronom | ical year style is used: Th | ne year -3137 i                  | in astronomical co | unting style is the year | 3138 BCE in historical c | ounting style.                           | <b>6</b> :  |
|---------------------|-----------------------------|----------------------------------|--------------------|--------------------------|--------------------------|--|-------------|
|                     | -3137 Jan 24 j 18:31        | 0° <b>≈</b>                      |                    | evening set              | -3132 Jul 28 j 01:34     | 18° <b>5</b> 48'42                       |             |
| evening set         | -3137 Feb 06 j 07:10        | 2° <b>≈</b> 56′03                |                    | max. Earth dist.         | -3132 Aug 08 j 14:10     | 21° <b>©</b> 19'52                       | 6.40034 AU  |
| ·                   | 2127 F. 1. 10:17.45         | (00(147                          | 1017140            | . ,.                     | 2122 4 10:00 15          | 21062002                                 | 1011142     |
| conjunction         | -3137 Feb 19 j 16:45        | 6°≈06'47                         |                    | conjunction              | -3132 Aug 10 j 00:15     | 21° <b>©</b> 38'33<br>21° <b>©</b> 38'32 |             |
| minimum elong       | -3137 Feb 19 j 16:44        | 6°≈06'46                         |                    | minimum elong            | -3132 Aug 10 j 00:12     |  | 1-11-50     |
| max. Earth dist.    | -3137 Feb 21 j 11:48        |                                  | 6.01231 AU         | morning rise             | -3132 Aug 22 j 19:44     | 24°\$26'52                               |             |
| morning rise        | -3137 Mar 05 j 05:21        | 9°≈19'04                         |                    | . 1                      | -3132 Sep 18 j 00:12     | 0°N                                      |             |
|                     | -3137 Mar 29 j 22:15        | 15° <b>≈</b>                     |                    | retrograde               | -3132 Dec 21 j 03:31     | 11° <b>Ω</b> 26'41<br>6° <b>Ω</b> 34'40  | 1054152     |
| retrograde          | -3137 Jul 14 j 21:05        | 29°≈31'58                        | 4.02006 ATT        | opposition               | -3131 Feb 19 j 14:56     |  |             |
| min. Earth dist.    | -3137 Sep 11 j 08:55        |                                  | 4.03896 AU         | min. Earth dist.         | -3131 Feb 20 j 18:37     |  | 4.39252 AU  |
| opposition          | -3137 Sep 12 j 14:39        | 24°≈26'52                        | -1°58′40           | direct                   | -3131 Apr 23 j 06:17     | 1° <b>Ω</b> 32'56                        |             |
| direct              | -3137 Nov 09 j 16:15        | 19° <b>≈</b> 30'05               |                    |                          | -3131 Aug 07 j 16:23     | 15° <b>Ω</b>                             |             |
| . ,                 | -3136 Feb 04 j 01:06        | 0° <b>∺</b><br>8° <b>∺</b> 43'09 |                    | evening set              | -3131 Aug 28 j 04:59     | 19° <b>Ω</b> 25'27                       | ( 2(701 AII |
| evening set         | -3136 Mar 14 j 09:24        | 6 <b>/</b> (4309                 |                    | max. Earth dist.         | -3131 Sep 08 j 02:19     | 21 863003                                | 6.36781 AU  |
| conjunction         | -3136 Mar 28 j 01:19        | 11° <b>)</b> 53'44               | -1°13'30           | conjunction              | -3131 Sep 09 j 20:44     | 22° <b>Ω</b> 13'37                       | 1°20'45     |
| minimum elong       | -3136 Mar 28 j 01:22        | 11° <b>)</b> 53'46               | 1°13'32            | minimum elong            | -3131 Sep 09 j 20:44     | 22° <b>Ω</b> 13'37                       | 1°20'48     |
| max. Earth dist.    | -3136 Mar 30 j 00:37        | 12° <b>)</b> €21'15              | 6.07772 AU         | morning rise             | -3131 Sep 22 j 10:00     | 25° <b>Ω</b> 00'43                       |             |
| morning rise        | -3136 Apr 10 j 19:18        | 15° <b>)</b> €05'09              |                    |                          | -3131 Oct 15 j 12:38     | 0° <b>m</b> y                            |             |
|                     | -3136 Jun 23 j 17:13        | $0^{\circ}$ Y                    |                    | retrograde               | -3130 Jan 22 j 01:10     | 12° <b>m</b> 20'39                       |             |
| retrograde          | -3136 Aug 17 j 20:08        | 4° <b>Y</b> '34'07               |                    | opposition               | -3130 Mar 23 j 21:28     | 7° <b>m</b> , 29′08                      | 1°52'08     |
| •                   | -3136 Oct 12 j 14:50        | 30°₽ <b>)</b>                    |                    | min. Earth dist.         | -3130 Mar 25 j 05:09     | 7° <b>m</b> 19'04                        | 4.33244 AU  |
| min. Earth dist.    | -3136 Oct 15 j 04:54        | 29° <b>)</b> €38'52              | 4.12875 AU         | direct                   | -3130 May 25 j 07:08     | 2° m/29'55                               |             |
| opposition          | -3136 Oct 16 j 08:07        | 29° <b>)</b> €29'34              |                    | evening set              | -3130 Sep 28 j 07:06     | 20° m 34'29                              |             |
| direct              | -3136 Dec 14 j 02:06        | 24° <b>)</b> €29'32              |                    | max. Earth dist.         | -3130 Oct 09 j 02:46     | 23° mp 01'21                             | 6.28457 AU  |
|                     | -3135 Feb 13 j 00:42        | $0^{\circ}$ $\Upsilon$           |                    |                          | v                        |  |             |
| evening set         | -3135 Apr 19 j 19:41        | 13° <b>Y</b> 20'05               |                    | conjunction              | -3130 Oct 10 j 20:07     | 23° <b>m</b> 24'49                       | 1°06'43     |
|                     |                             |                                  |                    | minimum elong            | -3130 Oct 10 j 20:10     | 23° <b>m</b> 24'51                       | 1°06'44     |
| conjunction         | -3135 May 03 j 14:18        | 16° <b>Y</b> 27'11               | -0°43'06           | morning rise             | -3130 Oct 23 j 08:19     | 26° Mp 14'53                             |             |
| minimum elong       | -3135 May 03 j 14:21        | 16° <b>Y</b> 27'13               | 0°43'04            |                          | -3130 Nov 09 j 05:13     | 0० <b>ত</b>                              |             |
| max. Earth dist.    | -3135 May 05 j 00:03        | 16° <b>Ƴ</b> 46′20               | 6.18468 AU         | retrograde               | -3129 Feb 24 j 13:39     | 14° <b>₽</b> 17'03                       |             |
| morning rise        | -3135 May 17 j 08:53        | 19° <b>Y</b> '34'03              |                    | opposition               | -3129 Apr 26 j 14:53     | 9° <b>≙</b> 24'05                        | 1°15'54     |
| -                   | -3135 Jul 06 j 03:12        | $0^{\circ}$ 8                    |                    | min. Earth dist.         | -3129 Apr 27 j 16:19     | 9° <b>≙</b> 15'58                        | 4.23066 AU  |
| retrograde          | -3135 Sep 19 j 22:45        | 8° <b>8</b> 03'02                |                    | direct                   | -3129 Jun 27 j 02:37     | 4° <b>≙</b> 27'40                        |             |
| opposition          | -3135 Nov 18 j 09:06        | 3° <b>8</b> 01'22                | -0°32'34           | evening set              | -3129 Oct 30 j 03:43     | 22° <b>₽</b> 53'25                       |             |
| min. Earth dist.    | -3135 Nov 17 j 18:50        | 3° <b>8</b> 06'11                | 4.24126 AU         | •                        | v                        |  |             |
|                     | -3135 Dec 12 j 12:02        | 30° <b>₹</b> Υ                   |                    | conjunction              | -3129 Nov 11 j 18:49     | 25° <b>≏</b> 49'10                       | 0°31'52     |
| direct              | -3134 Jan 17 j 09:21        | 27° <b>Y</b> ′58'51              |                    | minimum elong            | -3129 Nov 11 j 18:51     | 25° <b>≏</b> 49'12                       | 0°31'49     |
|                     | -3134 Feb 22 j 16:30        | $0^{\circ}$ 8                    |                    | max. Earth dist.         | -3129 Nov 10 j 17:11     | 25° <b>≏</b> 34'16                       | 6.17347 AU  |
|                     | -3134 May 18 j 12:15        | 15° <b>8</b>                     |                    | morning rise             | -3129 Nov 24 j 10:27     | 28° <b>≏</b> 45'30                       |             |
| evening set         | -3134 May 24 j 19:08        | 16° <b>8</b> 22'43               |                    |                          | -3129 Nov 29 j 19:49     | 0° <b>M</b>                              |             |
| asc. node           | -3134 Jun 03 j 07:29        | 18° <b>8</b> 28'55               |                    |                          | -3128 Feb 17 j 06:01     | 15° <b>M</b> ₊                           |             |
|                     |                             |                                  |                    | retrograde               | -3128 Mar 30 j 23:46     | 17° <b>M</b> 43'41                       |             |
| conjunction         | -3134 Jun 07 j 10:43        | 19° <b>8</b> 23'56               | 0°00'29            |                          | -3128 May 13 j 06:00     | 15°RM                                    |             |
| minimum elong       | -3134 Jun 07 j 10:43        | 19° <b>8</b> 23'55               | 0°00'34            | opposition               | -3128 May 30 j 23:24     | 12° <b>M</b> 47'49                       | 0°13'09     |
| behind sun begin    | -3134 Jun 07 j 02:26        | 19° <b>8</b> 19'21               |                    | min. Earth dist.         | -3128 May 31 j 10:21     | 12° <b>M</b> 44'17                       | 4.11748 AU  |
| behind sun end      | -3134 Jun 07 j 19:00        | 19° <b>8</b> 28'30               |                    | direct                   | -3128 Jul 30 j 04:02     | 7° <b>IL</b> 53'53                       |             |
| max. Earth dist.    | -3134 Jun 07 j 21:31        | 19° <b>8</b> 29'54               | 6.29467 AU         | desc. node               | -3128 Aug 12 j 19:06     | 8° <b>ጤ</b> 11'57                        |             |
| morning rise        | -3134 Jun 21 j 00:11        | 22° <b>8</b> 23'57               |                    |                          | -3128 Oct 08 j 01:48     | 15° <b>M</b> ₊                           |             |
|                     | -3134 Jul 27 j 01:50        | $\Pi$ °0                         |                    | evening set              | -3128 Dec 01 j 12:59     | 26°M45'12                                |             |
| retrograde          | -3134 Oct 21 j 10:19        | 10° <b>Ⅱ</b> 00′22               |                    |                          |                          |  |             |
| opposition          | -3134 Dec 20 j 02:50        | 5° <b>Ⅱ</b> 02'38                | 0°32'22            | conjunction              | -3128 Dec 14 j 09:05     | 29° <b>M</b> 47'40                       | -0°14'52    |
| min. Earth dist.    | -3134 Dec 20 j 03:32        | 5° <b>Ⅱ</b> 02'24                | 4.33954 AU         | minimum elong            | -3128 Dec 14 j 09:03     | 29° <b>M</b> 47'39                       | 0°14'57     |
|                     | -3133 Feb 16 j 04:22        | 30° <b>₹</b> 8                   |                    | behind sun begin         | -3128 Dec 14 j 05:49     | 29° <b>M</b> 45'44                       |             |
| direct              | -3133 Feb 19 j 08:32        | 29° <b>8</b> 59'03               |                    | behind sun end           | -3128 Dec 14 j 12:18     | 29°M49'34                                |             |
|                     | -3133 Feb 22 j 13:01        | $\Pi$ °0                         |                    | max. Earth dist.         | -3128 Dec 14 j 06:06     | 29° <b>M</b> 45'54                       | 6.06881 AU  |
| evening set         | -3133 Jun 27 j 02:57        | 18° <b>Ⅱ</b> 01'35               |                    |                          | -3128 Dec 15 j 05:52     | 0° <b>∕</b> 7                            |             |
|                     | 2122 7 1 10 1 10 1          | 200 T 2 222 -                    | 00.40/2.4          | morning rise             | -3128 Dec 27 j 07:38     | 2° <b>x</b> <sup>7</sup> 51'33           |             |
| conjunction         | -3133 Jul 10 j 10:39        | 20° <b>∏</b> 56'18               | 0°42'34            | retrograde               | -3127 May 06 j 22:20     | 22° <b>х</b> 43'45                       | 0057110     |
| minimum elong       | -3133 Jul 10 j 10:36        | 20°II56'16                       | 0°42'39            | opposition               | -3127 Jul 06 j 14:03     | 17° <b>₹</b> '43'58                      |             |
| max. Earth dist.    | -3133 Jul 09 j 19:50        | 20° <b>∏</b> 48'11               | 6.37380 AU         | min. Earth dist.         | -3127 Jul 06 j 05:08     | 17° <b>х</b> 46'54                       | 4.03092 AU  |
| morning rise        | -3133 Jul 23 j 15:16        | 23° <b>∏</b> 49'24               |                    | direct                   | -3127 Sep 03 j 11:03     | 12° <b>∡</b> 750'53                      |             |
| , 1                 | -3133 Aug 21 j 22:45        | 0°95                             |                    | . ,                      | -3127 Dec 28 j 00:36     | 0°る                                      |             |
| retrograde          | -3133 Nov 21 j 06:28        | 10°954'35                        | 1025140            | evening set              | -3126 Jan 05 j 18:52     | 2° <b>る</b> 04'14                        |             |
| opposition          | -3132 Jan 20 j 06:37        | 6°500'24                         | 1°25'49            |                          | 21261 10:22:2:           | 50 <b>7</b> 1005                         | 00.5712.1   |
| min. Earth dist.    | -3132 Jan 20 j 23:41        | 5°954'51                         | 4.39505 AU         | conjunction              | -3126 Jan 18 j 22:04     | 5° <b>る</b> 12'25                        |             |
| direct              | -3132 Mar 22 j 12:52        | 0°\$57'09                        |                    | minimum elong            | -3126 Jan 18 j 22:01     | 5° <b>る</b> 12'23                        | 0 3/30      |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -3126 in astronomical counting style is the year 3127 BCE in historical counting style. -3126 Jan 19 j 23:39 5°る27'43 6.00801 AU retrograde -3121 Nov 25 j 11:34 15°9518'15 max. Earth dist. 10°924'23 -3126 Feb 01 j 04:21 8°る22'20 -3120 Jan 24 j 15:08 1°31'25 morning rise opposition -3126 Jun 13 j 09:45 28°る43'52 min. Earth dist. -3120 Jan 25 j 09:00 4.40419 AU 10°9518'35 retrograde -3126 Aug 12 j 12:20 23°る40'28 -1°47'58 direct -3120 Mar 26 j 23:15 5°921'15 opposition -3126 Aug 11 j 12:36 min. Earth dist. 23°**る**48'27 4.00371 AU evening set -3120 Aug 01 j 10:00 23°9510'03 -3126 Oct 09 j 14:25 direct 18°**ප්**46'07 max. Earth dist. -3120 Aug 12 j 19:38 25°939'34 6.40552 AU -3125 Jan 06 j 16:19 0°≈ evening set -3125 Feb 11 j 12:18 8°≈07'57 conjunction -3120 Aug 14 j 07:21 25°959'09 1°14'12 minimum elong -3120 Aug 14 j 07:19 25°959'08 1°14'17 28°9546'46 conjunction -3125 Feb 24 j 22:50 11°≈18'59 -1°18'57 morning rise -3120 Aug 27 j 01:39 minimum elong -3125 Feb 24 j 22:49 11°**≈**18'59 1°19'01 -3120 Sep 01 j 16:38  $0^{\circ}\Omega$ -3125 Feb 26 j 18:56 -3120 Dec 03 j 07:08 max. Earth dist. 11°**≈**45′09 6.01546 AU 15°€ -3120 Dec 25 j 10:40 morning rise -3125 Mar 10 j 12:33 14°≈31'34 retrograde 15°**Ω**45'48 -3125 Mar 12 j 12:59 15°≈ -3119 Jan 16 j 13:22 15°R€ -3125 May 24 j 23:04 0°**)**€ opposition -3119 Feb 23 j 23:34 10°**Ω**53'58 1°56'20 retrograde -3125 Jul 19 j 22:04 4°**)** 41'12 min. Earth dist. -3119 Feb 25 j 05:12 10°**Ω**44'30 4.39330 AU -3125 Sep 14 j 16:30 30°R≈ direct -3119 Apr 27 j 16:51 5°£52'30 min. Earth dist. -3125 Sep 16 j 08:00 29°≈46'33 4.04642 AU -3119 Jul 21 j 08:49 15°€ opposition -3125 Sep 17 j 14:52 29°≈36'02 -1°57'07 evening set -3119 Sep 01 j 10:19 23°**Ω**44'05 direct -3125 Nov 14 j 16:34 24°≈38'49 max. Earth dist. -3119 Sep 12 j 04:42 26°**Ω**07'16 6.36391 AU -3124 Jan 12 j 17:43 0°**)**€ evening set -3124 Mar 19 j 14:43 13°**¥** 50′20 conjunction -3119 Sep 14 i 01:20 26°**Ω**32'05 1°20'07 minimum elong -3119 Sep 14 i 01:20 26°**Ω**32'06 1°20'11 conjunction -3124 Apr 02 i 07:21 17°\(\)\(\)00'44 -1°10'31 morning rise -3119 Sep 26 i 14:10 29°Ω19'09 -3124 Apr 02 j 07:24 17°**¥**00'46 1°10'33 -3119 Sep 29 j 16:11 0° m minimum elong -3124 Apr 04 j 05:32 -3118 Jan 26 j 10:43 16° m 42'09 max. Earth dist. 17°**)** €27'33 6.08895 AU retrograde -3124 Apr 16 j 01:46 -3118 Mar 28 j 08:37 11° m 50'28 1°49'01 morning rise 20°¥11'50 opposition -3124 May 31 j 06:03  $0^{\circ}\Upsilon$ -3118 Mar 29 j 16:11 11° mp 40'25 min. Earth dist. 4.32395 AU -3124 Aug 22 j 17:11 9°**Y**33'40 -3118 May 29 j 16:16 retrograde direct 6° m 51'30 -3124 Oct 20 j 02:10 4°**Υ**38'03 4.14248 AU evening set -3118 Oct 02 j 12:30 24° m 57'31 min. Earth dist. -3124 Oct 21 j 03:32 4°Υ29'24 -1°23'17 -3118 Oct 13 j 09:51 max. Earth dist. 27° Mp 25'42 opposition 6.27222 AU -3124 Dec 01 j 12:01 30°**₹** 29°**¥**28'58 -3118 Oct 15 j 01:38 -3124 Dec 19 j 01:53 conjunction 27° Mp 48'21 1°03'04 direct  $0^{\circ}\Upsilon$ -3118 Oct 15 j 01:41 -3123 Jan 05 j 17:55 minimum elong 27° Mp 48'23 1°03'04 18°**Y**16′13 -3118 Oct 24 j 17:03 evening set -3123 Apr 24 j 21:39 0∘**⊽** 0°**9**39'00 -3118 Oct 27 j 13:53 morning rise -3123 May 08 j 16:18 21°**Y**'22'40 -0°37'20 conjunction retrograde -3117 Mar 01 j 05:31 18°**≏**47'49 minimum elong -3123 May 08 j 16:21 21°**Y**'22'42 0°37'18 opposition -3117 May 01 j 06:47 13°**£**54'35 1°08'41 max. Earth dist. -3123 May 10 j 01:03 21°**Y**41'10 6.20031 AU min. Earth dist. -3117 May 02 j 07:58 13°**≏**46'33 4.21496 AU -3123 May 22 j 10:27 24°\bar{Y}28'41 direct -3117 Jul 01 j 15:17 8°**£**58'31 morning rise -3123 Jun 16 j 17:03 0°8 -3117 Nov 03 j 13:19 27°**₽**28'00 evening set -3123 Sep 24 j 11:40 12°849'21 -3117 Nov 14 j 10:29 retrograde -3123 Nov 22 j 23:21 7°**8**48'13 -0°23'17 max. Earth dist. -3117 Nov 15 j 03:24 opposition 0°**™**09'52 6.15579 AU min. Earth dist. -3123 Nov 22 j 09:42 7°**8**52'49 4.25761 AU -3122 Jan 22 j 02:42 -3117 Nov 16 j 04:50 0°M24'43 0°25'58 direct 2°**8**45'31 conjunction -3117 Nov 16 i 04:52 asc. node -3122 Apr 12 j 10:28 11°**8**21'12 minimum elong 0°M24'44 0°25'55 -3122 May 01 j 02:14 15°8 morning rise -3117 Nov 28 j 21:27 3°M22'12 evening set -3122 May 29 j 15:31 21°805'20 -3116 Jan 22 j 10:12 15°M retrograde -3116 Apr 04 j 21:49 22°M29'27 -3122 Jun 12 j 06:03 24°805'28 0°06'52 -3116 Jun 04 j 20:50 17°MJ33'06 0°03'32 conjunction opposition -3122 Jun 12 j 06:02 24°**8**05'27 0°06'58 min. Earth dist. -3116 Jun 05 j 05:17 17°MJ30'22 4.09913 AU minimum elong -3122 Jun 11 j 22:24 24°801'15 desc. node -3116 Jun 24 j 13:14 15°M07'09 behind sun begin 15°RM -3122 Jun 12 j 13:40 24°**8**09'39 -3116 Jun 25 j 14:59 behind sun end max. Earth dist. -3122 Jun 12 j 12:57 24°**8**09'16 6.31081 AU direct -3116 Aug 03 j 20:11 12°M39'18 -3116 Sep 11 j 09:47 morning rise -3122 Jun 25 j 18:29 27°804'21 15°M -3122 Jul 09 j 06:14  $0^{\circ}II$ -3116 Nov 29 j 10:30 0°×7 retrograde -3122 Oct 25 j 20:36 14°**Ⅲ**33'49 evening set -3116 Dec 06 j 05:43 1°**х** 36′00 9°**Ⅲ**36'35 opposition -3122 Dec 24 j 13:33 0°40'55 9°**Ⅱ**35′27 -3116 Dec 19 j 02:57 4° ₹39'41 -0°21'16 min. Earth dist. -3122 Dec 24 j 16:59 4.35433 AU conjunction direct -3121 Feb 24 j 00:40 4°**Ⅲ**32'58 minimum elong -3116 Dec 19 j 02:56 4°×39'40 0°21'22 -3121 Jul 01 j 16:37 22°**Ⅲ**31'34 4°**∡**°40′29 evening set max. Earth dist. -3116 Dec 19 j 04:18 6.05164 AU morning rise -3115 Jan 01 j 02:30 7°**×**744'49 conjunction -3121 Jul 14 j 23:05 25°**Ⅲ**25'14 0°47'36 retrograde -3115 May 12 j 04:26 27°**х** 45′28 minimum elong -3121 Jul 14 j 23:02 25°**Ⅲ**25'12 0°47'41 opposition -3115 Jul 11 j 16:22 22° \$\square\$45'12 -1°06'01 max. Earth dist. -3121 Jul 14 j 06:25 25°**Ⅱ**16′07 6.38609 AU min. Earth dist. -3115 Jul 11 j 06:05 22°**х** 48′36 4.01671 AU -3121 Jul 28 j 02:12 28°**Ⅲ**17'14 -3115 Sep 08 j 09:26 17°**₹**52'06 morning rise direct -3121 Aug 05 j 00:31 0ಂತಾ -3115 Dec 10 j 16:45 0°정

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 26 Attention, astronomical year style is used: The year -3114 in astronomical counting style is the year 3115 BCE in historical counting style.

| Attention, astronom | ical year style is used: Th | ne year -3114                     | in astronomical co | ounting style is the year | r 3115 BCE in historical of | counting style.            | _                 |
|---------------------|-----------------------------|-----------------------------------|--------------------|---------------------------|-----------------------------|----------------------------|-------------------|
| evening set         | -3114 Jan 10 j 19:47        | 7° <b>る</b> 10'18                 |                    | conjunction               | -3109 Jul 19 j 11:33        | 29° <b>Ⅱ</b> 55′04         | 0°52'26           |
|                     |                             |                                   |                    | minimum elong             | -3109 Jul 19 j 11:30        | 29° <b>∏</b> 55′03         | 0°52'33           |
| conjunction         | -3114 Jan 24 j 00:02        | 10° <b>る</b> 19'26                | -1°02'00           | max. Earth dist.          | -3109 Jul 18 j 14:30        | 29° <b>Ⅱ</b> 43'34         | 6.39415 AU        |
| minimum elong       | -3114 Jan 23 j 23:59        | 10° <b>る</b> 19'24                | 1°02'06            |                           | -3109 Jul 19 j 20:34        | $0$ $\circ$ $\mathfrak{S}$ |                   |
| max. Earth dist.    | -3114 Jan 25 j 04:02        | 10° <b>る</b> 36'12                | 5.99795 AU         | morning rise              | -3109 Aug 01 j 13:26        | 2°5946'14                  |                   |
| morning rise        | -3114 Feb 06 j 07:44        | 13° <b>る</b> 30'23                |                    | retrograde                | -3109 Nov 29 j 20:50        | 19° <b>©</b> 44'52         |                   |
| C                   | -3114 Apr 28 j 13:33        | 0° <b>≈</b>                       |                    | opposition                | -3108 Jan 29 j 00:58        | 14° <b>©</b> 51'24         | 1°36'42           |
| retrograde          | -3114 Jun 18 j 14:52        | 3°≈55'40                          |                    | min. Earth dist.          | -3108 Jan 29 j 21:53        | 14°544'38                  | 4.40776 AU        |
| C                   | -3114 Aug 09 j 04:31        | 30°₹⋜                             |                    | direct                    | -3108 Mar 31 j 12:31        | 9° <b>©</b> 48'25          |                   |
| opposition          | -3114 Aug 17 j 15:59        | 28° <b>る</b> 51'54                | -1°51'57           | evening set               | -3108 Aug 05 j 19:57        | 27° <b>©</b> 36'31         |                   |
| min. Earth dist.    | -3114 Aug 16 j 13:28        |                                   | 3.99927 AU         | C                         | -3108 Aug 16 j 18:20        | $0^{\circ}\Omega$          |                   |
| direct              | -3114 Oct 14 j 14:59        | 23° <b>る</b> 57'16                |                    | max. Earth dist.          | -3108 Aug 17 j 02:46        |                            | 6.40405 AU        |
|                     | -3114 Dec 16 j 05:27        | 0° <b>≈</b>                       |                    |                           | 2 3                         |                            |                   |
| evening set         | -3113 Feb 16 j 18:38        | 13° <b>≈</b> 21'10                |                    | conjunction               | -3108 Aug 18 j 16:20        | 0° <b>Ω</b> 25'14          | 1°16'23           |
| 8                   | -3113 Feb 23 j 17:59        | 15° <b>≈</b>                      |                    | minimum elong             | -3108 Aug 18 j 16:18        | 0° <b>Ω</b> 25'13          |                   |
|                     |                             |                                   |                    | morning rise              | -3108 Aug 31 j 09:32        | 3° <b>£</b> 12′30          |                   |
| conjunction         | -3113 Mar 02 j 06:18        | 16° <b>≈</b> 32'38                | -1°19'29           |                           | -3108 Oct 30 j 12:23        | 15° <b>Ω</b>               |                   |
| minimum elong       | -3113 Mar 02 j 06:18        | 16° <b>≈</b> 32'38                |                    | retrograde                | -3108 Dec 29 j 20:20        | 20° <b>Ω</b> 13'15         |                   |
| max. Earth dist.    | -3113 Mar 04 j 04:25        | 16°≈59'57                         |                    | opposition                | -3107 Feb 28 j 11:33        | 15° <b>Ω</b> 21'31         | 1°57'19           |
| morning rise        | -3113 Mar 15 j 20:58        | 19°≈45'32                         | 0.010/3/110        | min. Earth dist.          | -3107 Mar 01 j 17:21        | 15° <b>Ω</b> 12'00         | 4.38712 AU        |
| morning rise        | -3113 May 01 j 04:06        | 0° <b>∀</b>                       |                    | mm. Lattii dist.          | -3107 Mar 03 j 06:57        | 15° <b>RΩ</b>              | 4.50712710        |
| retrograde          | -3113 Jul 25 j 01:22        | 9° <b>∺</b> 52'10                 |                    | direct                    | -3107 May 02 j 03:42        | 10° <b>Ω</b> 20'21         |                   |
| min. Earth dist.    | -3113 Sep 21 j 09:16        |                                   | 4.05348 AU         | direct                    | -3107 Jun 29 j 11:04        | 15° <b>Ω</b>               |                   |
| opposition          | -3113 Sep 22 j 15:53        | 4° <b>)</b> (46'53                |                    | evening set               | -3107 Sep 05 j 19:19        | 28° <b>Ω</b> 13′20         |                   |
| оррозиюн            | -3113 Nov 09 j 14:34        | 30°R≈                             | -1 5454            | evening set               | -3107 Sep 13 j 19:27        | 0° mp                      |                   |
| direct              | -3113 Nov 19 j 20:11        | 29°≈49'11                         |                    | max. Earth dist.          | -3107 Sep 15 j 13:12        |                            | 6.35341 AU        |
| direct              | -3113 Nov 30 j 01:27        | 29 <b>≈</b> 4911<br>0° <b>)</b> € |                    | max. Earth dist.          | -3107 Sep 10 J 13.12        | 0 lig 30 40                | 0.33341 AU        |
| avanina aat         | ,                           | 18° <b>米</b> 59'03                |                    | aamiumatian               | 2107 Cap. 19 : 00:44        | 1° <b>m</b> 01'31          | 1°19'05           |
| evening set         | -3112 Mar 24 j 21:21        | 16 ДЗ903                          |                    | conjunction               | -3107 Sep 18 j 09:44        |                            | 1°19'08           |
| :                   | 2112 A 07:14.44             | 220 1 0011 5                      | 1906/56            | minimum elong             | -3107 Sep 18 j 09:46        |                            | 1 1908            |
| conjunction         | -3112 Apr 07 j 14:44        | 22° <b>)</b> (09'15               |                    | morning rise              | -3107 Sep 30 j 22:10        | 3° Mp 48'51                |                   |
| minimum elong       | -3112 Apr 07 j 14:48        | 22° <b>)</b> (09'17               |                    | retrograde                | -3106 Jan 31 j 03:10        | 21° Mp 17'16               | 1045112           |
| max. Earth dist.    | -3112 Apr 09 j 14:06        | 22° <b>)</b> (36'38               | 6.10099 AU         | opposition                | -3106 Apr 02 j 01:23        | 16° Mp 25'30               | 1°45'12           |
| morning rise        | -3112 Apr 21 j 09:27        | 25° <b>)</b> 19'55                |                    | min. Earth dist.          | -3106 Apr 03 j 09:38        | -•                         | 4.30967 AU        |
|                     | -3112 May 12 j 03:32        | 0°Υ                               |                    | direct                    | -3106 Jun 03 j 07:32        | 11° To 26'57               |                   |
| retrograde          | -3112 Aug 27 j 12:46        | 14° <b>Υ</b> 33'40                | 1015140            | evening set               | -3106 Oct 06 j 23:46        | 29° Tp 36'10               |                   |
| opposition          | -3112 Oct 25 j 23:04        | 9° <b>Υ</b> 29'40                 |                    | F 4 F                     | -3106 Oct 08 j 17:48        | 0∘ <b>⊽</b>                | 6 0 5 5 0 5 1 X X |
| min. Earth dist.    | -3112 Oct 24 j 21:56        |                                   | 4.15789 AU         | max. Earth dist.          | -3106 Oct 17 j 21:15        | 2°±05'04                   | 6.25535 AU        |
| direct              | -3112 Dec 24 j 00:08        | 4°Υ28'51                          |                    |                           |                             |                            |                   |
| evening set         | -3111 Apr 29 j 23:54        | 23° <b>Y</b> 12'03                |                    | conjunction               | -3106 Oct 19 j 12:58        |                            |                   |
|                     |                             |                                   |                    | minimum elong             | -3106 Oct 19 j 13:01        | 2° <b>£</b> 27'46          | 0°58'50           |
| conjunction         | -3111 May 13 j 18:10        | 26° <b>Y</b> 17'38                |                    | morning rise              | -3106 Nov 01 j 01:43        | 5° <b>Ω</b> 19'17          |                   |
| minimum elong       | -3111 May 13 j 18:13        | 26° <b>Y</b> 17'39                |                    | retrograde                | -3105 Mar 06 j 03:33        | 23° <b>△</b> 36′20         |                   |
| max. Earth dist.    | -3111 May 14 j 22:57        | 26° <b>Y</b> 33'49                | 6.21748 AU         | opposition                | -3105 May 06 j 05:30        | 18° <b>≏</b> 42'43         | 1°00'34           |
| morning rise        | -3111 May 27 j 11:58        | 29° <b>Y</b> 22'42                |                    | min. Earth dist.          | -3105 May 07 j 04:09        | 18° <b>△</b> 35'29         | 4.19668 AU        |
|                     | -3111 May 30 j 06:56        | 0°8                               |                    | direct                    | -3105 Jul 06 j 08:56        | 13° <b>≏</b> 47'01         |                   |
|                     | -3111 Aug 19 j 08:14        | 15° <b>8</b>                      |                    |                           | -3105 Oct 29 j 01:06        | 0°M                        |                   |
| retrograde          | -3111 Sep 29 j 01:28        | 17° <b>8</b> 34'39                |                    | evening set               | -3105 Nov 08 j 05:43        | 2°M20'56                   |                   |
|                     | -3111 Nov 08 j 15:04        | 15° <b>R</b> 8                    |                    |                           |                             |                            |                   |
| opposition          | -3111 Nov 27 j 13:37        | 12° <b>8</b> 33'58                |                    | conjunction               | -3105 Nov 20 j 22:01        | 5°M18'44                   | 0°19'31           |
| min. Earth dist.    | -3111 Nov 27 j 02:40        |                                   | 4.27454 AU         | minimum elong             | -3105 Nov 20 j 22:03        | 5° <b>™</b> 18'45          | 0°19'28           |
| direct              | -3110 Jan 26 j 22:25        | 7° <b>8</b> 31'00                 |                    | max. Earth dist.          | -3105 Nov 20 j 01:01        | 5°M06′26                   | 6.13794 AU        |
| asc. node           | -3110 Feb 18 j 20:53        | 8° <b>8</b> 20'12                 |                    | morning rise              | -3105 Dec 03 j 15:24        | 8° <b>™</b> 17'22          |                   |
|                     | -3110 Apr 11 j 07:28        | 15° <b>8</b>                      |                    |                           | -3104 Jan 02 j 09:41        | 15° <b>™</b>               |                   |
| evening set         | -3110 Jun 03 j 11:04        | 25° <b>8</b> 46'37                |                    | retrograde                | -3104 Apr 10 j 05:15        | 27°M33'34                  |                   |
|                     |                             |                                   |                    | desc. node                | -3104 May 03 j 12:00        | 26°M42'49                  |                   |
| conjunction         | -3110 Jun 17 j 00:46        | 28° <b>8</b> 45'44                |                    | opposition                | -3104 Jun 10 j 01:35        | 22°M36'44                  |                   |
| minimum elong       | -3110 Jun 17 j 00:45        | 28° <b>8</b> 45'44                | 0°13'18            | min. Earth dist.          | -3104 Jun 10 j 08:08        | 22°M34'36                  | 4.08329 AU        |
| behind sun begin    | -3110 Jun 16 j 20:08        | 28° <b>8</b> 43'12                |                    | direct                    | -3104 Aug 08 j 20:45        | 17° <b>M</b> 43'12         |                   |
| behind sun end      | -3110 Jun 17 j 05:21        | 28° <b>8</b> 48'15                |                    |                           | -3104 Nov 11 j 20:45        | 0° <b>∡</b>                |                   |
| max. Earth dist.    | -3110 Jun 17 j 05:38        | 28° <b>8</b> 48'25                | 6.32597 AU         | evening set               | -3104 Dec 11 j 05:06        | 6° <b>∡</b> ¹43'57         |                   |
|                     | -3110 Jun 22 j 15:29        | 0°II                              |                    |                           |                             |                            |                   |
| morning rise        | -3110 Jun 30 j 11:49        | 1° <b>Ⅱ</b> 43'27                 |                    | conjunction               | -3104 Dec 24 j 03:12        | 9° <b>∡</b> ⁴48'35         |                   |
| retrograde          | -3110 Oct 30 j 04:33        | 19° <b>Ⅱ</b> 06'44                |                    | minimum elong             | -3104 Dec 24 j 03:09        | 9° <b>∡</b> ⁴48'34         | 0°28'01           |
| opposition          | -3110 Dec 29 j 00:01        | 14° <b>Ⅱ</b> 10′02                |                    | max. Earth dist.          | -3104 Dec 24 j 07:54        | 9° <b>∡</b> ′51′23         | 6.03943 AU        |
| min. Earth dist.    | -3110 Dec 29 j 04:56        | 14° <b>∏</b> 08'25                | 4.36654 AU         | morning rise              | -3103 Jan 06 j 04:02        | 12° <b>∡</b> ′54'47        |                   |
| direct              | -3109 Feb 28 j 14:11        | 9° <b>∏</b> 06′26                 |                    |                           | -3103 Apr 02 j 19:14        | 0°ප                        |                   |
| evening set         | -3109 Jul 06 j 06:36        | 27° <b>Ⅱ</b> 02'19                |                    | retrograde                | -3103 May 17 j 12:05        | 3° <b>る</b> 01'22          |                   |
|                     |                             |                                   |                    |                           |                             |                            |                   |

| ,                                 | omena of Jupiter fro                                 |                                 | 0                     | · //                      |  | , 1                                      | ge 27      |
|-----------------------------------|--|---------------------------------|-----------------------|---------------------------|--|--|------------|
| Attention, astronom               | nical year style is used: Th<br>-3103 Jul 01 j 12:49 | e year -3103 :<br>30°₹ <i>⊼</i> | in astronomical co    | ounting style is the year | -3097 Jul 04 j 01:41                         | ounting style.                           |            |
| opposition                        | -3103 Jul 16 j 23:40                                 | 30 Kx.<br>28° ₹ 00'31           | 101420                | evening set               | -3097 Jul 04 j 01.41<br>-3097 Jul 10 j 17:33 | 1°526'12                                 |            |
| min. Earth dist.                  | -3103 Jul 16 j 09:26                                 |                                 | 4.00990 AU            | evening set               | -309/Jul 10 j 17.33                          | 1 3020 12                                |            |
| direct                            | -3103 Sep 13 j 12:03                                 | 23°× 05'14                      | 4.00990 AU            | conjunction               | -3097 Jul 23 j 21:28                         | 4° <b>©</b> 18'21                        | 0°56'52    |
| ancer                             | -3103 Nov 19 j 21:03                                 | 0°පි                            |                       | minimum elong             | -3097 Jul 23 j 21:25                         | 4° <b>©</b> 18'19                        |            |
| evening set                       | -3102 Jan 16 j 01:11                                 | 12° <b>る</b> 27'20              |                       | max. Earth dist.          | -3097 Jul 22 j 22:22                         |  | 6.39735 AU |
|                                   |  |                                 |                       | morning rise              | -3097 Aug 05 j 21:54                         | 7°908'50                                 |            |
| conjunction                       | -3102 Jan 29 j 06:31                                 | 15° <b>る</b> 36'57              | -1°06'13              | retrograde                | -3097 Dec 04 j 03:20                         | 24° <b>©</b> 06'58                       |            |
| minimum elong                     | -3102 Jan 29 j 06:28                                 | 15° <b>る</b> 36'55              | 1°06'18               | opposition                | -3096 Feb 02 j 09:37                         | 19° <b>©</b> 13'53                       | 1°41'22    |
| max. Earth dist.                  | -3102 Jan 30 j 14:36                                 | 15° <b>る</b> 56'10              | 5.99714 AU            | min. Earth dist.          | -3096 Feb 03 j 07:37                         | 19° <b>5</b> 06'46                       | 4.40599 AU |
| morning rise                      | -3102 Feb 11 j 15:10                                 | 18° <b>る</b> 48'20              |                       | direct                    | -3096 Apr 04 j 21:49                         | 14° <b>©</b> 11'08                       |            |
|                                   | -3102 Apr 03 j 03:50                                 | 0° <b>≈</b>                     |                       |                           | -3096 Jul 31 j 22:43                         | $0$ $^{\circ}$ $\Omega$                  |            |
| retrograde                        | -3102 Jun 23 j 21:49                                 | 9° <b>≈</b> 12'59               |                       | evening set               | -3096 Aug 10 j 04:59                         | 2° <b>Ω</b> 00′13                        |            |
| opposition                        | -3102 Aug 22 j 21:11                                 | 4° <b>≈</b> 08'47               | -1°55'07              | max. Earth dist.          | -3096 Aug 21 j 07:50                         | 4° <b>Ω</b> 26'32                        | 6.39730 AU |
| min. Earth dist.                  | -3102 Aug 21 j 17:40                                 | 4°≈18′05                        | 4.00475 AU            |                           |  |  |            |
|                                   | -3102 Sep 28 j 15:13                                 | 30°Ŗ₹                           |                       | conjunction               | -3096 Aug 23 j 00:13                         | 4° <b>Ω</b> 48'45                        | 1°18'06    |
| direct                            | -3102 Oct 19 j 21:03                                 | 29° <b>る</b> 13'44              |                       | minimum elong             | -3096 Aug 23 j 00:11                         | 4° <b>Ω</b> 48'44                        | 1°18'10    |
|                                   | -3102 Nov 10 j 02:30                                 | 0° <b>≈</b>                     |                       | morning rise              | -3096 Sep 04 j 16:40                         | 7° <b>Ω</b> 35'56                        |            |
|                                   | -3101 Feb 06 j 14:03                                 | 15° <b>≈</b>                    |                       |                           | -3096 Oct 10 j 00:55                         | 15° <b>Ω</b>                             |            |
| evening set                       | -3101 Feb 22 j 01:44                                 | 18° <b>≈</b> 35'46              |                       | retrograde                | -3095 Jan 03 j 08:57                         | 24°Ω40'14                                | 1057127    |
| . ,.                              | 2101 M 07:1424                                       | 21047100                        | 1010120               | opposition                | -3095 Mar 05 j 00:06                         | 19° <b>Ω</b> 48'40                       | 1°57'37    |
| conjunction                       | -3101 Mar 07 j 14:24                                 | 21°≈47'09                       |                       | min. Earth dist.          | -3095 Mar 06 j 07:42                         | 19° <b>Ω</b> 38'35                       | 4.37595 AU |
| minimum elong<br>max. Earth dist. | -3101 Mar 07 j 14:25<br>-3101 Mar 09 j 15:11         | 21°≈47'09<br>22°≈15'56          | 1°19'32<br>6.02806 AU | direct                    | -3095 Apr 25 j 01:41<br>-3095 May 06 j 16:29 | 15°R <b>Ω</b><br>14° <b>Ω</b> 47'50      |            |
| morning rise                      | -3101 Mar 21 j 05:46                                 | 22 ≈13 30<br>24°≈59'49          | 0.02800 AU            | direct                    | -3095 May 00 J 10:29                         | 14 <b>δί</b> 47 30                       |            |
| morning risc                      | -3101 Apr 12 j 01:22                                 | 0° <b>)</b> €                   |                       |                           | -3095 Aug 28 j 18:28                         | 0° m)                                    |            |
| retrograde                        | -3101 Apr 12 j 01:22                                 | 14° <b>)</b> 59'12              |                       | evening set               | -3095 Sep 10 j 04:50                         | 2° Mp 43'43                              |            |
| min. Earth dist.                  | -3101 Sep 26 j 08:12                                 |                                 | 4.06906 AU            | max. Earth dist.          | -3095 Sep 20 j 22:31                         |  | 6.33872 AU |
| opposition                        | -3101 Sep 27 j 15:03                                 | 9° <b>)</b> 53′56               |                       |                           |  | - 4 -                                    |            |
| direct                            | -3101 Nov 24 j 20:59                                 | 4° <b>)</b> €55'45              |                       | conjunction               | -3095 Sep 22 j 18:58                         | 5° m 32'20                               | 1°17'32    |
| evening set                       | -3100 Mar 30 j 01:20                                 | 24° <b>)</b> €01'00             |                       | minimum elong             | -3095 Sep 22 j 19:00                         | 5° m/32'21                               | 1°17'35    |
|                                   | ·  |                                 |                       | morning rise              | -3095 Oct 05 j 07:10                         | 8° m/20'11                               |            |
| conjunction                       | -3100 Apr 12 j 18:58                                 | 27° <b>)</b> 10′30              | -1°02'59              | retrograde                | -3094 Feb 04 j 20:02                         | 25° <b>m</b> 55'25                       |            |
| minimum elong                     | -3100 Apr 12 j 19:01                                 | 27° <b>¥</b> 10′32              | 1°02'59               | opposition                | -3094 Apr 06 j 19:44                         | 21°Mp03'32                               | 1°40'40    |
| max. Earth dist.                  | -3100 Apr 14 j 15:16                                 | 27° <b>)</b> € 36′00            | 6.11942 AU            | min. Earth dist.          | -3094 Apr 08 j 02:06                         | 20° <b>m</b> 53'52                       | 4.29252 AU |
|                                   | -3100 Apr 25 j 02:13                                 | $0^{\circ}$ Y                   |                       | direct                    | -3094 Jun 07 j 21:35                         | 16°Mp05'27                               |            |
| morning rise                      | -3100 Apr 26 j 13:57                                 | 0° <b>Y</b> 20′24               |                       |                           | -3094 Sep 22 j 04:35                         | 0∘ <b>⊽</b>                              |            |
| retrograde                        | -3100 Sep 01 j 03:53                                 | 19° <b>Y</b> 24'16              |                       | evening set               | -3094 Oct 11 j 12:34                         | 4° <b>≙</b> 18'40                        |            |
| opposition                        | -3100 Oct 30 j 15:08                                 | 14° <b>Y</b> 20'35              |                       | max. Earth dist.          | -3094 Oct 22 j 13:21                         | 6° <b>≏</b> 50'04                        | 6.23735 AU |
| min. Earth dist.                  | -3100 Oct 29 j 15:58                                 | 14° <b>Y</b> 28′28              | 4.17708 AU            |                           | 2004.0 . 24:02.00                            | <b>70 0 1 110</b> 6                      | 007410     |
| direct                            | -3100 Dec 28 j 20:57                                 | 9° <b>Y</b> 19'19               |                       | conjunction               | -3094 Oct 24 j 02:00                         | 7° <b>2</b> 11'06                        |            |
| evening set                       | -3099 May 04 j 21:48                                 | 27° <b>Y</b> 57′27              |                       | minimum elong             | -3094 Oct 24 j 02:03                         | 7° <b>2</b> 11'07                        | 0°54'10    |
|                                   | -3099 May 14 j 01:06                                 | 0°8                             |                       | morning rise              | -3094 Nov 05 j 15:09                         | 10° <b>£</b> 03'36<br>28° <b>£</b> 29'18 |            |
| conjunction                       | -3099 May 18 j 15:52                                 | 1° <b>8</b> 02'07               | 0°25'13               | retrograde opposition     | -3093 Mar 11 j 06:18<br>-3093 May 11 j 06:38 |  | 0°51'52    |
| minimum elong                     | -3099 May 18 j 15:54                                 | 1°802'08                        |                       | min. Earth dist.          | -3093 May 11 j 00:38                         | 23° <b>⊆</b> 33'21<br>23° <b>⊆</b> 28'34 | 4.17896 AU |
| max. Earth dist.                  | -3099 May 19 j 18:20                                 | 1° <b>8</b> 16'57               |                       | direct                    | -3093 Jul 11 j 06:30                         | 18° <b>Ω</b> 40'04                       | 4.17690 AU |
| morning rise                      | -3099 Jun 01 j 08:48                                 | 4° <b>8</b> 06'03               | 0.23007 710           | uncet                     | -3093 Oct 11 j 10:15                         | 0° <b>™</b>                              |            |
|                                   | -3099 Jul 24 j 09:50                                 | 15° <b>8</b>                    |                       | evening set               | -3093 Nov 12 j 23:57                         | 7°M17'59                                 |            |
| retrograde                        | -3099 Oct 03 j 10:51                                 | 22° <b>8</b> 09'27              |                       | <b>5</b>                  | - j == .57                                   |  |            |
| opposition                        | -3099 Dec 01 j 23:58                                 | 17° <b>8</b> 09'21              | -0°04'37              | conjunction               | -3093 Nov 25 j 16:54                         | 10° <b>M</b> ₊16'45                      | 0°12'51    |
| min. Earth dist.                  | -3099 Dec 01 j 15:16                                 |                                 | 4.29081 AU            | minimum elong             | -3093 Nov 25 j 16:56                         | 10° <b>™</b> 16'46                       | 0°12'46    |
|                                   | -3099 Dec 18 j 15:34                                 | 15° <b>₹</b> 8                  |                       | behind sun begin          | -3093 Nov 25 j 11:47                         | 10° <b>M</b> 13'46                       |            |
| asc. node                         | -3099 Dec 29 j 20:06                                 | 13° <b>8</b> 46'17              |                       | behind sun end            | -3093 Nov 25 j 22:04                         | 10° <b>™</b> 19'46                       |            |
| direct                            | -3098 Jan 31 j 13:14                                 | 12° <b>8</b> 06'13              |                       | max. Earth dist.          | -3093 Nov 24 j 23:06                         | 10°M06'18                                | 6.12221 AU |
|                                   | -3098 Mar 16 j 21:46                                 | 15° <b>8</b>                    |                       | morning rise              | -3093 Dec 08 j 11:18                         | 13°M16'30                                |            |
|                                   | -3098 Jun 06 j 17:38                                 | $\Pi$ °0                        |                       |                           | -3093 Dec 15 j 21:26                         | 15° <b>M</b>                             |            |
| evening set                       | -3098 Jun 08 j 02:58                                 | 0° <b>Ⅱ</b> 18'11               |                       |                           | -3092 Mar 04 j 06:21                         | 0° <b>∡</b> ¹                            |            |
|                                   |  |                                 |                       | desc. node                | -3092 Mar 12 j 03:31                         | 0° <b>х</b> 52'41                        |            |
| conjunction                       | -3098 Jun 21 j 15:28                                 | 3° <b>Ⅱ</b> 16′19               |                       | retrograde                | -3092 Apr 15 j 10:45                         | 2° <b>∡</b> 740'32                       |            |
| minimum elong                     | -3098 Jun 21 j 15:26                                 | 3° <b>Ⅱ</b> 16′18               |                       |                           | -3092 May 28 j 01:26                         | 30°RM.                                   |            |
| max. Earth dist.                  | -3098 Jun 21 j 14:41                                 | 3° <b>Ⅱ</b> 15'53               | 6.33858 AU            | opposition                | -3092 Jun 15 j 07:11                         | 27°M43'10                                |            |
| morning rise                      | -3098 Jul 05 j 01:30                                 | 6° <b>Ⅱ</b> 13'04               |                       | min. Earth dist.          | -3092 Jun 15 j 09:33                         |  | 4.07107 AU |
|                                   | -3098 Nov 03 j 11:46                                 | 23° <b>Ⅲ</b> 31'30              |                       | direct                    | -3092 Aug 13 j 20:19                         | 22°M49'52                                |            |
| retrograde                        |  |                                 | 0°57'10               |                           |  |  |            |
| opposition                        | -3097 Jan 02 j 07:59                                 | 18° <b>Ⅱ</b> 35'19              |                       |                           | -3092 Oct 22 j 14:10                         | 0° <b>∡</b> ¹                            |            |
| •                                 |  |                                 |                       | evening set               |  |  |            |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -3092 in astronomical counting style is the year 3093 BCE in historical counting style. -3092 Dec 29 i 04:31 14°**₹**58'45 -0°34'23 min. Earth dist. -3085 Jan 07 i 02:54 22°**I**59'30 4.38084 AU conjunction -3092 Dec 29 j 04:28 14°**₹**58'44 0°34'29 direct -3085 Mar 09 j 14:11 17°**Ⅲ**59'18 minimum elong -3092 Dec 29 j 13:57 15°**₹**'04'24 -3085 Jun 17 j 06:04 0ಂತಾ max. Earth dist. 6.03166 AU -3091 Jan 11 j 06:19 -3085 Jul 15 j 05:22 5°952'59 18°**₹**05'44 morning rise evening set -3091 Mar 06 j 15:30 0°궁 -3085 Jul 27 j 04:26 8°529'30 max. Earth dist. 6.39888 AU -3091 May 22 j 20:16 8°**ප**16'16 retrograde -3085 Jul 28 j 07:52 -3091 Jul 22 j 06:16 3°る14'52 -1°22'40 opposition conjunction 8°9544'31 1°01'00 -3085 Jul 28 j 07:49 min. Earth dist. -3091 Jul 21 j 14:04 3°る20'15 4.00738 AU minimum elong 8°5544'29 1°01'06 -3091 Aug 18 j 01:32 30°R*x*<sup>7</sup> morning rise -3085 Aug 10 j 07:14 11°934'27 direct -3091 Sep 18 j 17:03 28°×21'34 retrograde -3085 Dec 08 j 12:50 28°532'33 -3091 Oct 20 j 02:33 0°ಕ opposition -3084 Feb 06 j 19:37 23°**©**39'46 1°45'33 -3090 Jan 21 j 05:51 17°る41'55 -3084 Feb 07 j 19:52 evening set min. Earth dist. 23°**9**31'56 4.40328 AU -3084 Apr 09 j 09:36 direct 18°937'10 -3084 Jul 14 j 23:35 conjunction -3090 Feb 03 j 12:14 20°る51'51 -1°09'52  $0^{\circ}\Omega$ minimum elong -3090 Feb 03 j 12:11 20°る51'49 1°09'58 evening set -3084 Aug 14 j 14:41 6°Ω27'15 max. Earth dist. -3090 Feb 05 j 00:14 21°**る**13'21 5.99984 AU max. Earth dist. -3084 Aug 25 j 16:51  $8^{\circ}\Omega53'27$ 6.39051 AU morning rise -3090 Feb 16 j 21:50 24°る03'30 -3090 Mar 14 j 14:52 conjunction -3084 Aug 27 j 09:09 9°**Ω**15'40 1°19'24 retrograde -3090 Jun 29 j 02:52 14°≈26'01 minimum elong -3084 Aug 27 j 09:08 9°**Ω**15'40 1°19'29 12°**Ω**02'46 min. Earth dist. -3090 Aug 26 j 19:35 9°**≈**31'19 4.01266 AU morning rise -3084 Sep 09 j 00:37 opposition -3090 Aug 28 j 00:21 9°≈21'34 -1°57'20 -3084 Sep 22 j 15:42 15°**Ω** direct -3090 Oct 24 i 23:35 4°≈26'11 retrograde -3083 Jan 07 i 20:40 29°Ω10'31 -3089 Jan 19 j 04:10 15°≈ opposition -3083 Mar 09 i 13:56 24°Ω19'02 1°57'17 -3089 Feb 27 j 07:15 23°≈45'55 min. Earth dist. -3083 Mar 10 j 21:01 24°Ω09'08 4.36579 AU evening set direct -3083 May 11 j 04:15 19°Ω18'37 -3089 Mar 12 j 20:34 26°≈57'03 -1°18'52 -3083 Aug 11 j 11:18 conjunction O° m -3089 Mar 12 j 20:36 26°≈57'04 1°18'55 -3083 Sep 14 j 15:04 evening set 7° m 16'41 minimum elong max. Earth dist. -3089 Mar 14 j 20:17 27°≈25'07 6.04012 AU max. Earth dist. -3083 Sep 25 j 08:36 9° m 40'51 6.32608 AU -3089 Mar 25 j 20:31 0°₩ -3089 Mar 26 j 12:44 0°\(\frac{1}{2}\) -3083 Sep 27 j 04:42 10° m 05'37 1°15'33 morning rise conjunction 20°**₭**01'39 -3089 Aug 03 j 21:36 -3083 Sep 27 j 04:43 10° M 05'38 minimum elong 1°15'34 retrograde -3089 Oct 01 j 05:38 -3083 Oct 09 j 16:49 15°**₭**06'48 4.08401 AU 12° m 53'56 min. Earth dist. morning rise -3082 Jan 21 j 03:35 -3089 Oct 02 j 11:56 14°**)** 56′26 -1°47′05 0∘ಹ opposition -3089 Nov 29 j 20:38 9°**)** 57'47 -3082 Feb 09 j 15:48 0°**£**35'17 direct retrograde -3088 Apr 04 j 03:38 28°**升**59'07 -3082 Mar 01 j 03:35 evening set 30°R M -3088 Apr 08 j 14:16  $0^{\circ}\Upsilon$ -3082 Apr 11 j 15:07 25° m/43'12 1°35'31 opposition -3082 Apr 12 j 21:10 25° m 33'39 4.27819 AU min. Earth dist. conjunction -3088 Apr 17 j 21:46 2°Y08'04 -0°58'39 direct -3082 Jun 12 j 14:54 20° m/45'31 minimum elong -3088 Apr 17 j 21:49 2°Y08'06 0°58'39 -3082 Sep 04 j 01:26 0°Ω max. Earth dist. -3088 Apr 19 j 16:59 2°**Υ**32'51 6.13621 AU evening set -3082 Oct 16 j 01:26 9°**£**01'29 morning rise -3088 May 01 j 16:37 5°Υ17'13 max. Earth dist. -3082 Oct 27 j 05:12 11°**≏**35′04 6.22278 AU -3088 Sep 05 j 19:12 24°Y12'06 retrograde -3088 Nov 03 j 08:49 19°Υ16'00 4.19395 AU conjunction -3082 Oct 28 j 15:12 11°**2**54'38 0°49'12 min. Earth dist. -3088 Nov 04 j 05:46 19°**Y**08'54 -0°59'37 -3082 Oct 28 j 15:15 11°**£**54'39 opposition minimum elong 0°49'11 -3087 Jan 02 j 16:10 14°**Y**07′20 -3082 Nov 10 j 04:49 14°**-**47'57 direct morning rise 0°8 -3081 Jan 27 j 14:30 -3087 Apr 27 j 13:24 0°M evening set -3087 May 09 j 18:54 2°841'27 retrograde -3081 Mar 16 j 05:31 3°M20'50 -3081 May 03 j 21:46 30°R<u>Ω</u> 5°845'16 -0°19'04 conjunction -3087 May 23 j 12:24 opposition -3081 May 16 j 06:54 28° **2**26'27 0°42'54 -3087 May 23 i 12:26 5°**8**45'17 0°19'00 min. Earth dist. -3081 May 17 i 00:47 28°**2**20'43 4.16528 AU minimum elong -3087 May 24 j 10:10 5°857'25 6.25169 AU direct -3081 Jul 16 i 01:20 23°**₽**31'32 max. Earth dist. -3087 Jun 06 j 04:48 8°**8**48'16 -3081 Sep 21 j 02:45 0°M morning rise -3081 Nov 17 j 17:20 -3087 Jul 05 j 00:16 15°8 12°M12'01 evening set 26°**8**44'26 retrograde -3087 Oct 07 j 19:52 -3081 Nov 29 j 15:16 15°M asc. node -3087 Nov 08 j 18:33 25°**8**06'23 opposition -3087 Dec 06 j 10:15 21°**8**44'52 0°04'34 conjunction -3081 Nov 30 j 10:54 15°M11'34 0°06'13 min. Earth dist. -3087 Dec 06 j 03:55 21°**8**46'59 4.30401 AU minimum elong -3081 Nov 30 j 10:55 15°M11'34 0°06'09 -3081 Nov 30 j 03:17 -3086 Feb 05 j 03:53 16°**8**41'31 15°M07'06 direct behind sun begin  $0^{\circ}\Pi$ -3081 Nov 30 j 18:32 15°M16'03 -3086 May 21 j 01:26 behind sun end -3086 Jun 12 j 18:32 4°**Ⅱ**50′50 -3081 Nov 29 j 20:59 evening set max. Earth dist. 15°M03'23 6.11065 AU -3081 Dec 13 j 06:10 morning rise 18°M₁2'12 conjunction -3086 Jun 26 j 06:04 7°**II**48'08 0°25'12 desc. node -3080 Jan 20 j 22:58 26°M50'18 minimum elong -3086 Jun 26 j 06:02 7°**Ⅱ**48'07 0°25'18 -3080 Feb 06 j 01:32 0°**∡** max. Earth dist. -3086 Jun 26 j 02:33 7°**Ⅱ**46'12 6.34846 AU retrograde -3080 Apr 20 j 15:40 7°**х** 42′30 morning rise -3086 Jul 09 j 14:44 10°**Ⅱ**43'56 opposition -3080 Jun 20 j 10:50 2°×744'31 -0°27'09 -3086 Nov 07 j 19:20 27°**II**58'32 min. Earth dist. -3080 Jun 20 j 11:01 2°**х** 44'27 4.06252 AU retrograde

-3085 Jan 06 j 16:38

opposition

23°**II**02'53 1°04'44

-3080 Jul 12 j 19:11

30°RM

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 29 Attention, astronomical year style is used: The year -3080 in astronomical counting style is the year 3081 BCE in historical counting style.

| Attention, astronomi              | cal year style is used: Th                   | e year -3080 i                         | n astronomical cou | nting style is the year | 3081 BCE in historical c                     | ounting style.                           | <b>6</b> - 2 |
|-----------------------------------|--|--|--------------------|-------------------------|--|--|--------------|
| direct                            | -3080 Aug 18 j 21:06                         | 27°M51'18                              |                    | evening set             | -3074 Jun 17 j 09:44                         | 9° <b>Ⅱ</b> 22'15                        |              |
|                                   | -3080 Sep 24 j 09:51                         | 0° <b>∡</b> ¹                          |                    |                         |  |  |              |
| evening set                       | -3080 Dec 21 j 03:39                         | 16° <b>≯</b> 56′22                     |                    | conjunction             | -3074 Jun 30 j 20:10                         | 12° <b>Ⅱ</b> 18'49                       | 0°30'57      |
|                                   |  |  |                    | minimum elong           | -3074 Jun 30 j 20:08                         | 12° <b>Ⅱ</b> 18'48                       | 0°31'03      |
| conjunction                       | -3079 Jan 03 j 03:37                         | 20° <b>∡</b> 02'20                     |                    | max. Earth dist.        | -3074 Jun 30 j 12:49                         |  | 6.35589 AU   |
| minimum elong                     | -3079 Jan 03 j 03:34                         | 20° <b>∡</b> 02'19                     |                    | morning rise            | -3074 Jul 14 j 03:42                         | 15° <b>Ⅱ</b> 13'51                       |              |
| max. Earth dist.                  | -3079 Jan 03 j 17:30                         | 20° <b>∡</b> 10′38                     | 6.02686 AU         |                         | -3074 Oct 03 j 10:04                         | 0°€                                      |              |
| morning rise                      | -3079 Jan 16 j 06:25                         | 23° <b>∡</b> *09'57                    |                    | retrograde              | -3074 Nov 12 j 03:08                         | 2°525'30                                 |              |
|                                   | -3079 Feb 15 j 00:09                         | 0°る                                    |                    | *.*                     | -3074 Dec 22 j 00:38                         | 30°RⅡ                                    | 1011150      |
| retrograde                        | -3079 May 28 j 01:03                         | 13°る23'02                              | 1020147            | opposition              | -3073 Jan 11 j 01:40                         | 27° <b>II</b> 30'19                      |              |
| opposition<br>min. Earth dist.    | -3079 Jul 27 j 09:30                         | 8°る21'09                               | 4.00712 AU         | min. Earth dist.        | -3073 Jan 11 j 13:34<br>-3073 Mar 14 j 01:21 | 27° <b>Ⅱ</b> 26'26<br>22° <b>Ⅱ</b> 26'49 | 4.38530 AU   |
| direct                            | -3079 Jul 26 j 15:08<br>-3079 Sep 23 j 17:34 | 8 32710<br>3° <b>る</b> 27'41           | 4.00/12 AU         | direct                  | -3073 Mar 14 j 01.21<br>-3073 May 29 j 05:34 | 0°9                                      |              |
| evening set                       | -3079 Sep 23 j 17.34<br>-3078 Jan 26 j 07:51 | 3 <b>3</b> 2741<br>22° <b>3</b> 47'53  |                    | evening set             | -3073 May 29 J 05:34<br>-3073 Jul 19 j 16:48 | 0 <del>3</del><br>10° <b>9</b> 19'56     |              |
| evening set                       | -3070 Jan 20 J 07.31                         | 22 04/33                               |                    | evening set             | -5075 Jul 17 J 10.46                         | 10 31730                                 |              |
| conjunction                       | -3078 Feb 08 j 15:00                         | 25° <b>ප</b> 58'00                     | -1°12'53           | conjunction             | -3073 Aug 01 j 18:10                         | 13° <b>©</b> 10'56                       | 1°04'47      |
| minimum elong                     | -3078 Feb 08 j 14:58                         | 25° <b>ප</b> 57'59                     |                    | minimum elong           | -3073 Aug 01 j 18:07                         | 13°9510'54                               |              |
| max. Earth dist.                  | -3078 Feb 10 j 03:53                         | 26° <b>පි</b> 20'00                    | 6.00373 AU         | max. Earth dist.        | -3073 Jul 31 j 13:50                         | 12° <b>©</b> 55'25                       | 6.40003 AU   |
| morning rise                      | -3078 Feb 22 j 01:40                         | 29° <b>ප</b> 09'52                     |                    | morning rise            | -3073 Aug 14 j 16:11                         | 16° <b>©</b> 00'18                       |              |
|                                   | -3078 Feb 25 j 14:38                         | 0° <b>≈</b>                            |                    |                         | -3073 Oct 29 j 09:32                         | $0^{\circ}\Omega$                        |              |
|                                   | -3078 May 10 j 06:34                         | 15° <b>≈</b>                           |                    | retrograde              | -3073 Dec 12 j 21:51                         | 2° <b>Ω</b> 58'33                        |              |
| retrograde                        | -3078 Jul 04 j 02:19                         | 19° <b>≈</b> 29'47                     |                    |                         | -3072 Jan 27 j 01:50                         | 30° <b></b> ₹©                           |              |
|                                   | -3078 Aug 28 j 16:34                         | 15°R <b>≈</b>                          |                    | opposition              | -3072 Feb 11 j 06:10                         | 28° <b>5</b> 06'05                       | 1°49'04      |
| opposition                        | -3078 Sep 01 j 23:36                         | 14° <b>≈</b> 25′04                     | -1°58'35           | min. Earth dist.        | -3072 Feb 12 j 07:22                         | 27° <b>©</b> 57'59                       | 4.40115 AU   |
| min. Earth dist.                  | -3078 Aug 31 j 18:02                         | 14° <b>≈</b> 35′07                     | 4.02039 AU         | direct                  | -3072 Apr 13 j 20:58                         | 23° <b>©</b> 03'48                       |              |
| direct                            | -3078 Oct 29 j 23:04                         | 9° <b>≈</b> 29'14                      |                    |                         | -3072 Jun 25 j 13:50                         | $0 ^{\circ} \Omega$                      |              |
|                                   | -3078 Dec 28 j 15:29                         | 15° <b>≈</b>                           |                    | evening set             | -3072 Aug 19 j 00:04                         | 10° <b>Ω</b> 54'16                       |              |
| evening set                       | -3077 Mar 04 j 09:33                         | 28°≈47'03                              |                    | max. Earth dist.        | -3072 Aug 29 j 23:08                         | 13° <b>{\</b> 19'06                      | 6.38499 AU   |
|                                   | -3077 Mar 09 j 14:24                         | 0° <b>∀</b>                            |                    |                         | 2072 4 21:17.20                              | 120 0 (2)20                              | 1020114      |
|                                   | 2077.14 17:22.54                             | 101/20106                              | 1017141            | conjunction             | -3072 Aug 31 j 17:29                         | 13° <b>Ω</b> 42'30                       | 1°20'14      |
| conjunction                       | -3077 Mar 17 j 23:54                         | 1° <b>¥</b> 58'06<br>1° <b>¥</b> 58'08 |                    | minimum elong           | -3072 Aug 31 j 17:28                         | 13° <b>Ω</b> 42'30<br>15° <b>Ω</b>       | 1°20'18      |
| minimum elong<br>max. Earth dist. | -3077 Mar 17 j 23:56<br>-3077 Mar 20 j 00:28 |  | 6.05107 AU         | morning rise            | -3072 Sep 06 j 13:46<br>-3072 Sep 13 j 08:20 | 15 <b>8ℓ</b><br>16° <b>Ω</b> 29'32       |              |
| morning rise                      | -3077 Mar 31 j 16:32                         | 5° <b>H</b> 10'14                      | 0.03107 AC         | morning risc            | -3072 Nov 23 j 10:14                         | 0° <b>m</b> )                            |              |
| retrograde                        | -3077 Aug 08 j 17:29                         | 24° <b>H</b> 55'48                     |                    | retrograde              | -3071 Jan 12 j 09:56                         | 3° Mp 40'23                              |              |
| min. Earth dist.                  | -3077 Oct 06 j 01:14                         |  | 4.09688 AU         | renograde               | -3071 Mar 04 j 17:58                         | 30°R <b>Ω</b>                            |              |
| opposition                        | -3077 Oct 07 j 05:54                         | 19° <b>)</b> 50'48                     |                    | opposition              | -3071 Mar 14 j 03:46                         | 28° <b>Ω</b> 48'53                       | 1°56'13      |
| direct                            | -3077 Dec 04 j 17:24                         | 14° <b>)</b> 51'45                     |                    | min. Earth dist.        | -3071 Mar 15 j 11:27                         |  | 4.35711 AU   |
|                                   | -3076 Mar 23 j 00:56                         | $0^{\circ}\Upsilon$                    |                    | direct                  | -3071 May 15 j 17:17                         | 23° <b>Ω</b> 48'46                       |              |
| evening set                       | -3076 Apr 09 j 03:22                         | 3° <b>Y</b> 50'06                      |                    |                         | -3071 Jul 22 j 09:20                         | 0° <b>m</b> )                            |              |
|                                   |  |  |                    | evening set             | -3071 Sep 19 j 00:14                         | 11° <b>m</b> 48'21                       |              |
| conjunction                       | -3076 Apr 22 j 21:43                         | 6° <b>Y</b> 58'35                      | -0°54'02           | max. Earth dist.        | -3071 Sep 29 j 19:28                         | 14° <b>m</b> 13'49                       | 6.31483 AU   |
| minimum elong                     | -3076 Apr 22 j 21:47                         | 6° <b>Ƴ</b> 58'38                      | 0°54'01            |                         |  |  |              |
| max. Earth dist.                  | -3076 Apr 24 j 13:48                         | 7° <b>Ƴ</b> 21'29                      | 6.14999 AU         | conjunction             | -3071 Oct 01 j 13:45                         | 14° <b>m</b> 37'38                       | 1°13'06      |
| morning rise                      | -3076 May 06 j 16:46                         | 10° <b>Ƴ</b> 07'10                     |                    | minimum elong           | -3071 Oct 01 j 13:47                         | 14° <b>m</b> 37'40                       | 1°13'08      |
| retrograde                        | -3076 Sep 10 j 07:20                         | 28° <b>Y</b> 54'32                     |                    | morning rise            | -3071 Oct 14 j 01:38                         | 17° <b>m</b> 26'21                       |              |
| opposition                        | -3076 Nov 08 j 18:37                         | 23° <b>Y</b> 51'48                     |                    |                         | -3071 Dec 15 j 21:02                         | 0∘ <b>ত</b>                              |              |
| min. Earth dist.                  | -3076 Nov 07 j 22:56                         | 23° <b>Y</b> 58′29                     | 4.20736 AU         | retrograde              | -3070 Feb 14 j 08:43                         | 5° <b>≙</b> 13'25                        |              |
| direct                            | -3075 Jan 07 j 08:18                         | 18° <b>Y</b> 49'56                     |                    | opposition              | -3070 Apr 16 j 09:23                         | 0° <b>ჲ</b> 21'05                        | 1°29'45      |
| . ,                               | -3075 Apr 10 j 03:03                         | 0°8                                    |                    | min. Earth dist.        | -3070 Apr 17 j 13:50                         | 0° <b>ჲ</b> 12'02                        | 4.26483 AU   |
| evening set                       | -3075 May 14 j 14:26                         | 7° <b>8</b> 21'24                      |                    | direct                  | -3070 Apr 19 j 03:43                         | 30°RMp<br>25°m 22140                     |              |
| conjunction                       | -3075 May 28 j 07:31                         | 10° <b>8</b> 24'32                     | 0012152            | direct                  | -3070 Jun 17 j 05:09<br>-3070 Aug 12 j 22:27 | 25° Mp 23'49<br>0° <u>₽</u>              |              |
| minimum elong                     | -3075 May 28 j 07:32                         | 10 <b>8</b> 24 32                      |                    | evening set             | -3070 Aug 12 j 22.27<br>-3070 Oct 20 j 13:09 | 0 <b>==</b><br>13° <b>£</b> 42'20        |              |
| behind sun begin                  | -3075 May 28 j 07:32                         | 10° <b>8</b> 21'46                     | 0 12 30            | max. Earth dist.        | -3070 Oct 20 j 13:09                         | 15 <b>=</b> 42 20<br>16° <b>£</b> 17'22  | 6.20832 AU   |
| behind sun end                    | -3075 May 28 j 12:31                         | 10° <b>8</b> 27'18                     |                    | max. Lartii dist.       | -5070 Oct 51 j 16.51                         | 10 -1722                                 | 0.20032 AC   |
| max. Earth dist.                  | -3075 May 29 j 01:54                         | 10° <b>8</b> 34'46                     | 6.26401 AU         | conjunction             | -3070 Nov 02 j 03:05                         | 16° <b>≏</b> 36'11                       | 0°43'56      |
| morning rise                      | -3075 Jun 10 j 23:06                         | 13° <b>8</b> 26'42                     | 0.20101110         | minimum elong           | -3070 Nov 02 j 03:08                         | 16° <b>£</b> 36'13                       | 0°43'54      |
|                                   | -3075 Jun 18 j 00:40                         | 15° <b>8</b>                           |                    | morning rise            | -3070 Nov 14 j 17:22                         | 19° <b>⊆</b> 30'23                       |              |
|                                   | -3075 Sep 13 j 21:01                         | 0°II                                   |                    | <b>5</b>                | -3069 Jan 02 j 20:28                         | 0°M                                      |              |
| asc. node                         | -3075 Sep 19 j 06:26                         | 0° <b>Ⅲ</b> 25'59                      |                    | retrograde              | -3069 Mar 21 j 05:47                         | 8°M10'51                                 |              |
| retrograde                        | -3075 Oct 12 j 06:19                         | 1° <b>Ⅱ</b> 17'00                      |                    | opposition              | -3069 May 21 j 06:20                         | 3°M15'58                                 | 0°33'40      |
|                                   | -3075 Nov 09 j 10:16                         | 30° <b>₹</b> 8                         |                    | min. Earth dist.        | -3069 May 21 j 22:36                         | 3°M10'45                                 | 4.15042 AU   |
| opposition                        | -3075 Dec 10 j 20:02                         | 26° <b>8</b> 18'04                     | 0°13'35            |                         | -3069 Jun 18 j 03:04                         | 30° <b>₹</b> Ω                           |              |
| min. Earth dist.                  | -3075 Dec 10 j 16:25                         | 26° <b>8</b> 19'16                     | 4.31427 AU         | direct                  | -3069 Jul 20 j 20:57                         | 28° <b>≏</b> 21'19                       |              |
| direct                            | -3074 Feb 09 j 18:07                         | 21° <b>8</b> 14'41                     |                    |                         | -3069 Aug 22 j 06:53                         | 0°M                                      |              |
|                                   | -3074 May 02 j 16:17                         | $\Pi$ °0                               |                    |                         | -3069 Nov 13 j 10:58                         | 15° <b>M</b>                             |              |
|                                   |  |  |                    |                         |  |  |              |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -3069 in astronomical counting style is the year 3070 BCE in historical counting style. -3069 Nov 22 i 09:54 17°ML05'05 -3063 Jun 02 i 05:08 15°809'54 -0°06'30 evening set conjunction -3069 Nov 30 j 19:47 19°M03'50 minimum elong -3063 Jun 02 j 05:08 15°809'54 0°06'27 desc. node -3063 Jun 01 j 21:20 15°**8**05'35 behind sun begin -3069 Dec 05 j 04:22 20°ML05'35 -0°00'33 -3063 Jun 02 j 12:56 behind sun end 15°**8**14'12 conjunction -3069 Dec 05 j 04:21 -3063 Jun 02 j 21:21 minimum elong 20°ML05'34 0°00'37 max. Earth dist. 15°**8**18'54 6.27962 AU -3063 Jun 15 j 19:46 -3069 Dec 04 j 20:18  $20^{\circ}$  ML  $00^{\circ}$  51behind sun begin morning rise 18°**8**11'02 -3063 Jul 29 j 10:51 behind sun end -3069 Dec 05 j 12:24 20°M10'18 asc. node 27°**8**15'50  $19^{\circ}$ M $_{5}9'40$ max. Earth dist. -3069 Dec 04 j 18:18 6.09686 AU -3063 Aug 13 j 19:46 0°II morning rise -3069 Dec 18 j 00:30 23°M<sub>07</sub>'13 retrograde -3063 Oct 16 j 15:52 5°**I**54′03 0°Д55'38 -3068 Jan 17 j 07:45 0°×7 opposition -3063 Dec 15 j 07:44 0°22'38 retrograde -3068 Apr 25 j 19:40 12°**х¹**44'42 min. Earth dist. -3063 Dec 15 j 05:00 0°**I**I56'32 4.32921 AU -3068 Jun 25 j 13:54 opposition 7°**∡**¹46′12 -0°37′00 -3063 Dec 22 j 08:01 30°₽₩ 25°852'10 min. Earth dist. -3068 Jun 25 j 11:31 7°**∡**¹46'58 4.05115 AU direct -3062 Feb 14 j 08:59 direct -3068 Aug 23 j 19:42 2°×753'04 -3062 Apr 09 j 10:31  $0^{\circ}\Pi$ evening set -3068 Dec 26 j 02:45 22°**₹**01'11 evening set -3062 Jun 22 j 01:47 13°**I**56′00 conjunction -3067 Jan 08 j 03:33 25°**₹**107'54 -0°46'12 conjunction -3062 Jul 05 j 10:52 16°**Ⅱ**51′28 0°36'32 minimum elong -3067 Jan 08 j 03:30 25°**₹**07'52 0°46'19 minimum elong -3062 Jul 05 j 10:49  $16^{\circ} I I 51'27$ 0°36'38 max. Earth dist. -3067 Jan 08 j 19:36 25°**х** 17′29 6.01872 AU max. Earth dist. -3062 Jul 05 j 00:50 16°**Ⅱ**45'59 6.36920 AU morning rise -3067 Jan 21 j 07:34 28°**х** 16′21 morning rise -3062 Jul 18 j 17:00 19°**Ⅱ**45'23 -3067 Jan 28 j 15:10 0°궁 -3062 Sep 07 j 13:58 retrograde -3067 Jun 02 i 06:08 18°る33'18 retrograde -3062 Nov 16 j 11:36 6°952'05 opposition -3067 Aug 01 j 13:20 13°る30'52 -1°36'20 -3061 Jan 15 j 11:00 1°957'22 1°18'33 opposition min. Earth dist. -3067 Jul 31 j 16:42 13°る37'47 4.00320 AU min. Earth dist. -3061 Jan 16 j 01:15 1°952'43 4.39617 AU -3067 Sep 28 j 18:53 8°る37'07 -3061 Jan 30 j 20:48 30°RⅡ direct -3066 Jan 31 j 11:44 27°る58'46 -3061 Mar 18 j 14:57 26° II 53′59 direct evening set -3066 Feb 08 j 23:44 -3061 May 04 j 11:56 0ಂತಾ 0°≈≈ -3061 Jul 24 j 03:09 evening set 14°9544'03 -3066 Feb 13 j 20:09 1°≈09'22 -1°15'23 -3061 Aug 04 j 20:07 max. Earth dist. 17°9317'12 6.40740 AU conjunction -3066 Feb 13 j 20:07 minimum elong 1°≈09'21 1°15'28 -3066 Feb 15 j 12:42 -3061 Aug 06 j 03:10 max. Earth dist. 1°≈33'32 6.00431 AU conjunction 17°534'11 1°08'06 -3066 Feb 27 j 07:40 minimum elong -3061 Aug 06 j 03:08 4°≈21'36 17°534'09 1°08'12 morning rise -3061 Aug 18 j 23:57 -3066 Apr 16 j 07:13 15°≈ 20°9522'44 morning rise -3066 Jul 09 j 06:23 -3061 Oct 05 j 11:47 retrograde 24°≈39'54 0 $^{\circ}\Omega$ -3066 Sep 05 j 19:47 -3061 Dec 17 j 04:14 min. Earth dist. 19°≈44'57 4.02545 AU retrograde 7°**Ω**19'10 -3066 Sep 07 j 01:09 -3060 Feb 15 j 14:50 opposition 19°**≈**34'58 -1°58'59 opposition 2°**Ω**26'53 1°51'50 -3066 Oct 20 j 16:59 15°R≈ min. Earth dist. -3060 Feb 16 j 17:08 2°**Ω**18'26 4.40473 AU direct -3066 Nov 04 j 01:14 14°≈38'43 -3060 Mar 06 j 13:32 30°Rூ -3066 Nov 18 j 10:02 15°≈ direct -3060 Apr 18 j 06:38 27°524'46 -3065 Feb 20 j 12:47 0°**)**€ -3060 May 31 j 00:29  $0^{\circ}\Omega$ -3065 Mar 09 j 15:05 3°**¥**55'33 -3060 Aug 22 j 05:18 15° € evening set -3060 Aug 23 j 06:26 15°**Ω**13'46 evening set -3065 Mar 23 j 06:10 7°\(\)06'34 -1°15'54 max. Earth dist. conjunction -3060 Sep 03 j 04:54 17°**Ω**38′20 6.38437 AU -3065 Mar 23 j 06:12 7°**¥**06'35 1°15'55 minimum elong -3065 Mar 25 j 06:14 7°**₭**34'39 6.05999 AU -3060 Sep 04 j 23:03 18°**Ω**01'38 1°20'33 max. Earth dist. conjunction morning rise -3065 Apr 05 j 23:37 10°**)** 18'35 minimum elong -3060 Sep 04 i 23:03 18°**Ω**01'38 1°20'37 retrograde -3065 Aug 13 j 14:02 29°**)** 57'48 morning rise -3060 Sep 17 j 12:59 20°Ω48'21 min. Earth dist. -3065 Oct 10 j 21:39 25°\(\mathbf{H}\)02'49 4.10884 AU -3060 Nov 01 i 02:21 0° m opposition -3065 Oct 12 i 02:29 24° **\** 52'58 -1°36'47 retrograde -3059 Jan 16 j 18:31 8° m 00'55 -3065 Dec 09 j 16:08 19° ¥ 53'30 -3059 Mar 18 j 14:12 3° m 09'27 1°54'26 direct opposition -3064 Mar 04 j 11:27  $0^{\circ}\Upsilon$ min. Earth dist. -3059 Mar 19 j 22:32 2° m 59'10 4.35215 AU -3064 Apr 14 j 06:39 8°Y49'06 -3059 Apr 14 j 12:17 30°RΩ evening set direct -3059 May 20 j 02:56 28°**Ω**09'40 -3059 Jun 24 j 15:11 conjunction -3064 Apr 28 j 01:13 11°Y57'05 -0°48'53 0° m minimum elong -3064 Apr 28 j 01:17 11°**Υ**57'07 0°48'51 evening set -3059 Sep 23 j 05:34 16° Mp 09'41 max. Earth dist. -3064 Apr 29 j 15:00 12°**Υ**18'36 6.16432 AU max. Earth dist. -3059 Oct 03 j 22:54 18° Mp 34'30 6.30575 AU 15°**Y**′04'58 -3064 May 11 j 20:08 morning rise -3064 Jul 27 j 10:41 0°8 -3059 Oct 05 j 18:40 18° To 59'13 1°10'18 conjunction -3064 Sep 15 j 00:15 3°**8**44'16 -3059 Oct 05 j 18:43 retrograde minimum elong 18° **m** 59'14 1°10'20 -3064 Nov 03 j 17:11 30°R℃ morning rise -3059 Oct 18 j 06:42 21° m/48'19 28°**Y**42'01 -0°42'19 opposition -3064 Nov 13 j 10:22 -3059 Nov 25 j 14:33 0∘ଫ min. Earth dist. -3064 Nov 12 j 17:04 28°**Y**47'52 4.22273 AU retrograde -3058 Feb 18 j 22:50 9°**£**40'45 direct -3063 Jan 12 j 05:14 23°**Y**39'53 opposition -3058 Apr 20 j 23:40 4°**£**48′10 1°23'39

min. Earth dist.

direct

-3058 Apr 22 j 03:51

-3058 Jun 11 j 23:51

-3058 Jun 21 j 16:33 -3058 Jul 01 j 09:44 4°**2**39'11 4.25191 AU

30°R, Mp

0∘**ত** 

29° m 51'11

-3063 Mar 20 j 06:15

-3063 May 19 j 12:39

-3063 Jun 01 j 11:19

evening set

0°8

15°8

12°**8**07'41

| •                                  | •   |  | •          | / *                   | 3059 BCE in historical c                     | , .                                      | <b>50</b> 31 |
|------------------------------------|---|--|------------|-----------------------|--|--|--------------|
| evening set                        | -3058 Oct 24 j 20:58                          | 18° <b>£</b> 12'31                       |            | max. Earth dist.      | -3052 May 04 j 17:59                         |  | 6.17996 AU   |
| max. Earth dist.                   | -3058 Nov 05 j 05:09                          | 20° <b>₽</b> 49'39                       | 6.19282 AU | morning rise          | -3052 May 16 j 23:30                         | 20° <b>Ƴ</b> 03'33                       |              |
|                                    |   |  |            |                       | -3052 Jul 03 j 01:46                         | $9^{\circ}$ 8                            |              |
| conjunction                        | -3058 Nov 06 j 11:28                          | 21° <b>≏</b> 07'13                       | 0°38'35    | retrograde            | -3052 Sep 19 j 14:30                         | 8° <b>8</b> 34'04                        |              |
| minimum elong                      | -3058 Nov 06 j 11:31                          | 21° <b>≏</b> 07'14                       | 0°38'32    | min. Earth dist.      | -3052 Nov 17 j 09:15                         | 3° <b>8</b> 37'51                        | 4.23943 AU   |
| morning rise                       | -3058 Nov 19 j 02:14                          | 24° <b>≏</b> 02'20                       |            | opposition            | -3052 Nov 18 j 01:51                         | 3° <b>8</b> 32'14                        | -0°33'05     |
|                                    | -3058 Dec 15 j 16:54                          | $0^{\circ}$ M                            |            |                       | -3052 Dec 17 j 07:22                         | 30° <b>₹Ƴ</b>                            |              |
| retrograde                         | -3057 Mar 26 j 01:46                          | 12°M50'54                                |            | direct                | -3051 Jan 16 j 23:58                         | 28° <b>Y</b> 29'48                       |              |
| opposition                         | -3057 May 26 j 01:39                          | 7°M55'41                                 | 0°24'31    |                       | -3051 Feb 17 j 03:59                         | 0° <b>8</b>                              |              |
| min. Earth dist.                   | -3057 May 26 j 16:36                          | 7°M50'52                                 | 4.13339 AU |                       | -3051 May 15 j 19:05                         | 15° <b>8</b>                             |              |
| direct                             | -3057 Jul 25 j 11:39                          | 3°M01'20                                 |            | evening set           | -3051 May 24 j 10:22                         | 16° <b>8</b> 53'21                       |              |
| desc. node                         | -3057 Oct 12 j 14:10                          | 11°M49'46                                |            | asc. node             | -3051 Jun 06 j 23:41                         | 19° <b>8</b> 53'21                       |              |
| _                                  | -3057 Oct 27 j 22:21                          | 15° <b>M</b> ₊                           |            |                       |  |  |              |
| evening set                        | -3057 Nov 26 j 23:54                          | 21°M49'48                                |            | conjunction           | -3051 Jun 07 j 01:56                         | 19° <b>8</b> 54'31                       | 0°00'01      |
| . ,.                               | 2057 D 00:10.02                               | 2.40 <b>M</b> 5.1122                     | 0007102    | minimum elong         | -3051 Jun 07 j 01:54                         | 19° <b>8</b> 54'30                       | 0°00'06      |
| conjunction                        | -3057 Dec 09 j 19:02                          | 24°M51'23                                |            | behind sun begin      | -3051 Jun 06 j 17:53                         | 19° <b>8</b> 50'05                       |              |
| minimum elong                      | -3057 Dec 09 j 19:01                          | 24°M51'23<br>24°M46'59                   | 0°07'06    | behind sun end        | -3051 Jun 07 j 09:54                         | 19° <b>8</b> 58'55<br>20° <b>8</b> 01'00 | ( 20590 AII  |
| behind sun begin<br>behind sun end | -3057 Dec 09 j 11:34                          | 24°11L46'39<br>24°11L55'46               |            | max. Earth dist.      | -3051 Jun 07 j 13:38<br>-3051 Jun 20 j 15:36 | 20° <b>8</b> 54'32                       | 6.29580 AU   |
| max. Earth dist.                   | -3057 Dec 10 j 02:29                          | 24°11633'46<br>24°11633'46               | 6.07980 AU | morning rise          | ·  | 0° <b>Ⅱ</b>                              |              |
| morning rise                       | -3057 Dec 09 j 10:10<br>-3057 Dec 22 j 16:24  | 27°M54'16                                | 0.07980 AU | retrograde            | -3051 Jul 24 j 03:58<br>-3051 Oct 21 j 03:08 | 0 II<br>10°II30'22                       |              |
| morning rise                       | -3057 Dec 22 j 16:24<br>-3057 Dec 31 j 15:28  | 27 IIL34 10<br>0° <b>∡</b> 7             |            | opposition            | -3051 Dec 19 j 19:07                         | 5° <b>II</b> 32'28                       | 0°31'34      |
| retrograde                         | -3056 Apr 30 j 21:39                          | 0 <b>x</b> .<br>17° <b>∡</b> 740′32      |            | min. Earth dist.      | -3051 Dec 19 j 19:07                         | 5° <b>П</b> 32'18                        | 4.34325 AU   |
| opposition                         | -3056 Jun 30 j 14:12                          | 17 <b>x</b> 40 32                        | 0°46'10    | direct                | -3050 Feb 19 j 01:48                         | 0° <b>П</b> 28′52                        | 4.34323 AU   |
| min. Earth dist.                   | -3056 Jun 30 j 09:17                          | 12° <b>×</b> 41'31'                      | 4.03563 AU | evening set           | -3050 Jun 26 j 17:12                         | 18° <b>Ⅱ</b> 29'23                       |              |
| direct                             | -3056 Aug 28 j 15:24                          | 7° <b>×</b> <sup>7</sup> 48'25           | 4.03303 AC | evening set           | -5050 Juli 20 J 17.12                        | 10 112/23                                |              |
| evening set                        | -3056 Dec 31 j 00:21                          | 27°×701'38                               |            | conjunction           | -3050 Jul 10 j 01:08                         | 21° <b>Ⅱ</b> 23'55                       | 0°41'58      |
| evening set                        | -3055 Jan 12 j 10:42                          | 0°る                                      |            | minimum elong         | -3050 Jul 10 j 01:06                         | 21° <b>II</b> 23'53                      | 0°42'03      |
|                                    | 5055 Jun 12 j 10.12                           | <b>° O</b>                               |            | max. Earth dist.      | -3050 Jul 09 j 12:27                         | 21° <b>II</b> 16'58                      | 6.37977 AU   |
| conjunction                        | -3055 Jan 13 j 02:27                          | 0° <b>ට</b> 09'26                        | -0°51'30   | morning rise          | -3050 Jul 23 j 05:48                         | 24° <b>I</b> 16'48                       | 0.57777110   |
| minimum elong                      | -3055 Jan 13 j 02:24                          | 0°る09'24                                 |            |                       | -3050 Aug 19 j 08:02                         | 0ಂತ                                      |              |
| max. Earth dist.                   | -3055 Jan 13 j 23:12                          | 0° <b>ට</b> 21'52                        | 6.00630 AU | retrograde            | -3050 Nov 20 j 18:24                         | 11°9519'50                               |              |
| morning rise                       | -3055 Jan 26 j 07:31                          | 3° <b>ට</b> 18'57                        |            | opposition            | -3049 Jan 19 j 20:35                         | 6°\$25'29                                | 1°24'53      |
| retrograde                         | -3055 Jun 07 j 12:52                          | 23° <b>る</b> 41'29                       |            | min. Earth dist.      | -3049 Jan 20 j 12:07                         | 6°\$20'26                                | 4.40270 AU   |
| opposition                         | -3055 Aug 06 j 16:15                          | 18° <b>る</b> 38'39                       | -1°42'00   | direct                | -3049 Mar 23 j 02:11                         | 1° <b>©</b> 22'11                        |              |
| min. Earth dist.                   | -3055 Aug 05 j 18:34                          | 18° <b>ප</b> 45'56                       | 3.99543 AU | evening set           | -3049 Jul 28 j 14:00                         | 19° <b>©</b> 10'48                       |              |
| direct                             | -3055 Oct 03 j 19:15                          | 13° <b>る</b> 44'43                       |            | max. Earth dist.      | -3049 Aug 09 j 03:18                         | 21°5642'02                               | 6.40920 AU   |
|                                    | -3054 Jan 23 j 04:59                          | 0° <b>≈</b>                              |            |                       |  |  |              |
| evening set                        | -3054 Feb 05 j 16:08                          | 3° <b>≈</b> 09'31                        |            | conjunction           | -3049 Aug 10 j 12:44                         | 22°900'20                                | 1°11'09      |
|                                    |   |  |            | minimum elong         | -3049 Aug 10 j 12:41                         | 22° <b>5</b> 00'19                       | 1°11'15      |
| conjunction                        | -3054 Feb 19 j 01:36                          | 6° <b>≈</b> 20'44                        | -1°17'12   | morning rise          | -3049 Aug 23 j 08:20                         | 24°5548'20                               |              |
| minimum elong                      | -3054 Feb 19 j 01:35                          | 6° <b>≈</b> 20'44                        | 1°17'17    |                       | -3049 Sep 16 j 20:03                         | $0$ $^{\circ}\Omega$                     |              |
| max. Earth dist.                   | -3054 Feb 20 j 19:54                          | 6° <b>≈</b> 45'56                        | 6.00175 AU | retrograde            | -3049 Dec 21 j 14:25                         | 11° <b>Ω</b> 45′05                       |              |
| morning rise                       | -3054 Mar 04 j 14:24                          | 9° <b>≈</b> 33'35                        |            | opposition            | -3048 Feb 20 j 01:52                         | 6° <b>Ω</b> 53′02                        | 1°54'09      |
|                                    | -3054 Mar 28 j 03:43                          | 15° <b>≈</b>                             |            | min. Earth dist.      | -3048 Feb 21 j 06:18                         | 6° <b>Ω</b> 43'56                        | 4.40174 AU   |
| retrograde                         | -3054 Jul 14 j 08:45                          | 29° <b>≈</b> 51′02                       |            | direct                | -3048 Apr 22 j 19:11                         | 1° <b>Ω</b> 51'11                        |              |
| min. Earth dist.                   | -3054 Sep 10 j 19:12                          |  | 4.02859 AU |                       | -3048 Aug 05 j 20:06                         | 15° <b>Ω</b>                             |              |
| opposition                         | -3054 Sep 12 j 02:24                          | 24°≈45'57                                | -1°58′22   | evening set           | -3048 Aug 27 j 15:14                         | 19° <b>Ω</b> 40'44                       | 6 27650 ATT  |
| direct                             | -3054 Nov 09 j 01:44                          | 19° <b>≈</b> 49'17                       |            | max. Earth dist.      | -3048 Sep 07 j 10:42                         | 22° <b>Ω</b> 04'02                       | 6.37658 AU   |
| oveninet                           | -3053 Feb 01 j 19:33                          | 0° <b>\</b><br>0° <b>\</b> 05!52         |            | aanium-ti             | 2049 8 00 : 07 02                            | 220 (220)                                | 1920/20      |
| evening set                        | -3053 Mar 14 j 21:38                          | 9° <b>)</b> €05'52                       |            | conjunction           | -3048 Sep 09 j 07:03                         | 22° <b>Ω</b> 28'36                       | 1°20'30      |
|                                    | 2052 Maii 20 : 12.26                          | 120W1654                                 | 1012127    | minimum elong         | -3048 Sep 09 j 07:03                         | 22° <b>Ω</b> 28'36                       | 1°20'32      |
| conjunction                        | -3053 Mar 28 j 13:36                          | 12° <b>光</b> 16'54<br>12° <b>光</b> 16'56 |            | morning rise          | -3048 Sep 21 j 20:30                         | 25° <b>Ω</b> 15'24                       |              |
| minimum elong<br>max. Earth dist.  | -3053 Mar 28 j 13:39                          | 12° <b>H</b> 16'36                       | 6.06856 AU | ratra ara da          | -3048 Oct 13 j 20:14                         | 0°M)<br>12°m-22112                       |              |
|                                    | -3053 Mar 30 j 13:50                          | 15° <b>H</b> 28'47                       | 0.00830 AU | retrograde opposition | -3047 Jan 21 j 08:10                         | 12° Mp 32'12                             | 1°52'04      |
| morning rise                       | -3053 Apr 11 j 07:38<br>-3053 Jun 21 j 11:21  | 13°π2847<br>0°Υ                          |            | min. Earth dist.      | -3047 Mar 23 j 04:57<br>-3047 Mar 24 j 13:04 | 7° Mp 40'37<br>7° Mp 30'23               | 4.34013 AU   |
| retrograde                         | -3053 Juli 21 j 11.21<br>-3053 Aug 18 j 12:57 | 5° <b>Υ</b> 01'26                        |            | direct                | -3047 Mar 24 j 15:04<br>-3047 May 24 j 15:27 | 7 11/30/23<br>2° Mp41'09                 | T.JTU1J AU   |
| opposition                         | -3053 Aug 16 j 12.37                          | 29° <b>H</b> 56'45                       | -1°30'25   | evening set           | -3047 May 24 j 15.27<br>-3047 Sep 27 j 15:30 | 20° Mp 43'49                             |              |
| min. Earth dist.                   | -3053 Oct 16 j 23:31<br>-3053 Oct 15 j 20:02  | 0° <b>Υ</b> 06'09                        | 4.12148 AU | max. Earth dist.      | -3047 Sep 27 j 13.30<br>-3047 Oct 08 j 10:52 | 20 m/43 49<br>23°m/10'14                 | 6.29055 AU   |
| Dartii dist.                       | -3053 Oct 15 j 20:02                          | 30° <b>₹</b>                             | 2170710    | max. Durin dist.      | 501, 50t 00 j 10.52                          | 20 1 VI VI C 2                           | 5.27033 AU   |
| direct                             | -3053 Dec 14 j 17:24                          | 24° <b>¥</b> 56'48                       |            | conjunction           | -3047 Oct 10 j 04:39                         | 23° <b>m</b> 33'55                       | 1°07'00      |
|                                    | -3052 Feb 10 j 17:52                          | 24 <b>γ</b> (30 46                       |            | minimum elong         | -3047 Oct 10 j 04:42                         | 23° m) 33'57                             | 1°07'01      |
| evening set                        | -3052 Apr 19 j 10:06                          | 13° <b>Y</b> 49'06                       |            | morning rise          | -3047 Oct 10 j 04:42                         | 26° <b>m</b> 23'42                       |              |
| <b>3</b>                           | r . j   |  |            | <i>5</i> - <i>r</i>   | -3047 Nov 07 j 22:04                         | 0° <b>ರ</b>                              |              |
| conjunction                        | -3052 May 03 j 04:52                          | 16° <b>Ƴ</b> 56′27                       | -0°43'21   | retrograde            | -3046 Feb 23 j 19:17                         | 14° <b>£</b> 23'30                       |              |
| minimum elong                      | -3052 May 03 j 04:55                          | 16° <b>Ƴ</b> 56'29                       | 0°43'18    | opposition            | -3046 Apr 25 j 20:15                         | 9° <b>ჲ</b> 30'40                        | 1°16'43      |
| Ü                                  |   |  |            |                       |  |  |              |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -3046 in astronomical counting style is the year 3047 BCE in historical counting style. -3046 Apr 26 j 23:38 9°**2**21'57 4.23440 AU direct -3041 Dec 19 i 14:36 29° <del>X</del> 52'28 min. Earth dist. -3046 Jun 26 j 09:35 4°**£**34'06 -3041 Dec 28 j 06:53  $0^{\circ}\Upsilon$ direct -3046 Oct 29 j 11:13 22°**₽**59'30 -3040 Apr 24 j 10:12 18° **Y**39'32 evening set evening set max. Earth dist. -3046 Nov 09 j 20:52 25°**♀**38'10 6.17456 AU 21°**Y**45'56 -0°37'41 conjunction -3040 May 08 j 04:38  $21^{\circ}$ Y45'57-3046 Nov 11 j 02:07 -3040 May 08 j 04:41 conjunction 25°**♀**55'10 0°32'40 minimum elong 0°37'40 22°**Y**'04'17 -3046 Nov 11 j 02:09 0°32'37 -3040 May 09 j 13:07 minimum elong 25°**♀**55'11 max. Earth dist. 6.19962 AU -3040 May 21 j 22:57 24°Y52'00 morning rise -3046 Nov 23 j 17:49 28°**£**51'27 morning rise  $0^{\circ}$ M -3040 Jun 14 j 09:24 -3046 Nov 28 j 16:50 0°8 -3045 Feb 15 j 18:37 15°M⋅ retrograde -3040 Sep 24 j 01:53 13°**8**13'07 retrograde -3045 Mar 31 j 04:42 17°M49'06 opposition -3040 Nov 22 j 13:39 8°**8**11'47 -0°23'59 -3040 Nov 22 j 00:11 -3045 May 14 j 06:11 15°RM min. Earth dist. 8°816'20 4.25767 AU -3039 Jan 21 j 17:15 opposition -3045 May 31 j 04:25 12°M53'22 0°14'36 direct 3°**8**09'04 min. Earth dist. -3045 May 31 j 16:11 12°M49'34 4.11582 AU asc. node -3039 Apr 16 j 22:43 12°**8**40'45 direct -3045 Jul 30 j 09:14 7°M59'17 -3039 Apr 28 j 17:08 15°8 desc. node -3045 Aug 21 j 10:35  $8^{\circ}$ MJ46'12 evening set -3039 May 29 j 03:38 21°828'16 -3045 Oct 07 j 19:33 15°M₀ evening set -3045 Dec 01 j 20:43 26°M52'14 conjunction -3039 Jun 11 j 18:28 24°**8**28'27 0°06'18 minimum elong -3039 Jun 11 j 18:27 24°**8**28'27 0°06'23 conjunction -3045 Dec 14 j 16:54 29°ML54'53 -0°13'51 behind sun begin -3039 Jun 11 j 10:41 24°824'11 minimum elong -3045 Dec 14 j 16:53 29°M54'53 0°13'56 behind sun end -3039 Jun 12 j 02:14 24°**8**32'44 behind sun begin -3045 Dec 14 j 12:36 29°M52'21 max. Earth dist. -3039 Jun 12 i 03:30 24°**8**33'26 6.31126 AU behind sun end -3045 Dec 14 j 21:10 29°M57'25 morning rise -3039 Jun 25 i 06:54 27°**8**27'22 max. Earth dist. -3045 Dec 14 j 13:30 29°M52'52 6.06481 AU -3039 Jul 06 i 23:55  $0^{\circ}\Pi$ -3045 Dec 15 j 01:31 0°×7 retrograde -3039 Oct 25 j 09:04 14°**I**I56'59 -3045 Dec 27 j 15:10 2°×758'53 -3039 Dec 24 j 03:08 9°**Ⅱ**59'40 0°40'01 morning rise opposition -3044 May 06 j 07:27 -3039 Dec 24 j 05:30 9°**Ⅲ**58'53 4.35487 AU 22° 2 52'38 min. Earth dist. retrograde -3044 Jul 05 j 21:07 -3038 Feb 23 j 12:45 4°**I**156′04 17°**₹**53'06 -0°55'53 direct opposition -3044 Jul 05 j 13:57 -3038 Jul 01 j 05:08 22°**I**54'21 min. Earth dist. 17°**∡** 55′27 4 02505 AU evening set 13°**∡**¹00'04 -3044 Sep 02 j 18:36 direct 0°46'59 -3044 Dec 26 j 13:59 -3038 Jul 14 j 11:39 25°**Ⅱ**48′03 0°궁 conjunction -3043 Jan 05 j 04:13 2°る16'09 -3038 Jul 14 j 11:36 minimum elong 25°**Ⅱ**48'01 0°47'04 evening set max. Earth dist. -3038 Jul 13 j 17:59 25°**Ⅲ**38'24 6.38650 AU -3043 Jan 18 j 07:12 5°る24'37 -0°56'41 -3038 Jul 27 j 15:09 28°**Ⅱ**40'11 conjunction morning rise -3043 Jan 18 j 07:09 -3038 Aug 02 j 18:48 minimum elong 5°る24'35 0°56'46 ഗംഉ -3043 Jan 19 j 07:05 -3038 Nov 25 j 02:04 max. Earth dist. 5°る38'55 6.00110 AU retrograde 15°9541'19 -3043 Jan 31 j 13:33 -3037 Jan 24 j 04:23 morning rise 8°**る**34'52 opposition 10°9547'25 1°30'36 retrograde -3043 Jun 12 j 19:23 28°る59'09 min. Earth dist. -3037 Jan 24 j 23:13 10°9541'18 4.40437 AU -3043 Aug 11 j 22:33 23°る55'51 -1°47'04 direct -3037 Mar 27 j 13:11 5°9544'16 opposition min. Earth dist. -3043 Aug 10 j 21:39 24°る04'14 3.99676 AU -3037 Aug 01 j 22:49 23°933'08 evening set -3043 Oct 08 j 23:02 19°る01'39 max. Earth dist. -3037 Aug 13 j 09:06 26°9502'56 6.40547 AU direct -3042 Jan 04 j 19:08 0°≈ -3042 Feb 10 j 23:20 -3037 Aug 14 j 20:34 26°522'22 1°13'44 evening set 8°≈25'54 conjunction -3037 Aug 14 j 20:32 26°9522'21 minimum elong 1°13'49 -3042 Feb 24 j 09:49 11°≈37'12 -1°18'31 -3037 Aug 27 j 15:03 29°9510'06 conjunction morning rise minimum elong -3042 Feb 24 i 09:49 11°≈37'12 1°18'35 -3037 Aug 31 i 10:54  $0^{\circ}\Omega$ max. Earth dist. -3042 Feb 26 i 06:38 12°≈03'50 6.00928 AU -3037 Nov 28 i 16:32 15°Ω morning rise -3042 Mar 09 j 23:24 14°≈50'01 retrograde -3037 Dec 25 i 23:03 16°Ω09'13 -3042 Mar 10 j 16:22 15°≈ -3036 Jan 22 j 08:03 15°RΩ -3042 May 22 j 06:50 0°₩ -3036 Feb 24 i 12:17 11°Ω17'21 1°55'51 opposition -3042 Jul 19 j 11:46 min. Earth dist. -3036 Feb 25 j 17:04 11°**Ω**08'08 4.39320 AU retrograde 5°\ 02'12 min. Earth dist. -3042 Sep 15 j 21:07 0°**₩**07'28 4.04145 AU direct -3036 Apr 27 j 04:19 6°**Ω**15'50 -3042 Sep 16 j 19:01 -3036 Jul 18 j 19:31 15°Ω 30°R≈ opposition -3042 Sep 17 j 03:57 29°≈56'57 -1°56'51 evening set -3036 Aug 31 j 23:56 24°**Ω**07'52 direct -3042 Nov 14 j 06:24 24°≈59'47 max. Earth dist. -3036 Sep 11 j 18:44 26°**Ω**31'16 6.36386 AU -3041 Jan 10 j 01:53 0°**)**€ -3041 Mar 20 j 03:00 14°**¥** 12′25 conjunction -3036 Sep 13 j 15:08 26°**Ω**55'58 1°19'57 evening set -3036 Sep 13 j 15:09 26°**Ω**55'59 1°20'00 minimum elong -3041 Apr 02 j 19:39 -3036 Sep 26 j 04:07 29°**Ω**43'07 conjunction 17°**★**22'57 -1°10'31 morning rise -3041 Apr 02 j 19:42 -3036 Sep 27 j 10:43 minimum elong 17°**∺**22'59 1°10'32 0° m -3035 Jan 26 j 00:24 max. Earth dist. -3041 Apr 04 j 20:36 17°**₭**51'23 6.08550 AU retrograde 17° m 05'55 morning rise -3041 Apr 16 j 13:56 20°**)** 34'10 opposition -3035 Mar 27 j 21:09  $12^{\circ}$  Mp 14'211°48'59  $0^{\circ}\Upsilon$ -3041 May 29 j 20:23 min. Earth dist. -3035 Mar 29 j 05:50 12°M 03'57 4.32399 AU retrograde -3041 Aug 23 j 06:45 9°**Y**57′13 direct -3035 May 29 j 05:55 7° m 15'21 opposition -3041 Oct 21 j 17:44 4°Υ52'49 -1°23'33 evening set -3035 Oct 02 j 02:42 25° m 21'53 min. Earth dist. -3041 Oct 20 j 14:50 5°Υ01'59 4.14063 AU max. Earth dist. -3035 Oct 12 j 22:32 27° m/49'15 6.27239 AU

-3041 Dec 10 j 23:40

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Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -3035 in astronomical counting style is the year 3036 BCE in historical counting style. -3035 Oct 14 j 15:51 28° m 12'45 1°03'13 retrograde -3029 Aug 27 j 22:43 14° Y 49'33 conjunction -3035 Oct 14 j 15:54 28° m 12'47 min. Earth dist. -3029 Oct 25 j 09:12 9°**Υ**53'58 4.15795 AU minimum elong 1°03'13 -3035 Oct 22 j 12:23 0∘**⊽** opposition -3029 Oct 26 j 10:13 9°Y45'26 -1°16'16 -3029 Dec 24 j 11:22 -3035 Oct 27 j 04:17 4°Y44'38 1°**₽**03'27 direct morning rise 23°Y27'19 -3034 Feb 28 j 17:21 19°**£**11'48 -3028 Apr 29 j 08:45 retrograde evening set opposition -3034 Apr 30 j 19:06 14°**≏**18'38 1°09'09 -3028 May 13 j 03:11 -3034 May 01 j 19:39 26°Y32'57 -0°31'52 min. Earth dist. 14°**£**10'47 4.21551 AU conjunction -3034 Jul 01 j 03:27 9°**≏**22'31 -3028 May 13 j 03:13 direct minimum elong 26°**Y**32'58 0°31'49 -3028 May 14 j 09:39 evening set -3034 Nov 03 j 03:35 27°**£**52'18 max. Earth dist. 26°**Y**50′06 6.21677 AU 29° Y 38'02 -3034 Nov 12 j 07:13 0°M morning rise -3028 May 26 j 20:50 -3028 May 28 j 12:15 0°8 -3034 Nov 15 j 19:09  $0^{\circ}$ M $_{4}9'00$ -3028 Aug 16 j 13:53 15°8 conjunction 0°26'25 -3034 Nov 15 j 19:11 -3028 Sep 28 j 12:30 minimum elong 0°M49'01 0°26'23 retrograde 17°**8**50'54 max. Earth dist. -3034 Nov 14 j 18:49  $0^{\circ}$ MJ34'48 6.15683 AU -3028 Nov 10 j 09:06 15°R₩ morning rise -3034 Nov 28 j 11:31  $3^{\circ}$ MJ46'22opposition -3028 Nov 27 j 00:56 12°850'08 -0°14'49 -3033 Jan 19 j 20:09 15°M₀ min. Earth dist. -3028 Nov 26 j 13:29 12°**8**53'58 4.27308 AU retrograde -3033 Apr 05 j 11:37 22°M52'42 direct -3027 Jan 26 j 08:45 7°**8**47'14 opposition -3033 Jun 05 j 09:06  $17^{\circ}$ ML56'300°04'23 asc. node -3027 Feb 24 j 17:56 9°806'53 min. Earth dist. -3033 Jun 05 j 18:42 17°M53'24 4.10066 AU -3027 Apr 09 j 04:23 15°8 desc. node -3033 Jun 29 j 22:44 14°M59'06 evening set -3027 Jun 02 j 20:44 26°803'00 -3033 Jun 29 j 19:14 15°RM direct -3033 Aug 04 j 10:00 13°ML02'42 conjunction -3027 Jun 16 j 10:29 29°**8**02'16 0°12'27 -3033 Sep 08 j 12:06 15°M minimum elong -3027 Jun 16 j 10:27 29°**8**02'15 0°12'32 -3033 Nov 28 j 08:34 0°×7 behind sun begin -3027 Jun 16 j 05:16 28°859'24 -3033 Dec 06 j 19:27 1°**х** 59′07 behind sun end -3027 Jun 16 j 15:39 29°805'06 evening set max. Earth dist. -3027 Jun 16 j 14:06 29°**8**04'15 6.32372 AU -3033 Dec 19 j 16:25 5°×102'38 -0°20'38 -3027 Jun 20 j 19:12  $0^{\circ}\Pi$ conjunction -3033 Dec 19 j 16:23 -3027 Jun 29 j 21:59 2°II00'13 minimum elong 5° 202'37 0°20'44 morning rise -3033 Dec 19 j 16:26 -3027 Oct 29 j 16:56 19°**Ⅲ**24'44 max. Earth dist. 5°**₹**02'39 6.05354 AU retrograde 8°**∡**07'37 -3032 Jan 01 j 15:55 -3027 Dec 28 j 11:47 14°**I**127′54 0°48′15 morning rise opposition 28°**х¹**06'57 -3032 May 11 j 14:30 -3027 Dec 28 j 17:12 14°**Ⅱ**26′07 4.36371 AU min. Earth dist. retrograde 9°**Ⅲ**24'13 -3032 Jul 11 j 04:06 -3026 Feb 28 j 01:49 23°**₹**06'47 -1°05'02 opposition direct min. Earth dist. -3032 Jul 10 j 16:54 23°**≯**10'29 4.01896 AU -3026 Jul 05 j 17:31 27°**Ⅲ**20′58 evening set -3032 Sep 07 j 20:45 18°**∡**13'44 -3026 Jul 17 j 21:20 direct 0.00 -3032 Dec 08 j 14:37 0°궁 -3026 Jul 18 j 22:59 -3031 Jan 10 j 08:06 7°る31'03 0°514'01 0°51'46 evening set conjunction -3026 Jul 18 j 22:56 minimum elong 0°©13'59 0°51'52 conjunction -3031 Jan 23 j 12:08 10°る39'58 -1°01'24 max. Earth dist. -3026 Jul 18 j 03:23 0°993'18 6.39102 AU minimum elong -3031 Jan 23 j 12:04 10°る39'56 1°01'30 morning rise -3026 Aug 01 j 01:01 3°905'24 max. Earth dist. -3031 Jan 24 j 16:15 10°る56'49 6.00043 AU retrograde -3026 Nov 29 j 08:47 20°905'15 morning rise -3031 Feb 05 j 19:24 13°る50'38 -3025 Jan 28 j 13:16 15°9511'44 1°35'53 opposition -3031 Apr 25 j 19:15 -3025 Jan 29 j 09:08 15°95'18 4.40458 AU min. Earth dist. -3031 Jun 18 j 02:06 4°≈14'47 -3025 Mar 31 j 23:11 10°9508'46 retrograde direct -3031 Aug 11 j 01:45 30°Ŗ⋜ -3025 Aug 06 j 08:36 27°958'01 evening set min. Earth dist. -3031 Aug 16 j 01:43 29°る19'44 4.00160 AU -3025 Aug 15 j 15:37 0° $\Omega$ opposition -3031 Aug 17 j 03:32 29°**ට**11'02 -1°51'14 max. Earth dist. -3025 Aug 17 j 14:47 0°Ω25'53 6.40119 AU -3031 Oct 14 i 04:28 direct 24°る16'27 0°Ω46'57 1°15'57 -3031 Dec 13 j 21:44 0°≈ conjunction -3025 Aug 19 j 05:08 -3030 Feb 16 i 05:13 13°≈39'04 minimum elong -3025 Aug 19 j 05:06 0°**Ω**46'56 1°16'01 evening set -3030 Feb 21 j 22:18 15°**≈** morning rise -3025 Aug 31 j 22:47 3°Ω34'28 -3025 Oct 28 j 17:56 15°Ω -3030 Mar 01 j 16:40 16°≈50'20 -1°19'13 -3025 Dec 30 j 11:07 20°**Ω**36′07 conjunction retrograde -3030 Mar 01 j 16:40 -3024 Feb 29 j 00:35 15°**Ω**44'25 1°56'54 minimum elong 16°≈50'20 1°19'16 opposition max. Earth dist. -3030 Mar 03 j 15:52 17°≈18'16 6.01900 AU min. Earth dist. -3024 Mar 01 j 07:09 15°**Ω**34'39 4.38488 AU morning rise -3030 Mar 15 j 07:02 20°≈03'01 -3024 Mar 05 j 19:59 15°RΩ -3030 Apr 29 j 03:58 0°**∀** direct -3024 May 01 j 17:22 10°**Ω**43'13 retrograde -3030 Jul 24 j 11:59 10°**)**€09'00 -3024 Jun 26 j 08:29 15°**Ω** -3030 Sep 20 j 19:54 5°**升**14'21 4.05515 AU -3024 Sep 05 j 09:18 28°**Ω**37'13 min. Earth dist. evening set -3030 Sep 22 j 03:02 5°\(\mathbf{1}\)03'44 -1°54'29 -3024 Sep 11 j 14:30 opposition 0° m 0°**₩**06'08 -3024 Sep 16 j 03:51 direct -3030 Nov 19 j 06:33 max. Earth dist. 1° Mp 00'55 6.35220 AU -3029 Mar 25 j 06:52 19°**升** 14'56 evening set conjunction -3024 Sep 18 j 00:04 1° m/25'35 1°18'57 conjunction -3029 Apr 07 j 23:52 22°\ 24'56 -1°07'08 minimum elong -3024 Sep 18 j 00:05 1° Mp 25'36 1°19'00 minimum elong -3029 Apr 07 j 23:56 22°**)** 24'58 1°07'08 morning rise -3024 Sep 30 j 12:39 4° m 13'03 max. Earth dist. -3029 Apr 09 j 21:49 22°**₩**51'31 6.10190 AU retrograde -3023 Jan 30 j 15:36 21° m 41'29 -3029 Apr 21 j 18:35 25°**)** ₹35'32 -3023 Apr 01 j 14:20 16° **m** 49'46 morning rise opposition 1°45'15 -3029 May 11 j 08:14  $0^{\circ}\Upsilon$ min. Earth dist. -3023 Apr 02 j 21:15 16° My 39'57 4.30998 AU

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -3023 in astronomical counting style is the year 3024 BCE in historical counting style. -3023 Jun 02 j 19:29 11° m 51'14 minimum elong -3017 Apr 13 j 01:13 27°¥19'19 1°03'22 direct -3023 Oct 06 j 14:25 0°**£**00'42 -3017 Apr 14 j 22:25 27°**)**(45'22 6.11586 AU max. Earth dist. evening set -3023 Oct 06 j 13:12 -3017 Apr 24 j 16:40  $0^{\circ}\Upsilon$ 0∘ഹ -3017 Apr 26 j 19:56 0°Y29'19 max. Earth dist. -3023 Oct 17 j 13:08 2°**♀**30'13 6.25743 AU morning rise 19°**Y**35'34 -3017 Sep 01 j 13:59 retrograde -3023 Oct 19 j 03:39 14°**Ƴ**39'43 4.17218 AU -3017 Oct 30 j 01:25 conjunction 2°**£**52'13 0°59'03 min. Earth dist. -3023 Oct 19 j 03:42 -3017 Oct 31 j 00:24 minimum elong 2°**£**52'14 0°59'03 opposition 14°**Y**31'54 -1°08'42 9°**Y**30′50 morning rise -3023 Oct 31 j 16:19 5°**-**43'40 direct -3017 Dec 29 j 05:15 28°Y10'27 retrograde -3022 Mar 05 j 17:16 23°**♀**59'21 evening set -3016 May 04 j 05:33 opposition -3022 May 05 j 18:02 19°**≏**05'52 1°01'08 -3016 May 12 j 09:16 0°8 min. Earth dist. -3022 May 06 j 17:24 18°**≏**58'24 4.20052 AU -3022 Jul 05 j 23:25 -3016 May 17 j 23:36 direct 14°**♀**10'09 conjunction 1°**8**15'25 -0°25'57 -3022 Oct 26 j 23:53  $0^{\circ}$ M minimum elong -3016 May 17 j 23:39 1°**8**15'26 0°25'54 evening set -3022 Nov 07 j 19:21  $2^{\circ}$ ML42'53 max. Earth dist. -3016 May 19 j 01:37 1°**8**30'00 6.23023 AU morning rise -3016 May 31 j 16:54 4°819'44 conjunction -3022 Nov 20 j 11:29 5°M40'25 0°20'05 -3016 Jul 22 j 09:20 15°8 minimum elong -3022 Nov 20 j 11:30  $5^{\circ}$ M40'25 0°20'02 retrograde -3016 Oct 02 j 21:41 22°825'56 max. Earth dist. -3022 Nov 19 j 13:55 5°M27'48 6.14325 AU opposition -3016 Dec 01 j 11:01 17°**8**25'43 -0°05'45 morning rise -3022 Dec 03 j 04:46 8°MJ38'45 min. Earth dist. -3016 Dec 01 j 01:44 17°**8**28'50 4.28480 AU -3022 Dec 31 j 08:12 15°M -3016 Dec 20 j 09:44 15°R\ retrograde -3021 Apr 10 j 14:05 27°M52'09 asc. node -3015 Jan 05 j 05:11 13°**8**25'35 desc. node -3021 May 09 j 17:57 26°MJ33'56 direct -3015 Jan 30 j 22:55 12°**8**22'38 opposition -3021 Jun 10 j 12:09 22°M55'24 -0°05'41 -3015 Mar 13 j 23:34 15°8 min. Earth dist. -3021 Jun 10 j 17:47 22°M53'34 4.08972 AU -3015 Jun 04 j 18:11  $\Pi^{\circ}0$ direct -3021 Aug 09 j 07:19 18°M01'51 -3015 Jun 07 j 12:50 0°**Ⅲ**36'21 evening set -3021 Nov 11 j 00:41 0°×7 -3021 Dec 11 j 16:23 7°**х** 00′25 -3015 Jun 21 j 01:46 3°II34'52 0°18'29 conjunction evening set -3015 Jun 21 j 01:44 3°**Ⅱ**34'51 0°18'33 minimum elong -3021 Dec 24 j 14:12 10°**₹**04'36 -0°27'07 -3015 Jun 21 j 02:57 conjunction max. Earth dist. 3°**Ⅱ**35'31 6.33306 AU -3021 Dec 24 j 14:10 morning rise -3015 Jul 04 j 12:00 6°**Ⅱ**31'58 minimum elong 10° **₹**04'35 0°27'13 -3021 Dec 24 j 18:50 -3015 Nov 03 j 00:50 max. Earth dist. 10°**尽**07'22 6.04615 AU 23°**Ⅲ**52'32 retrograde -3020 Jan 06 j 14:35 -3014 Jan 01 j 20:27 13°**∡**10′19 18°**I**I56'16 0°56'07 morning rise opposition -3014 Jan 02 j 03:45 -3020 Mar 31 j 11:43 0°ಕ 18°**I**53'52 4.37016 AU min. Earth dist. -3020 May 16 j 20:01 3°る13'50 -3014 Mar 04 j 13:42 13°**I**52'42 retrograde direct -3020 Jul 02 j 13:46 -3014 Jul 01 j 20:19 30°R*x*<sup>7</sup> 0°9 -3020 Jul 16 j 08:10 -3014 Jul 10 j 05:42 opposition 28°**₹**13'06 -1°13'25 evening set 1°5548'28 -3014 Jul 22 j 10:14 min. Earth dist. -3020 Jul 15 j 19:14 28°**✗**17′23 4.01589 AU max. Earth dist. 4°9527'59 6.39397 AU direct -3020 Sep 12 j 23:04 23°**х** 19'56 -3020 Nov 18 j 04:34 0°ರ conjunction -3014 Jul 23 j 09:47 4°9540'52 0°56'13 -3019 Jan 15 j 09:24 12°る37'44 minimum elong -3014 Jul 23 j 09:44 4°9540'50 0°56'19 evening set morning rise -3014 Aug 05 j 10:43 7°531'39 -3019 Jan 28 j 14:24 15°る47'00 -1°05'31 -3014 Dec 03 j 17:38 24°930'46 conjunction retrograde -3019 Jan 28 j 14:21 15°る46'58 1°05'37 -3013 Feb 01 j 22:52 19°**5**37'34 1°40'37 minimum elong opposition -3019 Jan 29 j 22:05 16°る05'56 6.00176 AU -3013 Feb 02 j 20:45 19°**©**30'29 4.40417 AU max. Earth dist. min. Earth dist. -3019 Feb 10 j 22:39 18°る58'01 -3013 Apr 05 j 11:02 14°934'45 morning rise direct -3013 Jul 30 i 15:02 -3019 Apr 01 i 16:56 0°≈  $0^{\circ}\Omega$ -3019 Jun 23 i 04:52 retrograde 9°≈21'01 evening set -3013 Aug 10 j 18:10 2°Ω24'14 min. Earth dist. -3019 Aug 21 j 01:22 4°≈26'10 4.00751 AU max. Earth dist. -3013 Aug 21 j 23:40 4°**Ω**51'55 6.39734 AU opposition -3019 Aug 22 i 04:32 4°≈16'59 -1°54'23 -3019 Sep 29 j 23:59 30°RZ -3013 Aug 23 j 13:50 5°Ω12'54 1°17'42 conjunction direct -3019 Oct 19 j 04:19 29°る22'05 -3013 Aug 23 j 13:48 5°Ω12'53 1°17'46 minimum elong -3019 Nov 07 j 09:54 -3013 Sep 05 j 06:21 8°Ω00'09 0°≈≈ morning rise -3018 Feb 05 j 07:24 -3013 Oct 08 j 13:29 15°Ω 15°≈ -3018 Feb 21 j 08:02 18°≈43'08 retrograde -3012 Jan 03 j 20:50 25°**Ω**04'00 evening set -3012 Mar 04 j 12:47 20°**Ω**12'23 1°57'15 opposition -3012 Mar 05 j 19:02 4.37789 AU conjunction -3018 Mar 06 j 20:14 21°≈54'19 -1°19'17 min. Earth dist. 20°**Ω**02'43 -3018 Mar 06 j 20:15 21°≈54'19 1°19'21 direct -3012 May 06 j 04:22 15°**Ω**11'30 minimum elong -3018 Mar 08 j 18:29 6.02858 AU -3012 Aug 26 j 12:52 max. Earth dist. 22°≈21'37 0° m 25°≈06'54 -3012 Sep 09 j 18:21 morning rise -3018 Mar 20 j 11:30 evening set 3° Mp 06'45 0°**)**€ -3012 Sep 20 j 11:58 -3018 Apr 10 j 18:13 max. Earth dist. 5° m/30'21 6.34241 AU -3018 Jul 29 j 07:33 retrograde 15°**)** 07'04 -3018 Sep 26 j 22:43 10°**)** €01'49 -1°51'22 conjunction -3012 Sep 22 j 08:28 5° m 55'15 1°17'29 opposition min. Earth dist. -3018 Sep 25 j 16:08 10°**¥**12'16 4.06734 AU minimum elong -3012 Sep 22 j 08:30 5° m 55'15 1°17'31 direct -3018 Nov 24 j 04:23 5°**₩**03'45 morning rise -3012 Oct 04 j 20:51 8° m 42'59 evening set -3017 Mar 30 j 07:28 24°**)** 09'37 retrograde -3011 Feb 04 j 08:30  $26^{\circ}$  Mp 16'21-3011 Apr 06 j 07:08  $21^{\circ}$  My 24'28opposition 1°40'51 -3017 Apr 13 j 01:10 27°**米** 19'17 -1°03'22 -3011 Apr 07 j 14:21 conjunction min. Earth dist. 21° Mp 14'32 4.29761 AU Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 35 Attention, astronomical year style is used: The year -3011 in astronomical counting style is the year 3012 BCE in historical counting style.

| Attention, astronom               | ical year style is used: Th                  | ne year -3011 i                | n astronomical co | unting style is the year         | r 3012 BCE in historical c                   | counting style.                      |            |
|-----------------------------------|--|--------------------------------|-------------------|----------------------------------|--|--------------------------------------|------------|
| direct                            | -3011 Jun 07 j 10:54                         | 16°M 26'14                     |                   |                                  | -3005 Apr 08 j 01:37                         | $0^{\circ}\Upsilon$                  |            |
|                                   | -3011 Sep 20 j 04:38                         | 0∘ <b>⊽</b>                    |                   |                                  |  |                                      |            |
| evening set                       | -3011 Oct 11 j 00:53                         | 4° <b>£</b> 37'54              |                   | conjunction                      | -3005 Apr 18 j 05:32                         | 2° <b>Y</b> 20′02                    |            |
| max. Earth dist.                  | -3011 Oct 22 j 01:35                         | 7° <b>ჲ</b> 09'00              | 6.24345 AU        | minimum elong                    | -3005 Apr 18 j 05:36                         | 2° <b>Y</b> 20′04                    |            |
|                                   |  | _                              |                   | max. Earth dist.                 | -3005 Apr 20 j 00:28                         | 2° <b>Y</b> 44'41                    | 6.12874 AU |
| conjunction                       | -3011 Oct 23 j 14:22                         | 7° <b>△</b> 30'04              | 0°54'33           | morning rise                     | -3005 May 02 j 00:39                         | 5° <b>Y</b> 29'36                    |            |
| minimum elong                     | -3011 Oct 23 j 14:25                         | 7° <b>△</b> 30'06              | 0°54'32           | retrograde                       | -3005 Sep 06 j 06:00                         | 24° <b>Y</b> 28′03                   |            |
| morning rise                      | -3011 Nov 05 j 03:24                         | 10° <b>Ω</b> 22'16             |                   | opposition                       | -3005 Nov 04 j 17:06                         | 19° <b>Y</b> 24'49                   |            |
| retrograde                        | -3010 Mar 10 j 13:52                         | 28° <b>≏</b> 45'00             |                   | min. Earth dist.                 | -3005 Nov 03 j 18:48                         | 19° <b>Ƴ</b> 32'23                   | 4.18651 AU |
| opposition                        | -3010 May 10 j 15:42                         | 23° <b>Ω</b> 51'05             | 0°52'44           | direct                           | -3004 Jan 03 j 01:22                         | 14° <b>Y</b> 23'24                   |            |
| min. Earth dist.                  | -3010 May 11 j 12:24                         | 23° <b>Ω</b> 44'28             | 4.18571 AU        |                                  | -3004 Apr 25 j 14:28                         | 0°8                                  |            |
| direct                            | -3010 Jul 10 j 15:47                         | 18° <b>♀</b> 55'42             |                   | evening set                      | -3004 May 09 j 05:14                         | 2° <b>8</b> 59'49                    |            |
|                                   | -3010 Oct 09 j 17:23                         | 0°M                            |                   |                                  | 200434 22:22.50                              | co <b>U</b> o 4100                   | 0010142    |
| evening set                       | -3010 Nov 12 j 10:19                         | 7°M31'32                       | C 12001 ATT       | conjunction                      | -3004 May 22 j 22:58                         | 6° <b>8</b> 04'00                    |            |
| max. Earth dist.                  | -3010 Nov 24 j 08:33                         | 10~11619'05                    | 6.12891 AU        | minimum elong                    | -3004 May 22 j 23:00                         | 6° <b>8</b> 04'01                    |            |
| i                                 | 2010 N 25 : 02-02                            | 10° <b>™</b> 29'56             | 0912120           | max. Earth dist.<br>morning rise | -3004 May 23 j 22:29                         | 6° <b>8</b> 17'10                    | 6.24537 AU |
| conjunction                       | -3010 Nov 25 j 03:02<br>-3010 Nov 25 j 03:03 |                                | 0°13'34           | morning rise                     | -3004 Jun 05 j 15:31<br>-3004 Jul 02 j 20:57 | 9° <b>と</b> 07'23<br>15° <b>と</b>    |            |
| minimum elong<br>behind sun begin | -3010 Nov 24 j 22:29                         | 10°M29'56<br>10°M27'16         | 0 13 34           | ratra ara da                     | -3004 Jul 02 j 20.37                         | 27° <b>8</b> 06'11                   |            |
| behind sun begin                  | -  | 10°M32'36                      |                   | retrograde<br>asc. node          |  | 24° <b>8</b> 50'24                   |            |
| morning rise                      | -3010 Nov 25 j 07:37<br>-3010 Dec 07 j 21:09 | 13°M29'15                      |                   | opposition                       | -3004 Nov 14 j 08:29<br>-3004 Dec 05 j 23:49 | 24 <b>8</b> 30 24 22° <b>8</b> 06'34 | 0°03'34    |
| morning rise                      | -3010 Dec 07 j 21:09                         | 15°M                           |                   | min. Earth dist.                 | -3004 Dec 05 j 16:45                         | 22° <b>8</b> 08'56                   |            |
|                                   | -3009 Mar 03 j 04:55                         | 13 IIC<br>0° <b>√</b> 7        |                   | direct                           | -3004 Dec 03 j 16:43                         | 17° <b>8</b> 03'25                   | 4.29900 AU |
| desc. node                        | -3009 Mar 19 j 20:00                         | 1° <b>×</b> <sup>7</sup> 43'07 |                   | direct                           | -3003 Neb 04 j 10:43                         | 0° <b>Ⅱ</b>                          |            |
| retrograde                        | -3009 Apr 15 j 17:50                         | 2° <b>×</b> <sup>7</sup> 50'10 |                   | evening set                      | -3003 Jun 12 j 06:54                         | 5° <b>Ⅱ</b> 13'39                    |            |
| retrograde                        | -3009 Apr 13 j 17:30                         | 30°RM                          |                   | evening set                      | -5005 Juli 12 j 00.54                        | э штэээ                              |            |
| opposition                        | -3009 Jun 15 j 14:08                         | 27°M52'51                      | 0°15'43           | conjunction                      | -3003 Jun 25 j 18:39                         | 8° <b>Ⅱ</b> 11'08                    | 0°24'29    |
| min. Earth dist.                  | -3009 Jun 15 j 18:07                         |                                | 4.07685 AU        | minimum elong                    | -3003 Jun 25 j 18:37                         | 8° <b>П</b> 11'07                    |            |
| direct                            | -3009 Juli 13 j 18:07                        | 22°M59'23                      | 4.07063 AU        | max. Earth dist.                 | -3003 Jun 25 j 16:37                         | 8° <b>П</b> 10'02                    |            |
| direct                            | -3009 Oct 22 j 03:19                         | 0° <b>√</b>                    |                   | morning rise                     | -3003 Jul                                    | 11° <b>I</b> 107'10                  | 0.54057 AC |
| evening set                       | -3009 Oct 22 j 03:19<br>-3009 Dec 16 j 13:20 | 12° <b>∡</b> 01'09             |                   | retrograde                       | -3003 Jul 09 j 03:40                         | 28° <b>I</b> I22'18                  |            |
| evening set                       | -3007 Dec 10 j 13.20                         | 12 × 01 07                     |                   | opposition                       | -3002 Jan 06 j 06:26                         | 23° <b>II</b> 26'32                  | 1°03'42    |
| conjunction                       | -3009 Dec 29 j 12:08                         | 15° <b>∡</b> ¹06'13            | -0°33'25          | min. Earth dist.                 | -3002 Jan 06 j 15:08                         | 23° <b>II</b> 23'41                  | 4.38186 AU |
| minimum elong                     | -3009 Dec 29 j 12:06                         | 15° <b>₹</b> 06'11             |                   | direct                           | -3002 Mar 09 j 02:55                         | 18° <b>Ⅲ</b> 23'00                   | 1.50100710 |
| max. Earth dist.                  | -3009 Dec 29 j 20:37                         |                                | 6.03596 AU        | direct                           | -3002 Jun 14 j 20:27                         | 0°95                                 |            |
| morning rise                      | -3008 Jan 11 j 13:37                         | 18° <b>∡</b> 12'51             | 0.05570710        | evening set                      | -3002 Jul 14 j 18:04                         | 6° <b>©</b> 15'49                    |            |
| morning rise                      | -3008 Mar 05 j 09:12                         | 0°る                            |                   | evening sec                      | 3002 Jul 11 j 10.01                          | 0 313 13                             |            |
| retrograde                        | -3008 May 22 j 01:38                         | 8° <b>る</b> 21'20              |                   | conjunction                      | -3002 Jul 27 j 20:51                         | 9° <b>©</b> 07'18                    | 1°00'21    |
| opposition                        | -3008 Jul 21 j 11:56                         |                                | -1°21'19          | minimum elong                    | =  | 9° <b>5</b> 07'16                    |            |
| min. Earth dist.                  | -3008 Jul 20 j 20:35                         |                                | 4.00969 AU        | max. Earth dist.                 | -3002 Jul 26 j 20:14                         |                                      | 6.40302 AU |
| min. Eurin Gigt.                  | -3008 Aug 18 j 05:13                         | 30°R. <b>✓</b>                 |                   | morning rise                     | -3002 Aug 09 j 20:16                         | 11° <b>©</b> 57'07                   | 0.10302110 |
| direct                            | -3008 Sep 17 j 23:05                         | 28° <b>∡</b> 26'49             |                   | retrograde                       | -3002 Dec 08 j 00:29                         | 28°953'33                            |            |
|                                   | -3008 Oct 18 j 12:35                         | 0°ਰ                            |                   | opposition                       | -3001 Feb 06 j 07:53                         | 24°9500'43                           | 1°44'38    |
| evening set                       | -3007 Jan 20 j 11:56                         | 17° <b>る</b> 46'32             |                   | min. Earth dist.                 | -3001 Feb 07 j 07:01                         | 23°953'16                            | 4.41007 AU |
|                                   | 2007, 0000 = 0, 0 = 0.00                     | -, •                           |                   | direct                           | -3001 Apr 09 j 22:10                         | 18°958'10                            |            |
| conjunction                       | -3007 Feb 02 j 17:53                         | 20° <b>ප</b> 56'19             | -1°09'10          |                                  | -3001 Jul 13 j 20:08                         | 0°N                                  |            |
| minimum elong                     | -3007 Feb 02 j 17:50                         | 20° <b>ප</b> 56'17             |                   | evening set                      | -3001 Aug 15 j 01:57                         | 6° <b>Ω</b> 45'40                    |            |
| max. Earth dist.                  | -3007 Feb 04 j 03:05                         |                                | 5.99977 AU        | max. Earth dist.                 | -3001 Aug 26 j 03:31                         | 9° <b>Ω</b> 11'17                    | 6.39936 AU |
| morning rise                      | -3007 Feb 16 j 03:19                         | 24° <b>る</b> 07'52             |                   |                                  | e j  |                                      |            |
|                                   | -3007 Mar 13 j 12:16                         | 0° <b>≈</b>                    |                   | conjunction                      | -3001 Aug 27 j 20:24                         | 9° <b>Ω</b> 33'47                    | 1°18'58    |
| retrograde                        | -3007 Jun 28 j 07:59                         | 14° <b>≈</b> 30'55             |                   | minimum elong                    | -3001 Aug 27 j 20:23                         | 9° <b>Ω</b> 33'46                    | 1°19'03    |
| min. Earth dist.                  | -3007 Aug 26 j 02:15                         | 9° <b>≈</b> 36'08              | 4.01001 AU        | morning rise                     | -3001 Sep 09 j 12:09                         | 12° <b>Ω</b> 20'36                   |            |
| opposition                        | -3007 Aug 27 j 06:39                         | 9° <b>≈</b> 26'30              |                   |                                  | -3001 Sep 21 j 18:26                         | 15° <b>Ω</b>                         |            |
| direct                            | -3007 Oct 24 j 05:52                         | 4° <b>≈</b> 31'10              |                   | retrograde                       | -3000 Jan 08 j 05:50                         | 29° <b>Ω</b> 25'05                   |            |
|                                   | -3006 Jan 17 j 23:43                         | 15° <b>≈</b>                   |                   | opposition                       | -3000 Mar 08 j 22:59                         | 24° <b>Ω</b> 33'32                   | 1°56'50    |
| evening set                       | -3006 Feb 26 j 13:06                         | 23° <b>≈</b> 51'57             |                   | min. Earth dist.                 | -3000 Mar 10 j 06:28                         | 24° <b>Ω</b> 23'29                   | 4.37585 AU |
| •                                 | v  |                                |                   | direct                           | -3000 May 10 j 14:53                         | 19° <b>Ω</b> 32'55                   |            |
| conjunction                       | -3006 Mar 12 j 02:28                         | 27° <b>≈</b> 03'18             | -1°18'45          |                                  | -3000 Aug 09 j 19:20                         | 0° <b>m</b>                          |            |
| minimum elong                     | -3006 Mar 12 j 02:30                         | 27° <b>≈</b> 03'19             | 1°18'48           | evening set                      | -3000 Sep 13 j 23:47                         | 7° <b>m</b> 27'51                    |            |
| max. Earth dist.                  | -3006 Mar 14 j 02:43                         | 27° <b>≈</b> 31'43             | 6.03537 AU        | max. Earth dist.                 | -3000 Sep 24 j 17:57                         | 9° <b>m</b> 51'57                    | 6.33640 AU |
|                                   | -3006 Mar 24 j 15:13                         | 0° <b>)</b> €                  |                   |                                  | - *  |                                      |            |
| morning rise                      | -3006 Mar 25 j 18:21                         | 0° <b>¥</b> 15'51              |                   | conjunction                      | -3000 Sep 26 j 13:37                         | 10° Mp 16'25                         | 1°15'35    |
| retrograde                        | -3006 Aug 03 j 07:34                         | 20° <b>)</b> 10′49             |                   | minimum elong                    | -3000 Sep 26 j 13:39                         | 10° Mp 16'26                         |            |
| opposition                        | -3006 Oct 01 j 20:33                         | 15° <b>∺</b> 05'39             | -1°47'23          | morning rise                     | -3000 Oct 09 j 01:34                         | 13° <b>m</b> 04'17                   |            |
| min. Earth dist.                  | -3006 Sep 30 j 14:56                         | 15° <b>)</b> 15′46             | 4.07759 AU        | -                                | -2999 Jan 18 j 14:57                         | 0∘ <b>⊽</b>                          |            |
| direct                            | -3006 Nov 29 j 04:24                         | 10° <b>∺</b> 07'10             |                   | retrograde                       | -2999 Feb 08 j 19:35                         | 0° <b>£</b> 41'40                    |            |
| evening set                       | -3005 Apr 04 j 11:30                         | 29° <b>)</b> 10'44             |                   | =                                | -2999 Mar 02 j 02:09                         | 30°R, Mp                             |            |
|                                   |  |                                |                   |                                  |  |                                      |            |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -2999 in astronomical counting style is the year 3000 BCE in historical counting style. opposition -2999 Apr 10 j 20:06 25° m 49'39 1°35'57 -2994 Oct 06 i 18:28 20°\(\)11'06 -1°42'31 opposition -2999 Apr 12 j 02:34 25° m 39'58 min. Earth dist. -2994 Oct 05 j 12:01 20°**)**€21'30 4.08702 AU min. Earth dist. 4.28784 AU 20° m 51'48 -2999 Jun 11 j 20:41 -2994 Dec 04 j 03:57 15°**)** 12′08 direct direct  $0^{\circ}\Upsilon$ -2999 Sep 02 j 21:38 0∘ଫ -2993 Mar 21 j 19:52 -2999 Oct 15 j 07:43 -2993 Apr 09 j 15:43 4°Υ13'23 evening set 9°**2**05'14 evening set max. Earth dist. -2999 Oct 26 j 08:37 11°**≏**36'57 6.23068 AU 7°**Y**22'15 -0°54'14 conjunction -2993 Apr 23 j 10:09 7°**Y**22′18 conjunction -2999 Oct 27 j 21:14 11°**≏**57'59 0°49'51 minimum elong -2993 Apr 23 j 10:13 0°54'14  $7^{\circ}$ Y46'09-2993 Apr 25 j 03:52 minimum elong -2999 Oct 27 j 21:17 11°**≏**58′00 0°49'51 max. Earth dist. 6.14212 AU morning rise -2999 Nov 09 j 10:46 14°**£**50'55 morning rise -2993 May 07 j 05:15 10°**Y**31'13 29°**Υ**21'29 -2998 Jan 26 j 16:47 0°M retrograde -2993 Sep 11 j 00:05 -2993 Nov 09 j 10:04 24°Y18'33 -0°51'45 retrograde -2998 Mar 15 j 08:33  $3^{\circ}$ ML20'43 opposition -2998 May 02 j 23:46 30°**₽**Ω min. Earth dist. -2993 Nov 08 j 13:54 24°**Y**25′23 4.20199 AU opposition -2998 May 15 j 09:15 28°**≏**26'27 0°44'18 direct -2992 Jan 07 j 23:38 19°**Y**16'44 min. Earth dist. -2998 May 16 j 05:23 28°**♀**19'59 4.17050 AU -2992 Apr 07 j 10:33 0°8 direct -2998 Jul 15 j 05:46 23°**△**31'19 evening set -2992 May 14 j 04:29 7°**8**49'03 -2998 Sep 20 j 08:07 0°M evening set -2998 Nov 16 j 21:32 12°M10'58 conjunction -2992 May 27 j 21:42 10°852'19 -0°13'19 -2998 Nov 28 j 21:26 15°M₀ minimum elong -2992 May 27 j 21:43 10°**8**52'20 0°13'16 behind sun begin -2992 May 27 j 17:05 10°**8**49'46 conjunction -2998 Nov 29 j 15:05 15°**™**10'23 0°07'21 behind sun end -2992 May 28 j 02:21 10°**8**54'54 minimum elong -2998 Nov 29 i 15:06 15°**M**₁0'24 0°07'17 max. Earth dist. -2992 May 28 i 18:59 11°**8**04'11 6.26152 AU behind sun begin -2998 Nov 29 i 07:43 15°ML06'04 morning rise -2992 Jun 10 j 13:24 13°**8**54'39 behind sun end -2998 Nov 29 j 22:29 15°M14'43 -2992 Jun 15 i 11:55 15°8 max. Earth dist. -2998 Nov 28 j 23:10 15°ML01'01 6.11275 AU -2992 Sep 08 j 11:35  $\Pi^{\circ}0$ -2998 Dec 12 j 10:05 -2992 Sep 23 j 03:25 1°**Ⅱ**11'19 morning rise 18°M-10'50 asc. node -2992 Oct 11 j 20:48 1°**Ⅱ**45'33 desc. node -2997 Jan 29 j 21:50 28°M46'35 retrograde -2997 Feb 05 j 08:46 -2992 Nov 14 j 02:33 30°R₩ 0°×7 -2992 Dec 10 j 11:52 -2997 Apr 20 j 17:20 7°**х** 40′13 opposition 26°**8**46'23 0°12'50 retrograde -2997 Jun 20 j 12:34 -2992 Dec 10 j 06:02 26°**8**48'20 2°**₹**42'29 -0°25'19 min. Earth dist. 4.31477 AU opposition -2997 Jun 20 j 14:24 direct -2991 Feb 09 j 08:15 min. Earth dist. 2°**∡**′41'53 4.06123 AU 21°**8**43'00 -2997 Jul 12 j 13:16 30°RM -2991 Apr 29 j 18:04  $\Pi$  $^{\circ}0$ -2997 Aug 18 j 23:11 27°M49'12 -2991 Jun 16 j 23:56 9°**Ⅱ**49'30 direct evening set -2997 Sep 24 j 19:59 0° **₹** -2997 Dec 21 j 07:52 -2991 Jun 30 j 10:25 12°**II**45'57 0°30'22 evening set 16°**₹** 55'45 conjunction -2991 Jun 30 j 10:23 minimum elong 12°**I**I45'56 0°30'27 -2996 Jan 03 j 07:33 20°**₹**01'50 -0°39'16 -2991 Jun 30 j 04:47 conjunction max. Earth dist. 12°**I**42'52 6.35935 AU minimum elong -2996 Jan 03 j 07:30 20°**∡**101'48 0°39'23 morning rise -2991 Jul 13 j 18:06 15°**Ⅱ**40'53 max. Earth dist. -2996 Jan 03 j 17:55 20°**尽**08'03 6.02220 AU -2991 Sep 29 j 10:06 0ಂತಾ -2996 Jan 16 j 10:16 23°**х** 09'37 retrograde -2991 Nov 11 j 18:05 2°951'07 morning rise -2996 Feb 15 j 03:33 0°ರ -2991 Dec 25 j 07:40 30°R∏ -2996 May 27 j 05:17 13°る24'53 -2990 Jan 10 j 16:11 27°II55'48 1°10'58 retrograde opposition -2996 Jul 26 j 13:29 8°る23'08 -1°28'24 -2990 Jan 11 j 03:48 27°**Д**52'00 4.39114 AU opposition min. Earth dist. -2996 Jul 25 j 19:55 8°る29'00 3.99936 AU -2990 Mar 13 j 16:55 22°**I**52'17 min. Earth dist. direct 3°る29'40 direct -2996 Sep 22 j 21:26 -2990 May 26 j 10:46 0ಂತಾ evening set -2995 Jan 25 i 13:36 22°る53'17 evening set -2990 Jul 19 i 05:38 10°542'52 max. Earth dist. -2990 Jul 31 j 03:10 13°9518'20 6.40773 AU -2995 Feb 07 i 20:53 conjunction 26° ප්03'52 -1°12'11 minimum elong -2995 Feb 07 i 20:50 26°**ප**03'51 1°12'15 conjunction -2990 Aug 01 i 07:07 13°933'36 1°04'11 max. Earth dist. -2995 Feb 09 i 10:23 26°る26'18 5.99394 AU -2990 Aug 01 i 07:04 13°933'34 1°04'16 minimum elong -2995 Feb 21 j 07:19 29°**ප**16'09 -2990 Aug 14 j 05:18 16°9522'43 morning rise morning rise -2995 Feb 24 j 09:25 0°≈ -2990 Oct 26 j 07:07  $0^{\circ}\Omega$ 3°**Ω**18′13 -2990 Dec 12 j 08:37 -2995 May 08 j 12:50 15°≈ retrograde retrograde -2995 Jul 03 j 12:33 19°≈40'31 -2989 Jan 29 j 06:44 30°R∽ -2995 Aug 29 j 08:57 15°R≈ opposition -2989 Feb 10 j 17:53 28°925'36 1°48'14 14°≈45'39 4.00951 AU -2989 Feb 11 j 18:27 min. Earth dist. -2995 Aug 31 j 03:17 min. Earth dist. 28°9517'41 4.41013 AU -2995 Sep 01 j 08:06 14°≈35'52 -1°58'05 direct -2989 Apr 14 j 08:55 23°9523'11 opposition -2995 Oct 29 j 06:42 9°≈40'10 -2989 Jun 24 j 06:12  $0^{\circ}\Omega$ direct 15°≈ -2989 Aug 19 j 10:45 -2995 Dec 26 j 18:49 evening set 11°**Ω**10′36 29°≈01'52 -2989 Aug 30 j 11:16 evening set -2994 Mar 03 j 18:42 max. Earth dist. 13°**Ω**35'51 6.39466 AU 0°**)**€ -2994 Mar 07 j 21:56 conjunction -2989 Sep 01 j 04:21 13°**Ω**58'30 1°19'52 conjunction -2994 Mar 17 j 08:57 2°\dagger13'25 -1°17'32 minimum elong -2989 Sep 01 j 04:20 13°**Ω**58'30 1°19'56 minimum elong -2994 Mar 17 j 08:58 2°**)** 13'26 1°17'34 -2989 Sep 05 j 19:51 15°€ max. Earth dist. -2994 Mar 19 j 09:40 2°**)** 42'04 6.04011 AU morning rise -2989 Sep 13 j 19:07 16°**Ω**45'09 -2994 Mar 31 j 01:50 5°**¥**26′08 -2989 Nov 22 j 06:16 morning rise 0° m

25°**)**€16'13

-2994 Aug 08 j 05:39

retrograde

-2988 Jan 12 j 17:23

3° m 52'33

retrograde

| •                              | iical year style is used: Th                 |                                | _                  | \ //                      |  | , .                    | ige 37             |
|--------------------------------|--|--------------------------------|--------------------|---------------------------|--|------------------------|--------------------|
| Attention, astronom            | -2988 Mar 05 j 17:18                         | ic year -2986 i<br>30°RΩ       | in astronomical co | opposition                | -2983 Sep 06 j 11:19                         | 19° <b>≈</b> 49'51     |                    |
| opposition                     | -2988 Mar 13 j 11:55                         | 29°Ω01'04                      | 1°55'54            | оррозион                  | -2983 Oct 26 j 16:20                         | 15°R≈                  | 1 3033             |
| min. Earth dist.               | -2988 Mar 14 j 20:07                         | 28° <b>Ω</b> 50'49             | 4.36666 AU         | direct                    | -2983 Nov 03 j 09:37                         | 14°≈53'45              |                    |
| direct                         | -2988 May 15 j 02:45                         | 24°Ω00'49                      |                    | unocc                     | -2983 Nov 11 j 04:12                         | 15° <b>≈</b>           |                    |
|                                | -2988 Jul 20 j 15:30                         | 0° m/y                         |                    |                           | -2982 Feb 18 j 17:22                         | 0° <b>)</b> €          |                    |
| evening set                    | -2988 Sep 18 j 08:47                         | 11° <b>m</b> ) 57'41           |                    | evening set               | -2982 Mar 09 j 01:10                         | 4° <b>)</b> €12'34     |                    |
| max. Earth dist.               | -2988 Sep 29 j 01:09                         | 14° m) 21'18                   | 6.32335 AU         | 844                       |  |                        |                    |
|                                | 1 3  | •                              |                    | conjunction               | -2982 Mar 22 j 16:12                         | 7° <b>)</b> €23'48     | -1°15'47           |
| conjunction                    | -2988 Sep 30 j 22:10                         | 14° <b>m</b> 46'37             | 1°13'13            | minimum elong             | -2982 Mar 22 j 16:14                         | 7° <b>)</b> €23'50     | 1°15'49            |
| minimum elong                  | -2988 Sep 30 j 22:12                         | 14° <b>m</b> 46'38             | 1°13'15            | max. Earth dist.          | -2982 Mar 24 j 17:17                         | 7° <b>)</b> 52′33      | 6.05465 AU         |
| morning rise                   | -2988 Oct 13 j 10:12                         | 17° m 35'00                    |                    | morning rise              | -2982 Apr 05 j 09:32                         | 10° <b>)</b> 36′03     |                    |
|                                | -2988 Dec 14 j 11:47                         | 0∘ <b>⊽</b>                    |                    |                           | -2982 Jul 30 j 20:48                         | $0^{\circ}$ Y          |                    |
| retrograde                     | -2987 Feb 13 j 14:10                         | 5° <b>≏</b> 18'54              |                    | retrograde                | -2982 Aug 13 j 03:24                         | 0° <b>Y</b> 17'30      |                    |
| opposition                     | -2987 Apr 15 j 14:27                         | 0° <b>ჲ</b> 26'37              | 1°30'20            |                           | -2982 Aug 26 j 06:47                         | 30° <b>Ŗ</b> ₩         |                    |
| min. Earth dist.               | -2987 Apr 16 j 20:20                         | 0° <b>≏</b> 17'06              | 4.27159 AU         | min. Earth dist.          | -2982 Oct 10 j 10:08                         |                        | 4.10493 AU         |
|                                | -2987 Apr 19 j 02:09                         | 30°R Mp                        |                    | opposition                | -2982 Oct 11 j 14:56                         | 25° <b>¥</b> 12'32     | -1°36'59           |
| direct                         | -2987 Jun 16 j 11:51                         | 25° <b>m</b> 29'07             |                    | direct                    | -2982 Dec 09 j 05:09                         | 20° <b>¥</b> 13′06     |                    |
|                                | -2987 Aug 11 j 16:00                         | 0∘ <b>⊽</b>                    |                    |                           | -2981 Mar 03 j 06:38                         | $0^{\circ}$ Y          |                    |
| evening set                    | -2987 Oct 19 j 19:46                         | 13° <b>≏</b> 46'15             |                    | evening set               | -2981 Apr 14 j 17:35                         | 9° <b>Ƴ</b> 09'16      |                    |
| max. Earth dist.               | -2987 Oct 31 j 00:10                         | 16° <b>≏</b> 20'30             | 6.21281 AU         |                           |  |                        |                    |
|                                |  |                                |                    | conjunction               | -2981 Apr 28 j 12:11                         | 12° <b>Y</b> 17′20     |                    |
| conjunction                    | -2987 Nov 01 j 09:49                         | 16° <b>≏</b> 39'55             |                    | minimum elong             | -2981 Apr 28 j 12:15                         | 12° <b>Y</b> 17′22     |                    |
| minimum elong                  | -2987 Nov 01 j 09:51                         | 16° <b>≏</b> 39'56             | 0°44'36            | max. Earth dist.          | -2981 Apr 30 j 04:30                         | 12° <b>Y</b> ′40′18    | 6.16189 AU         |
| morning rise                   | -2987 Nov 13 j 23:48                         | 19° <b>≙</b> 33'51             |                    | morning rise              | -2981 May 12 j 07:03                         | 15° <b>Y</b> 25'19     |                    |
|                                | -2986 Jan 01 j 20:49                         | 0° <b>M</b>                    |                    |                           | -2981 Jul 25 j 11:33                         | 0°8                    |                    |
| retrograde                     | -2986 Mar 20 j 09:24                         | 8°M12′27                       |                    | retrograde                | -2981 Sep 15 j 12:07                         | 4° <b>8</b> 05'34      |                    |
| opposition                     | -2986 May 20 j 09:49                         | 3°M17'48                       | 0°35'04            |                           | -2981 Nov 06 j 22:25                         | 30°₹ <b>Υ</b>          |                    |
| min. Earth dist.               | -2986 May 21 j 03:48                         | 3°M12′02                       | 4.15229 AU         | opposition                | -2981 Nov 13 j 23:21                         | 29° <b>Y</b> ′03′08    |                    |
|                                | -2986 Jun 17 j 14:25                         | 30° <b>₹</b> Ω                 |                    | min. Earth dist.          | -2981 Nov 13 j 04:21                         |                        | 4.22162 AU         |
| direct                         | -2986 Jul 20 j 01:16                         | 28° <b>Ω</b> 23'05             |                    | direct                    | -2980 Jan 12 j 16:23                         | 24° <b>Y</b> ′01'02    |                    |
|                                | -2986 Aug 21 j 04:41                         | 0°M                            |                    |                           | -2980 Mar 17 j 15:26                         | 0°8                    |                    |
|                                | -2986 Nov 12 j 13:10                         | 15°M                           |                    | evening set               | -2980 May 18 j 23:43                         | 12° <b>8</b> 28'27     |                    |
| evening set                    | -2986 Nov 21 j 15:58                         | 17° <b>M</b> 07'17             |                    |                           | -2980 May 30 j 09:01                         | 15° <b>8</b>           |                    |
| agnismation                    | -2986 Dec 04 i 10:09                         | 20°M07'45                      | 0°00'34            | aaniumatian               | 2000 Jun 01 : 16:07                          | 15° <b>8</b> 30'39     | 0007106            |
| conjunction minimum elong      | -2986 Dec 04 j 10:09                         | 20° 11.07'45<br>20° 11.07'45   | 0°00'34<br>0°00'30 | conjunction minimum elong | -2980 Jun 01 j 16:07                         | 15° <b>8</b> 30'39     |                    |
| behind sun begin               | -2986 Dec 04 j 10.09                         | 20°M03'01                      | 0 00 30            | behind sun begin          | -2980 Jun 01 j 16:08<br>-2980 Jun 01 j 08:29 | 15° <b>8</b> 26'25     | 0 07 02            |
| behind sun end                 | -2986 Dec 04 j 18:11                         | 20°M12'29                      |                    | behind sun end            | -2980 Jun 01 j 08.29                         | 15° <b>8</b> 34'53     |                    |
| max. Earth dist.               | -2986 Dec 03 j 20:35                         | 19°M59'45                      | 6.09592 AU         | max. Earth dist.          | -2980 Jun 01 j 23.47<br>-2980 Jun 02 j 08:10 | . •                    | 6.27941 AU         |
| desc. node                     | -2986 Dec 09 j 00:15                         | 21°M12'48                      | 0.09392 AU         | morning rise              | -2980 Jun 15 j 07:00                         | 18° <b>8</b> 31'51     | 0.27941 AU         |
| morning rise                   | -2986 Dec 17 j 06:16                         | 23°M09'24                      |                    | asc. node                 | -2980 Aug 03 j 09:32                         | 28° <b>8</b> 37'26     |                    |
| morning rise                   | -2985 Jan 16 j 09:07                         | 0° <b>√</b>                    |                    | ase. Houe                 | -2980 Aug 11 j 05:36                         | 0°Ⅱ                    |                    |
| retrograde                     | -2985 Apr 25 j 23:58                         | 12° <b>∡</b> 747'18            |                    | retrograde                | -2980 Oct 16 j 05:43                         | 6° <b>Ⅱ</b> 15'14      |                    |
| opposition                     | -2985 Jun 25 j 18:02                         | 7° <b>∡</b> 49'01              | -0°35'22           | opposition                | -2980 Dec 14 j 20:37                         | 1° <b>Ⅱ</b> 16'39      | 0°21'41            |
| min. Earth dist.               | -2985 Jun 25 j 16:35                         | 7° <b>×</b> <sup>7</sup> 49'29 | 4.04747 AU         | min. Earth dist.          | -2980 Dec 14 j 18:26                         | 1° <b>Ⅱ</b> 17'23      | 4.32942 AU         |
| direct                         | -2985 Aug 24 j 00:13                         | 2° <b>₹</b> 55'52              |                    |                           | -2980 Dec 24 j 13:30                         | 30°R₩                  |                    |
| evening set                    | -2985 Dec 26 j 09:22                         | 22° <b>∡</b> ¹06'17            |                    | direct                    | -2979 Feb 13 j 22:17                         | 26° <b>8</b> 13'09     |                    |
| <i>Ş</i>                       |  |                                |                    |                           | -2979 Apr 06 j 09:54                         | 0°II                   |                    |
| conjunction                    | -2984 Jan 08 j 10:15                         | 25° <b>х</b> 13′16             | -0°45'12           | evening set               | -2979 Jun 21 j 12:52                         | 14° <b>Ⅱ</b> 16′29     |                    |
| minimum elong                  | -2984 Jan 08 j 10:11                         | 25° <b>∡</b> 13'14             | 0°45'18            | •                         | v  |                        |                    |
| max. Earth dist.               | -2984 Jan 09 j 02:22                         | 25° <b>₹</b> 22'55             |                    | conjunction               | -2979 Jul 04 j 22:18                         | 17° <b>Ⅱ</b> 12'04     | 0°35'52            |
| morning rise                   | -2984 Jan 21 j 13:57                         | 28° <b>∡</b> ′21'54            |                    | minimum elong             | -2979 Jul 04 j 22:15                         | 17° <b>Ⅲ</b> 12′02     | 0°35'58            |
| -                              | -2984 Jan 28 j 11:51                         | ರ°0                            |                    | max. Earth dist.          | -2979 Jul 04 j 13:26                         | 17° <b>Ⅱ</b> 07'12     | 6.36954 AU         |
| retrograde                     | -2984 Jun 01 j 15:16                         | 18° <b>る</b> 41'19             |                    | morning rise              | -2979 Jul 18 j 04:35                         | 20° <b>Ⅱ</b> 06′02     |                    |
| opposition                     | -2984 Jul 31 j 20:24                         | 13° <b>る</b> 39'07             | -1°35'10           | •                         | -2979 Sep 05 j 03:05                         | 0ಂಣ                    |                    |
| min. Earth dist.               | -2984 Jul 31 j 00:58                         | 13° <b>る</b> 45'37             | 3.99634 AU         | retrograde                | -2979 Nov 15 j 22:41                         | 7° <b>©</b> 12'51      |                    |
| direct                         | -2984 Sep 28 j 01:54                         | 8° <b>る</b> 45'32              |                    | opposition                | -2978 Jan 14 j 23:06                         | 2° <b>©</b> 17'59      | 1°17'37            |
| evening set                    | -2983 Jan 30 j 20:06                         | 28° <b>る</b> 09'57             |                    | min. Earth dist.          | -2978 Jan 15 j 12:21                         | 2° <b>©</b> 13'39      | 4.39650 AU         |
|                                | -2983 Feb 07 j 12:54                         | 0° <b>≈</b>                    |                    |                           | -2978 Feb 02 j 07:02                         | 30° <b>Ŗ</b> Ⅱ         |                    |
|                                |  |                                |                    | direct                    | -2978 Mar 18 j 01:20                         | 27° <b>Ⅲ</b> 14'33     |                    |
| conjunction                    | -2983 Feb 13 j 04:16                         | 1° <b>≈</b> 20'49              | -1°14'47           |                           | -2978 May 01 j 03:44                         | $0$ $\circ$ $\odot$    |                    |
| minimum elong                  | -2983 Feb 13 j 04:14                         | 1° <b>≈</b> 20'48              | 1°14'52            | evening set               | -2978 Jul 23 j 14:48                         | 15° <b>©</b> 04'32     |                    |
| max. Earth dist.               | -2983 Feb 14 j 20:03                         | 1° <b>≈</b> 44'34              | 5.99710 AU         | max. Earth dist.          | -2978 Aug 04 j 08:00                         | 17° <b>©</b> 37'47     | 6.40771 AU         |
| morning rise                   | -2983 Feb 26 j 15:52                         | 4° <b>≈</b> 33'24              |                    |                           | -  |                        |                    |
|                                |  |                                |                    |                           |  |                        |                    |
|                                | -2983 Apr 14 j 13:20                         | 15° <b>≈</b>                   |                    | conjunction               | -2978 Aug 05 j 15:01                         | 17° <b>9</b> 54'45     | 1°07'33            |
| retrograde                     | -2983 Apr 14 j 13:20<br>-2983 Jul 08 j 15:47 | 15°≈<br>24°≈54'45              |                    | conjunction minimum elong | -2978 Aug 05 j 15:01<br>-2978 Aug 05 j 14:58 | 17°954'45<br>17°954'43 | 1°07'33<br>1°07'39 |
| retrograde<br>min. Earth dist. |  |                                | 4.01885 AU         | -                         |  |                        |                    |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 38 Attention, astronomical year style is used: The year -2978 in astronomical counting style is the year 2979 BCE in historical counting style.

| Attention, astronom | ical year style is used: Th                  | ne year -2978 i                  | n astronomical co | unting style is the year | 2979 BCE in historical c                     | ounting style.                           |              |
|---------------------|--|----------------------------------|-------------------|--------------------------|--|--|--------------|
|                     | -2978 Oct 03 j 02:06                         | $0^{\circ}\Omega$                |                   | opposition               | -2972 Aug 06 j 02:34                         | 18° <b>る</b> 54'58                       | -1°41'07     |
| retrograde          | -2978 Dec 16 j 17:14                         | 7° <b>Ω</b> 39'47                |                   | direct                   | -2972 Oct 03 j 05:21                         | 14° <b>පි</b> 01'06                      |              |
| opposition          | -2977 Feb 15 j 02:40                         | 2° <b>Ω</b> 47'30                | 1°51'12           |                          | -2971 Jan 21 j 12:29                         | 0° <b>≈</b>                              |              |
| min. Earth dist.    | -2977 Feb 16 j 05:42                         | 2° <b>Ω</b> 38'49                | 4.40492 AU        | evening set              | -2971 Feb 05 j 02:03                         | 3° <b>≈</b> 24'46                        |              |
|                     | -2977 Mar 10 j 04:43                         | 30°ષ્દ્                          |                   |                          |  |  |              |
| direct              | -2977 Apr 18 j 18:58                         | 27° <b>5</b> 45'21               |                   | conjunction              | -2971 Feb 18 j 11:15                         | 6° <b>≈</b> 35'44                        | -1°16'48     |
|                     | -2977 May 28 j 10:32                         | $0$ $^{\circ}\Omega$             |                   | minimum elong            | -2971 Feb 18 j 11:14                         | 6° <b>≈</b> 35'44                        | 1°16'52      |
|                     | -2977 Aug 21 j 03:31                         | 15° <b>Ω</b>                     |                   | max. Earth dist.         | -2971 Feb 20 j 05:43                         | 7° <b>≈</b> 01'02                        | 6.00399 AU   |
| evening set         | -2977 Aug 23 j 18:33                         | 15° <b>Ω</b> 34'28               |                   | morning rise             | -2971 Mar 03 j 23:38                         | 9° <b>≈</b> 48′20                        |              |
| max. Earth dist.    | -2977 Sep 03 j 15:54                         | 17° <b>Ω</b> 58′26               | 6.38442 AU        |                          | -2971 Mar 26 j 10:50                         | 15° <b>≈</b>                             |              |
|                     |  |                                  |                   |                          | -2971 Jul 06 j 15:22                         | 0° <b>∀</b>                              |              |
| conjunction         | -2977 Sep 05 j 11:23                         | 18° <b>Ω</b> 22′28               | 1°20'17           | retrograde               | -2971 Jul 13 j 18:47                         | 0° <b>)</b> €05'05                       |              |
| minimum elong       | -2977 Sep 05 j 11:23                         | 18° <b>Ω</b> 22′28               | 1°20'21           |                          | -2971 Jul 20 j 21:28                         | 30° <b>R</b> ≈                           |              |
| morning rise        | -2977 Sep 18 j 01:39                         | 21° <b>Ω</b> 09'17               |                   | min. Earth dist.         | -2971 Sep 10 j 06:14                         | 25° <b>≈</b> 10′20                       | 4.03045 AU   |
| -                   | -2977 Oct 30 j 18:05                         | o∘ <b>m</b> y                    |                   | opposition               | -2971 Sep 11 j 12:39                         | 24° <b>≈</b> 59'59                       | -1°58'05     |
| retrograde          | -2976 Jan 17 j 06:26                         | 8° <b>m</b> 21'41                |                   | direct                   | -2971 Nov 08 j 13:38                         | 20°≈03'23                                |              |
| opposition          | -2976 Mar 18 j 01:32                         | 3° m/30'10                       | 1°54'18           |                          | -2970 Jan 31 j 02:26                         | 0° <b>∀</b>                              |              |
| min. Earth dist.    | -2976 Mar 19 j 09:34                         | 3° m) 19'58                      | 4.35223 AU        | evening set              | -2970 Mar 14 j 06:02                         | 9° <b>)</b> 18'46                        |              |
|                     | -2976 Apr 17 j 15:37                         | 30°RΩ                            |                   | C                        | ,  |  |              |
| direct              | -2976 May 19 j 13:47                         | 28° <b>Ω</b> 30'16               |                   | conjunction              | -2970 Mar 27 j 21:51                         | 12° <b>)</b> €29'38                      | -1°13'31     |
|                     | -2976 Jun 20 j 12:17                         | 0° <b>m</b>                      |                   | minimum elong            | -2970 Mar 27 j 21:54                         | 12° <b>¥</b> 29'40                       |              |
| evening set         | -2976 Sep 22 j 18:18                         | 16° m) 30'45                     |                   | max. Earth dist.         | -2970 Mar 29 j 23:30                         | 12° <b>¥</b> 58'35                       | 6.06990 AU   |
| max. Earth dist.    | -2976 Oct 03 j 12:48                         | 18° <b>m</b> ) 56'07             | 6.30599 AU        | morning rise             | -2970 Apr 10 j 15:39                         | 15° <b>)</b> 41′22                       |              |
|                     |  |                                  |                   | . 8                      | -2970 Jun 19 j 12:18                         | 0° <b>Υ</b>                              |              |
| conjunction         | -2976 Oct 05 j 07:40                         | 19° <b>m</b> ) 20'20             | 1°10'24           | retrograde               | -2970 Aug 17 j 21:58                         | 5° <b>Υ</b> ′14'02                       |              |
| minimum elong       | -2976 Oct 05 j 07:43                         | 19° mg 20'21                     | 1°10'25           | min. Earth dist.         | -2970 Oct 15 j 05:13                         | 0° <b>Υ</b> 18'58                        | 4.12225 AU   |
| morning rise        | -2976 Oct 17 j 19:38                         | 22° mg 09'27                     | 1 10 23           | opposition               | -2970 Oct 16 j 09:30                         | 0° <b>Υ</b> 09'19                        |              |
| morning rise        | -2976 Nov 23 j 09:03                         | 0∘ <b>⊽</b>                      |                   | оррозион                 | -2970 Oct 17 j 12:48                         | 30°R <b></b> ₩                           | 1 30 33      |
| retrograde          | -2975 Feb 18 j 10:21                         | ა <b>—</b><br>10° <b>ჲ</b> 01'20 |                   | direct                   | -2970 Dec 14 j 02:08                         | 25° <b>)</b> €09'29                      |              |
| opposition          | -2975 Apr 20 j 10:42                         | 5° <b>₽</b> 08'52                | 1°24'03           | uncet                    | -2969 Feb 08 j 19:00                         | 0° <b>Υ</b>                              |              |
| min. Earth dist.    | -2975 Apr 20 j 10:42                         | 4° <b>£</b> 59'41                | 4.25243 AU        | evening set              | -2969 Apr 19 j 17:57                         | 14° <b>Υ</b> '01'02                      |              |
| direct              | -2975 Jun 21 j 04:23                         | ია_ეექე<br>0° <b>_</b> 11'51     | 4.23243 AO        | evening set              | -2707 Apr 17 j 17.37                         | 14   01 02                               |              |
| evening set         | -2975 Oct 24 j 10:04                         | 18° <b>£</b> 33'30               |                   | conjunction              | -2969 May 03 j 12:26                         | 17° <b>Ƴ</b> 08'19                       | 00/3/53      |
| max. Earth dist.    | -2975 Nov 04 j 16:19                         | 21° <b>⊆</b> 09'33               | 6.19360 AU        | minimum elong            | -2969 May 03 j 12:29                         | 17° <b>Υ</b> 08'21                       | 0°43'51      |
| max. Earm dist.     | -29/3 NOV 04 J 10.19                         | 21 = 0933                        | 0.19300 AU        | max. Earth dist.         | -2969 May 05 j 00:23                         | 17° <b>Υ</b> 28'43                       | 6.17990 AU   |
| conjunction         | -2975 Nov 06 j 00:25                         | 21° <b>≏</b> 28'08               | 0°39'01           | morning rise             | -2969 May 03 j 00.23                         | 20° <b>Υ</b> 15'26                       | 6.17990 AU   |
| minimum elong       | -2975 Nov 06 j 00:27                         | 21° <b>⊆</b> 28'10               | 0°38'58           | morning rise             | -2969 Jul 02 j 08:14                         | 0° <b>8</b>                              |              |
| _                   | -2975 Nov 18 j 15:17                         |                                  | 0 38 38           |                          |  |  |              |
| morning rise        | ,  | 24° <b>£</b> 23'14               |                   | retrograde               | -2969 Sep 20 j 00:37                         | 8° <b>8</b> 46'46                        | 0924107      |
|                     | -2975 Dec 13 j 15:17<br>-2974 Mar 25 j 12:10 |                                  |                   | opposition               | -2969 Nov 18 j 12:00<br>-2969 Nov 17 j 19:58 | 3° <b>8</b> 44'48                        | 4.23858 AU   |
| retrograde          | 3  | 13°M 10'59                       | 0°25'23           | min. Earth dist.         |  | 30°RY                                    | 4.23838 AU   |
| opposition          | -2974 May 25 j 12:35                         | 8°M15'49                         |                   | 1                        | -2969 Dec 20 j 00:17                         | 30° <b>γ</b> 1<br>28° <b>γ</b> 42'24     |              |
| min. Earth dist.    | -2974 May 26 j 03:07                         | 8°M11'08                         | 4.13454 AU        | direct                   | -2968 Jan 17 j 10:12                         |  |              |
| direct              | -2974 Jul 24 j 23:06                         | 3°M21'23                         |                   |                          | -2968 Feb 15 j 05:04                         | 0°8                                      |              |
| desc. node          | -2974 Oct 17 j 11:46                         | 13°M14'33                        |                   |                          | -2968 May 14 j 03:58                         | 15° <b>8</b>                             |              |
|                     | -2974 Oct 25 j 21:27                         | 15°M                             |                   | evening set              | -2968 May 23 j 18:09                         | 17° <b>8</b> 05'51                       |              |
| evening set         | -2974 Nov 26 j 12:27                         | 22° <b>M</b> 09'47               |                   | . ,.                     | 20(0.1 0(:10.01                              | 200                                      | 0000140      |
|                     | 2074 D 00:07.00                              | 250M 11116                       | 0007122           | conjunction              | -2968 Jun 06 j 10:01<br>-2968 Jun 06 j 10:00 | 20° <b>8</b> 07'10<br>20° <b>8</b> 07'10 |              |
| conjunction         | -2974 Dec 09 j 07:38                         | 25°M11'16                        |                   | minimum elong            |  |  | 0*00'44      |
| minimum elong       | -2974 Dec 09 j 07:37                         | 25°M11'16                        | 0°06'27           | behind sun begin         | -2968 Jun 06 j 01:43                         | 20° <b>8</b> 02'36                       |              |
| behind sun begin    | -2974 Dec 09 j 00:01                         | 25°M06'47                        |                   | behind sun end           | -2968 Jun 06 j 18:18                         | 20° <b>8</b> 11'45                       | C 20.422 ATT |
| behind sun end      | -2974 Dec 09 j 15:13                         | 25°M15'45                        | C 00120 ATT       | max. Earth dist.         | -2968 Jun 06 j 23:34                         | 20° <b>8</b> 14'41                       | 6.29423 AU   |
| max. Earth dist.    | -2974 Dec 08 j 23:57                         | 25°M06'44                        | 6.08139 AU        | asc. node                | -2968 Jun 13 j 09:19                         | 21° <b>8</b> 39'53                       |              |
| morning rise        | -2974 Dec 22 j 04:38                         | 28°M13'58                        |                   | morning rise             | -2968 Jun 19 j 23:45                         | 23° <b>8</b> 07'19                       |              |
|                     | -2974 Dec 29 j 17:53                         | 0° <b>∡</b> 7                    |                   |                          | -2968 Jul 22 j 10:17                         | 0°П                                      |              |
| retrograde          | -2973 May 01 j 09:20                         | 17° <b>∡</b> 759'02              |                   | retrograde               | -2968 Oct 20 j 12:35                         | 10° <b>Ⅱ</b> 44'20                       |              |
| opposition          | -2973 Jul 01 j 00:59                         | 13° <b>×</b> <sup>7</sup> 00'09  |                   | opposition               | -2968 Dec 19 j 05:20                         | 5° <b>Ⅱ</b> 46'20                        | 0°30'24      |
| min. Earth dist.    | -2973 Jun 30 j 21:01                         | 13° <b>∡</b> *01'27              | 4.03764 AU        | min. Earth dist.         | -2968 Dec 19 j 04:52                         | 5° <b>Ⅱ</b> 46'29                        | 4.34110 AU   |
| direct              | -2973 Aug 29 j 03:29                         | 8° <b>⋌</b> ¹07'04               |                   | direct                   | -2967 Feb 18 j 10:05                         | 0° <b>Ⅱ</b> 42'48                        |              |
| evening set         | -2973 Dec 31 j 12:00                         | 27° <b>∡</b> 19'36               |                   | evening set              | -2967 Jun 26 j 02:18                         | 18° <b>Ⅱ</b> 43'54                       |              |
|                     | -2972 Jan 11 j 16:21                         | 0°ಕ                              |                   |                          |  | —  |              |
|                     |  | _                                |                   | conjunction              | -2967 Jul 09 j 10:23                         | 21° <b>Ⅲ</b> 38'38                       |              |
| conjunction         | -2972 Jan 13 j 13:42                         | 0° <b>る</b> 27'09                |                   | minimum elong            | -2967 Jul 09 j 10:20                         | 21° <b>Ⅲ</b> 38'37                       |              |
| minimum elong       | -2972 Jan 13 j 13:38                         | 0° <b>云</b> 27'07                |                   | max. Earth dist.         | -2967 Jul 08 j 20:36                         | 21° <b>Ⅲ</b> 31′06                       | 6.37714 AU   |
| max. Earth dist.    | -2972 Jan 14 j 08:59                         | 0° <b>る</b> 38'42                | 6.00848 AU        | morning rise             | -2967 Jul 22 j 15:32                         | 24° <b>Ⅲ</b> 31'49                       |              |
| morning rise        | -2972 Jan 26 j 18:39                         | 3° <b>ප</b> 36'29                |                   |                          | -2967 Aug 17 j 11:52                         | $0$ $\circ$                              |              |
| retrograde          | -2972 Jun 06 j 21:07                         | 23° <b>る</b> 57'44               |                   | retrograde               | -2967 Nov 20 j 06:50                         | 11° <b>©</b> 36'05                       |              |
| min. Earth dist.    | -2972 Aug 05 j 03:53                         | 19° <b>る</b> 02'34               | 3.99772 AU        | opposition               | -2966 Jan 19 j 07:23                         | 6° <b>5</b> 341'41                       | 1°23'54      |
|                     |  |                                  |                   |                          |  |  |              |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -2966 in astronomical counting style is the year 2967 BCE in historical counting style. -2966 Jan 19 j 23:49 6°536'20 4.39974 AU conjunction -2960 Jan 18 j 15:04 5°る34'19 -0°55'52 min. Earth dist. -2966 Mar 22 j 13:07 -2960 Jan 18 j 15:01 5°₹34'17 0°55'57 direct 1°938'22 minimum elong -2966 Jul 28 j 00:30 19°9528'04 -2960 Jan 19 j 14:33 5°₹48'23 6.00700 AU max. Earth dist. evening set -2960 Jan 31 j 20:53 8°**정**44'06 morning rise -2960 Jun 12 j 01:23 29°る05'59 conjunction -2966 Aug 09 j 23:43 22°9517'54 1°10'36 retrograde 24°**る**10'40 22°9517'52 minimum elong -2966 Aug 09 j 23:40 1°10'42 min. Earth dist. -2960 Aug 10 j 05:32 4.00103 AU -2966 Aug 08 j 14:52 max. Earth dist. 21°959'55 6.40618 AU opposition -2960 Aug 11 j 05:00 24°る02'47 -1°46'05 25°906'09 morning rise -2966 Aug 22 j 19:34 direct -2960 Oct 08 j 07:42 19°る08'37 -2966 Sep 14 j 20:17  $0^{\circ}\Omega$ -2959 Jan 03 j 14:09 0°≈ retrograde -2966 Dec 21 j 01:35 12°**Ω**03'59 evening set -2959 Feb 10 j 04:44 8°**≈**31'12 opposition -2965 Feb 19 j 13:05 7°**Ω**11'54 1°53'36 -2959 Feb 23 j 14:55 min. Earth dist. -2965 Feb 20 j 16:23 7°**Ω**03′09 4.39905 AU conjunction 11°≈42'15 -1°18'08 -2959 Feb 23 j 14:54 direct -2965 Apr 23 j 04:35  $2^{\circ}\Omega 10'05$ minimum elong 11°≈42'14 1°18'12 -2965 Aug 04 j 17:46 15°€ max. Earth dist. -2959 Feb 25 j 11:30 12°**≈**08'43 6.01155 AU evening set -2965 Aug 28 j 03:27 20°**Ω**00'52 morning rise -2959 Mar 09 j 04:11 14°≈54'50 max. Earth dist. -2965 Sep 07 j 23:50 22°**Ω**24'42 6.37468 AU -2959 Mar 09 j 12:57 15°**≈** -2959 May 21 j 00:13 0°**)**€ conjunction -2965 Sep 09 j 19:30 22°**Ω**48'55 1°20'17 retrograde -2959 Jul 18 j 17:39 5°\ 06'45 minimum elong -2965 Sep 09 j 19:30 22°**Ω**48'55 1°20'19 min. Earth dist. -2959 Sep 15 j 03:12 0°¥12'07 4.04160 AU morning rise -2965 Sep 22 j 09:10 25°**Ω**35'54 opposition -2959 Sep 16 j 10:05 0°\mathcal{H}01'36 -1°56'45 -2965 Oct 12 j 17:37 -2959 Sep 16 j 14:47 30°R≈ retrograde -2964 Jan 21 i 21:14 12° m 53'07 direct -2959 Nov 13 j 11:32 25°≈04'35 opposition -2964 Mar 22 j 16:37 8° Mp 01'40 1°52'00 -2958 Jan 08 i 19:40 0°) min. Earth dist. -2964 Mar 24 i 01:20 7° m 51'15 4.33929 AU -2958 Mar 19 j 07:43 14° ¥ 17'05 evening set -2964 May 24 j 03:48 3° m 02'14 direct 21° m 05'36 -2958 Apr 02 j 00:01 17°¥27'36 -1°10'46 -2964 Sep 27 j 04:44 conjunction evening set -2964 Oct 07 j 23:25 23°m/31'39 6.29107 AU -2958 Apr 02 j 00:04 17°**¥**27'38 1°10'47 max. Earth dist. minimum elong -2958 Apr 03 j 22:50 max. Earth dist. 17°**)** 54'48 6.08347 AU -2964 Oct 09 j 17:59 -2958 Apr 15 j 18:20 conjunction 23° m 55'46 1°07'09 20° ¥ 38'53 morning rise -2964 Oct 09 j 18:01 -2958 May 28 j 14:23  $0^{\circ}$ 23° m 55'48 1°07'09 minimum elong -2964 Oct 22 j 06:11 -2958 Aug 22 j 13:20 10°**Y**03'48 26° m 45'36 retrograde morning rise -2958 Oct 19 j 22:29 -2964 Nov 05 j 19:29 0∘**⊽** min. Earth dist. 5°**Y**08'22 4.13675 AU -2963 Feb 23 j 06:06 14°**£**44'41 -2958 Oct 21 j 00:56 4°Υ59'20 -1°24'22 retrograde opposition -2963 Apr 25 j 07:33 -2958 Dec 15 j 20:51 opposition 9°**£**51'56 1°17'12 30°**₹** -2963 Apr 26 j 09:48 29° **X** 59'04 min. Earth dist. 9°**£**43'34 4.23662 AU direct -2958 Dec 18 j 21:20  $0^{\circ}\Upsilon$ direct -2963 Jun 25 j 20:50 4°**£**55'22 -2958 Dec 21 j 21:59 18°**Y**47'19 evening set -2963 Oct 29 j 00:10 23°**₽**20′20 evening set -2957 Apr 24 j 15:46 max. Earth dist. -2963 Nov 09 j 11:34 25°**♀**59'50 6.17854 AU conjunction -2957 May 08 j 10:27 21°**Y**′54'01 -0°38'25 conjunction -2963 Nov 10 j 15:05 26°**≙**15'49 0°33'11 minimum elong -2957 May 08 j 10:29 21°**Y**′54'03 0°38'23 -2963 Nov 10 j 15:07 26°**♀**15'51 0°33'08 max. Earth dist. -2957 May 09 j 20:35 22°**Y**13′20 6.19447 AU minimum elong -2963 Nov 23 j 06:29 29°**₽**11'50 -2957 May 22 j 04:42 25°Y00'20 morning rise morning rise -2963 Nov 26 j 18:07 -2957 Jun 13 j 22:48 0°8 0°M -2962 Feb 12 j 18:27 -2957 Sep 24 j 11:10 13°**8**24'09 15°M₁ retrograde -2957 Nov 22 j 22:41 8°**8**22'45 -0°25'12 retrograde -2962 Mar 30 j 15:50 18°**™**07'17 opposition -2962 May 16 j 06:12 15°RM min. Earth dist. -2957 Nov 22 i 08:33 8°**8**27'31 4.25190 AU opposition -2962 May 30 j 14:41 13°M11'42 0°15'37 direct -2956 Jan 22 i 00:37 3°820'10 min. Earth dist. -2962 May 31 i 03:16 13°ML07'38 4.12131 AU asc. node -2956 Apr 23 j 23:21 14°**8**23'10 direct -2962 Jul 29 j 21:37 8°**ጤ**17'37 -2956 Apr 27 j 00:44 15°8 -2962 Aug 27 j 02:50 9°M33'50 -2956 May 28 j 11:25 21°**8**41'00 desc. node evening set -2962 Oct 05 j 16:06 15°M. -2962 Dec 01 j 07:55 27°M08'41 -2956 Jun 11 j 02:22 24°841'32 0°05'26 evening set conjunction -2962 Dec 13 j 09:18 0°×7 -2956 Jun 11 j 02:20 24°**8**41'31 0°05'31 minimum elong -2956 Jun 10 j 18:23 behind sun begin 24°**8**37'08 conjunction -2962 Dec 14 j 03:45 0° ₹ 10'56 -0°13'02 behind sun end -2956 Jun 11 j 10:17 24°**8**45'53 -2962 Dec 14 j 03:43 0°**∡**10'56 0°13'08 max. Earth dist. -2956 Jun 11 j 10:45 24°**8**46'09 6.30532 AU minimum elong -2962 Dec 13 j 22:49 0°**х** 08′02 morning rise -2956 Jun 24 j 15:18 27°**8**40'51 behind sun begin -2962 Dec 14 j 08:38 0°**х** 13′50 -2956 Jul 05 j 06:49  $0^{\circ}\Pi$ behind sun end 0°**∡**08'07 6.07118 AU -2956 Oct 24 j 20:33 15°**Ⅱ**12'55 max. Earth dist. -2962 Dec 13 j 22:59 retrograde -2956 Dec 23 j 13:53 10°**Ⅱ**15′26 0°38'49 morning rise -2962 Dec 27 j 01:52 3°**х¹**14'33 opposition -2956 Dec 23 j 16:12 retrograde -2961 May 06 j 13:20 23°**х** 05′04 min. Earth dist. 10°**Ⅱ**14'39 4.34939 AU -2961 Jul 06 j 05:02 18°**∡** 05'36 -0°54'34 direct -2955 Feb 22 j 22:57 5°**Ⅱ**11'48 opposition min. Earth dist. -2961 Jul 05 j 21:13 18°**₹**'08'10 4.03160 AU evening set -2955 Jun 30 j 15:08 23°**Ⅱ**11'36 direct -2961 Sep 03 j 02:40 13°**х** 12'34 -2961 Dec 26 j 04:33 0°궁 conjunction -2955 Jul 13 j 22:11 26°**Ⅱ**05'40 0°46'13 -2960 Jan 05 j 12:23 2°る26'17 -2955 Jul 13 j 22:08 26°**Ⅱ**05'38 0°46'19 evening set minimum elong

max. Earth dist.

-2955 Jul 13 j 06:52

25°**Ⅲ**57'17 6.38207 AU

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -2955 in astronomical counting style is the year 2956 BCE in historical counting style. -2955 Jul 27 j 01:53 28°**Ⅱ**58′05 direct -2949 Sep 08 i 03:34 18°**≯**16'04 morning rise -2955 Jul 31 j 20:14 0ಂತಾ -2949 Dec 08 j 17:04 0°궁 -2955 Nov 24 j 13:10 -2948 Jan 10 j 12:54 7°る32'11 16°900'36 retrograde evening set -2954 Jan 23 j 15:56 11°906'36 1°29'41 opposition -2954 Jan 24 j 09:12 min. Earth dist. 11°901'00 4.40134 AU conjunction -2948 Jan 23 j 16:38 10°る40'51 -1°00'32 -2948 Jan 23 j 16:34 direct -2954 Mar 26 j 23:13 6°903'27 minimum elong 10°る40'49 1°00'37 -2948 Jan 24 j 19:35 evening set -2954 Aug 01 j 10:40 23°953'07 max. Earth dist. 10°る57'00 6.00241 AU max. Earth dist. -2954 Aug 12 j 20:55 26°9522'58 6.40417 AU morning rise -2948 Feb 05 j 23:35 13°**る**51'18 -2948 Apr 24 j 22:25 0°≈ conjunction -2954 Aug 14 j 08:33 26°5942'30 1°13'14 retrograde -2948 Jun 17 j 06:00 4°≈14'50 minimum elong -2954 Aug 14 j 08:30 26°5942'29 1°13'18 -2948 Aug 10 j 06:22 30°Ŗる -2954 Aug 27 j 03:27 -2948 Aug 15 j 06:18 morning rise 29°930'24 min. Earth dist. 29°る19'49 4.00111 AU -2954 Aug 29 j 09:52  $0^{\circ}\Omega$ opposition -2948 Aug 16 j 07:38 29°る11'17 -1°50'18 -2954 Nov 24 j 08:10 15°€ direct -2948 Oct 13 j 08:08 24°る16'49 retrograde -2954 Dec 25 j 12:08 16°**£**29'36 -2948 Dec 13 j 01:10 0°≈ -2953 Jan 25 j 18:19 15°R€ evening set -2947 Feb 15 j 09:08 13°≈39'48 opposition -2953 Feb 24 j 00:07 11°**Ω**37'40 1°55'19 -2947 Feb 21 j 00:52 15°**≈** min. Earth dist. -2953 Feb 25 j 05:14 11°**Ω**28′20 4.39371 AU direct -2953 Apr 27 j 17:11 6°**Ω**36′04 conjunction -2947 Feb 28 j 20:12 16°≈51'04 -1°18'54 -2953 Jul 17 j 11:41 15°€ minimum elong -2947 Feb 28 j 20:12 16°≈51'03 1°18'57 evening set -2953 Sep 01 j 12:07 24°Ω27'51 max. Earth dist. -2947 Mar 02 j 16:47 17°≈17'29 6.01597 AU max. Earth dist. -2953 Sep 12 j 08:00 26°**Ω**51'44 6.36622 AU morning rise -2947 Mar 14 i 10:28 20°≈03'50 -2947 Apr 28 i 04:24 0°) conjunction -2953 Sep 14 i 03:38 27°**Ω**15'58 1°19'47 retrograde -2947 Jul 23 i 16:58 10°**₩**11'59 -2953 Sep 14 j 03:39 27°**Ω**15'58 1°19'50 min. Earth dist. -2947 Sep 20 j 02:05 5°**)** 17'16 4.04980 AU minimum elong -2953 Sep 26 j 16:45 0° m 03'04 opposition -2947 Sep 21 j 08:52 5° \(\mathbf{t}\) 06'45 -1°54'34 morning rise -2953 Sep 26 j 11:11 -2947 Nov 18 j 11:55 0°\09'15 0° m direct -2952 Jan 26 j 09:49 evening set -2946 Mar 24 j 11:47 19°\ 20'03 retrograde 17° Mp 24'29 -2952 Mar 27 j 07:38 12° m/32'52 1°49'01 opposition -2946 Apr 07 j 04:57 22°\dagger30'24 -1°07'27 min. Earth dist. -2952 Mar 28 j 15:00 12° m 22'53 4.32817 AU conjunction -2946 Apr 07 j 05:01 -2952 May 28 j 16:00 7° Mp 33'46 22°**)** 30'26 1°07'27 direct minimum elong -2946 Apr 09 j 04:09 -2952 Oct 01 j 14:24 25° m 39'06 max. Earth dist. 22°**升**57'45 6.09493 AU evening set max. Earth dist. -2952 Oct 12 j 11:02 28° Mp 06'43 6.27805 AU -2946 Apr 20 j 23:31 25°**∺**41′20 morning rise -2946 May 10 j 01:53  $0^{\circ}\Upsilon$ 28° m/29'45 1°03'29 -2952 Oct 14 j 03:33 -2946 Aug 27 j 08:38 14°Y58'59 conjunction retrograde -2952 Oct 14 j 03:36 -2946 Oct 25 j 18:54 9°**Υ**54'55 -1°17'06 minimum elong 28° Mp 29'46 1°03'29 opposition 10°**Y**03'27 4.15013 AU -2952 Oct 20 j 18:20 0∘**⊽** min. Earth dist. -2946 Oct 24 j 17:50 -2952 Oct 26 j 15:52 1°**£**20'10 direct -2946 Dec 23 j 18:25 4°Y54'21 morning rise -2951 Feb 28 j 02:43 19°**£**25'46 -2945 Apr 29 j 16:28 23°Y39'36 retrograde evening set -2951 Apr 30 j 03:38 14°**△**32'42 1°09'52 opposition min. Earth dist. -2951 May 01 j 05:27 14°**≏**24'28 4.22217 AU conjunction -2945 May 13 j 10:53 26°**Y**45'38 -0°32'32 -2951 Jun 30 j 14:29 9°**£**36'27 -2945 May 13 j 10:56 26°Y45'40 0°32'30 direct minimum elong -2951 Nov 02 j 13:23 28°**♀**04'16 max. Earth dist. -2945 May 14 j 17:25 27°**Y**′02'51 evening set 6.20885 AU -2951 Nov 10 j 20:45 -2945 May 27 j 04:56 29°Y51'13 0°M morning rise 6.16386 AU max. Earth dist. -2951 Nov 14 j 02:59 -2945 May 27 j 20:39 0°8  $0^{\circ}$ M45'34 -2945 Aug 14 j 22:20 15°8 conjunction -2951 Nov 15 i 04:46 1°ML00'35 0°27'09 retrograde -2945 Sep 28 i 23:37 18°**8**07'34 minimum elong -2951 Nov 15 i 04:47 1°ML00'36 0°27'07 -2945 Nov 13 i 02:46 15°R₩ morning rise -2951 Nov 27 j 21:00 3°M57'34 opposition -2945 Nov 27 j 12:15 13°**8**06'43 -0°15'55 -2950 Jan 18 j 08:05 min. Earth dist. -2945 Nov 26 j 23:41 13°**8**10'57 4.26620 AU 15°M. -2950 Apr 04 j 15:51 23°ML00'31 direct -2944 Jan 26 j 18:29 8°803'58 retrograde opposition -2950 Jun 04 j 15:08 18°ML04'25 0°05'47 -2944 Mar 02 j 23:07 10°803'12 asc. node min. Earth dist. -2950 Jun 05 j 00:25 18°ML01'24 4.10754 AU 15°8 -2944 Apr 06 j 21:39 -2950 Jun 30 j 08:54 15°R ML evening set -2944 Jun 02 j 06:57 26°**8**21'40 desc. node -2950 Jul 07 j 04:07 14°M22'24 direct -2950 Aug 03 j 16:24 13°M10'31 conjunction -2944 Jun 15 j 21:04 29°**8**21'16 0°11'41 -2950 Sep 06 j 15:01 15°M minimum elong -2944 Jun 15 j 21:03 29°**8**21'16 0°11'46 -2944 Jun 15 j 15:21 29°818'08 -2950 Nov 27 j 05:34 0° **₹** behind sun begin -2944 Jun 16 j 02:44 29°**8**24'24 evening set -2950 Dec 06 j 02:40 2°**х** 04′53 behind sun end -2944 Jun 16 j 03:42 29°**8**24'55 6.31897 AU max. Earth dist. conjunction -2950 Dec 18 j 23:23 5°**х** 08'00 -0°19'37 -2944 Jun 18 j 19:11  $\Pi$  $^{\circ}0$ minimum elong -2950 Dec 18 j 23:22 5°**х** 07'59 0°19'42 morning rise -2944 Jun 29 j 08:43 2°**Ⅱ**19'33 max. Earth dist. -2950 Dec 18 j 22:46 5°**х** 07'38 6.05952 AU retrograde -2944 Oct 29 j 05:55 19°**Ⅱ**45'47

opposition

evening set

direct

min. Earth dist.

-2944 Dec 28 j 00:25

-2944 Dec 28 j 04:17

-2943 Feb 27 j 13:31

-2943 Jul 05 j 05:14

14°**Ⅱ**48'54

14°**Ⅱ**47'38

9°**I**I45'24

27°**Ⅲ**42'17

0°47'09

4.36161 AU

morning rise

retrograde

opposition

min. Earth dist.

-2950 Dec 31 j 22:26

-2949 May 11 j 18:52

-2949 Jul 11 j 08:26

-2949 Jul 10 j 23:08

8°**х** 12′33

28°**х** 09′13

23°**₹**09'11 -1°03'29

23°**≯**12'15 4.02315 AU

| -                            | omena of Jupiter fro                         |                                | _                  |                                |  | _                                   | ige 41     |
|------------------------------|--|--------------------------------|--------------------|--------------------------------|--|-------------------------------------|------------|
| Attention, astronom          | -2943 Jul 15 j 18:03                         | ne year -2943 i<br>0° <b>©</b> | n astronomical co  | retrograde                     | r 2944 BCE in historical c                   | ounting style.<br>3°る07'09          |            |
|                              | -2943 Jul 13 J 18.03                         | 0 39                           |                    | renograde                      | -2937 May 16 j 20:51<br>-2937 Jul 01 j 17:12 |                                     |            |
| aaniumatian                  | -2943 Jul 18 j 10:48                         | 0° <b>©</b> 35'23              | 0°51'03            | annagition                     | -2937 Jul 01 j 17:12<br>-2937 Jul 16 j 08:34 | 30°₹ <b>৴</b><br>28° <b>৴</b> 06'40 | 1911140    |
| conjunction minimum elong    | -2943 Jul 18 j 10:45                         | 0°935'21                       | 0°51'08            | opposition<br>min. Earth dist. | -2937 Jul 16 j 08.34<br>-2937 Jul 15 j 20:55 |                                     | 4.01154 AU |
| max. Earth dist.             | -2943 Jul 17 j 15:47                         | 0°9524'59                      | 6.39198 AU         | direct                         | -2937 Sep 12 j 23:04                         | 23°×1031                            | 4.01134 AU |
| morning rise                 | -2943 Jul 17 J 13:47                         | 3°\$26'52                      | 0.39198 AU         | direct                         | -2937 Sep 12 j 23:04<br>-2937 Nov 18 j 18:58 | 23 x·13 30                          |            |
| retrograde                   | -2943 Nov 28 j 21:09                         | 20°\$26'07                     |                    | evening set                    | -2936 Jan 15 j 11:53                         | 0 8<br>12° <b>る</b> 33'39           |            |
| opposition                   | -2942 Jan 28 j 01:23                         | 15°\$32'30                     | 1°34'55            | evening set                    | -2930 Jan 13 J 11.33                         | 12 033 39                           |            |
| min. Earth dist.             | -2942 Jan 28 j 20:36                         | 15°932'30                      | 4.40857 AU         | conjunction                    | -2936 Jan 28 j 16:37                         | 15° <b>る</b> 43'09                  | 100425     |
| direct                       | -2942 Mar 31 j 11:57                         | 10°\$29'31                     | 4.40637 AU         | minimum elong                  | -2936 Jan 28 j 16:34                         | 15° <b>る</b> 43'07                  |            |
| evening set                  | -2942 Mai 31 j 11:37                         | 28°9517'00                     |                    | max. Earth dist.               | -2936 Jan 29 j 21:22                         |                                     | 5.99428 AU |
| evening set                  | -2942 Aug 03 j 19:39<br>-2942 Aug 13 j 16:28 | 28 <b>3</b> 1700               |                    | morning rise                   | -2936 Feb 11 j 00:48                         | 10 00023<br>18°る54'28               | 3.99428 AU |
| max. Earth dist.             |  | 0° <b>Ω</b> 46'14              | 6.40811 AU         | morning rise                   |  | 18 <b>3</b> 3428 0° <b>≈</b>        |            |
| max. Earm dist.              | -2942 Aug 17 j 04:52                         | 0 8640 14                      | 0.40811 AU         | ratra ara da                   | -2936 Mar 31 j 23:12                         | 0 ∞<br>9°≈21'03                     |            |
| aaniumatian                  | 2042 Aug 19 : 16:20                          | 1° <b>Ω</b> 05'46              | 1°15'25            | retrograde<br>min. Earth dist. | -2936 Jun 22 j 08:52                         |                                     | 3.99752 AU |
| conjunction<br>minimum elong | -2942 Aug 18 j 16:30                         | 1° <b>Ω</b> 05'45              | 1°15′25<br>1°15′29 |                                | -2936 Aug 20 j 05:43                         | 4°≈2609<br>4°≈17'05                 |            |
| •                            | -2942 Aug 18 j 16:28<br>-2942 Aug 31 j 10:07 | 3°Ω53'02                       | 1 13 29            | opposition                     | -2936 Aug 21 j 08:29                         | 4 ≈1703<br>30°R <b>る</b>            | -1 33 33   |
| morning rise                 |  |                                |                    | 4:                             | -2936 Sep 29 j 04:36                         | 30 KO<br>29° <b>る</b> 22'14         |            |
|                              | -2942 Oct 26 j 11:11                         | 15° <b>Ω</b>                   |                    | direct                         | -2936 Oct 18 j 07:36                         | 29° <b>6</b> 22′14<br>0° <b>≈</b>   |            |
| retrograde                   | -2942 Dec 29 j 18:46                         | 20° <b>Ω</b> 51'56             | 1057117            |                                | -2936 Nov 06 j 11:18                         |                                     |            |
| opposition                   | -2941 Feb 28 j 10:01                         | 16°Ω00'10                      | 1°56'17            | . ,                            | -2935 Feb 04 j 06:30                         | 15° <b>≈</b>                        |            |
| min. Earth dist.             | -2941 Mar 01 j 15:10                         | 15° <b>Ω</b> 50'51             | 4.39412 AU         | evening set                    | -2935 Feb 20 j 12:53                         | 18° <b>≈</b> 47'07                  |            |
|                              | -2941 Mar 08 j 07:39                         | 15°RΩ                          |                    |                                | 202534 06:01.15                              | 210 50151                           | 1010150    |
| direct                       | -2941 May 02 j 03:00                         | 10° <b>Ω</b> 58'55             |                    | conjunction                    | -2935 Mar 06 j 01:15                         | 21°≈58'51                           |            |
|                              | -2941 Jun 24 j 23:53                         | 15° <b>Ω</b>                   |                    | minimum elong                  | -2935 Mar 06 j 01:15                         | 21°≈58'51                           | 1°19'03    |
| evening set                  | -2941 Sep 05 j 18:25                         | 28° <b>Ω</b> 49'45             |                    | max. Earth dist.               | -2935 Mar 08 j 00:56                         | 22°≈27'05                           | 6.01737 AU |
|                              | -2941 Sep 11 j 01:24                         | 0° m)                          |                    | morning rise                   | -2935 Mar 19 j 16:20                         | 25°≈11'56                           |            |
| max. Earth dist.             | -2941 Sep 16 j 12:21                         | 1° mg 12'47                    | 6.36293 AU         |                                | -2935 Apr 09 j 12:41                         | 0° <b>)</b> {                       |            |
|                              |  |                                |                    | retrograde                     | -2935 Jul 28 j 18:00                         | 15° <b>)</b> 17'06                  |            |
| conjunction                  | -2941 Sep 18 j 09:05                         | 1° <b>m</b> 37'41              | 1°18'49            | min. Earth dist.               | -2935 Sep 25 j 00:48                         | 10° <b>)</b> €22'17                 |            |
| minimum elong                | -2941 Sep 18 j 09:06                         | 1° <b>m</b> 37'41              | 1°18'52            | opposition                     | -2935 Sep 26 j 07:25                         | 10° <b>)</b> 11'49                  | -1°51'27   |
| morning rise                 | -2941 Sep 30 j 21:47                         | 4° TD 24'44                    |                    | direct                         | -2935 Nov 23 j 11:40                         | 5° <b>)</b> €13'54                  |            |
| retrograde                   | -2940 Jan 30 j 21:36                         | 21° m/49'01                    |                    | evening set                    | -2934 Mar 29 j 16:09                         | 24° <b>)</b> €23'24                 |            |
| opposition                   | -2940 Mar 31 j 19:57                         | 16° <b>TQ</b> 57'19            | 1°45'24            |                                |  |                                     |            |
| min. Earth dist.             | -2940 Apr 02 j 04:21                         | 16° Mp 47'01                   | 4.32109 AU         | conjunction                    | -2934 Apr 12 j 09:47                         | 27° <b>)</b> €33'33                 |            |
| direct                       | -2940 Jun 02 j 04:01                         | 11° <b>m</b> 58'32             |                    | minimum elong                  | -2934 Apr 12 j 09:50                         | 27° <b>)</b> €33'35                 |            |
| evening set                  | -2940 Oct 05 j 20:32                         | 0° <b>ჲ</b> 04'42              |                    | max. Earth dist.               | -2934 Apr 14 j 07:41                         | 28° <b>¥</b> 00′03                  | 6.10536 AU |
|                              | -2940 Oct 05 j 12:13                         | 0∘ <b>⊽</b>                    |                    |                                | -2934 Apr 22 j 23:51                         | 0° <b>Υ</b>                         |            |
| max. Earth dist.             | -2940 Oct 16 j 17:49                         | 2° <b>≏</b> 33'01              | 6.26781 AU         | morning rise                   | -2934 Apr 26 j 04:51                         | 0° <b>Υ</b> 44'10                   |            |
|                              |  |                                |                    | retrograde                     | -2934 Sep 01 j 01:36                         | 19° <b>Y</b> ′54'30                 |            |
| conjunction                  | -2940 Oct 18 j 09:46                         | 2° <b>≏</b> 55'46              | 0°59'33            | min. Earth dist.               | -2934 Oct 29 j 11:45                         | 14° <b>Y</b> ′59'08                 | 4.16354 AU |
| minimum elong                | -2940 Oct 18 j 09:49                         | 2° <b>≏</b> 55'48              | 0°59'32            | opposition                     | -2934 Oct 30 j 12:38                         | 14° <b>Y</b> ′50′39                 | -1°09'16   |
| morning rise                 | -2940 Oct 30 j 22:15                         | 5° <b>≏</b> 46'43              |                    | direct                         | -2934 Dec 28 j 15:38                         | 9° <b>Ƴ</b> 49'38                   |            |
| retrograde                   | -2939 Mar 04 j 17:28                         | 23° <b>ჲ</b> 58′10             |                    | evening set                    | -2933 May 04 j 17:03                         | 28° <b>Y</b> 31′29                  |            |
| opposition                   | -2939 May 04 j 19:41                         | 19° <b>≏</b> 04'46             | 1°02'19            |                                | -2933 May 11 j 07:07                         | $0^{\circ}$ 8                       |            |
| min. Earth dist.             | -2939 May 05 j 19:38                         | 18° <b>≏</b> 57'07             | 4.20926 AU         |                                |  |                                     |            |
| direct                       | -2939 Jul 05 j 01:45                         | 14° <b>≏</b> 08'51             |                    | conjunction                    | -2933 May 18 j 11:16                         | 1° <b>8</b> 36'45                   |            |
|                              | -2939 Oct 26 j 08:57                         | 0°M₊                           |                    | minimum elong                  | -2933 May 18 j 11:19                         | 1° <b>8</b> 36'47                   |            |
| evening set                  | -2939 Nov 06 j 22:47                         | 2°M39'25                       |                    | max. Earth dist.               | -2933 May 19 j 15:47                         | 1° <b>8</b> 52'47                   | 6.22423 AU |
|                              |  |                                |                    | morning rise                   | -2933 Jun 01 j 04:39                         | 4° <b>8</b> 41'23                   |            |
| conjunction                  | -2939 Nov 19 j 14:39                         | 5°M36'33                       | 0°21'11            |                                | -2933 Jul 20 j 19:45                         | 15° <b>8</b>                        |            |
| minimum elong                | -2939 Nov 19 j 14:41                         | 5° <b>™</b> 36′34              | 0°21'08            | retrograde                     | -2933 Oct 03 j 12:59                         | 22° <b>8</b> 49'37                  |            |
| max. Earth dist.             | -2939 Nov 18 j 14:55                         | 5° <b>M</b> 22'41              | 6.14945 AU         | opposition                     | -2933 Dec 02 j 01:18                         | 17° <b>8</b> 49'13                  |            |
| morning rise                 | -2939 Dec 02 j 07:38                         | 8°M34'30                       |                    | min. Earth dist.               | -2933 Dec 01 j 15:02                         |                                     | 4.28170 AU |
|                              | -2939 Dec 30 j 19:49                         | 15°M                           |                    |                                | -2933 Dec 24 j 10:27                         | 15° <b>₹8</b>                       |            |
| retrograde                   | -2938 Apr 09 j 14:45                         | 27° <b>M</b> 45'22             |                    | asc. node                      | -2932 Jan 10 j 17:50                         | 13° <b>8</b> 27'29                  |            |
| desc. node                   | -2938 May 19 j 07:25                         | 25°M24'47                      |                    | direct                         | -2932 Jan 31 j 12:50                         | 12° <b>8</b> 46'12                  |            |
| opposition                   | -2938 Jun 09 j 11:57                         | 22°M48'46                      | -0°03'46           |                                | -2932 Mar 10 j 01:52                         | 15° <b>8</b>                        |            |
| min. Earth dist.             | -2938 Jun 09 j 20:22                         | 22°M46'02                      | 4.09251 AU         |                                | -2932 Jun 02 j 11:24                         | $\Pi$ °0                            |            |
| direct                       | -2938 Aug 08 j 09:34                         | 17° <b>M</b> 55'02             |                    | evening set                    | -2932 Jun 07 j 01:30                         | 1° <b>II</b> 00'00                  |            |
|                              | -2938 Nov 10 j 15:20                         | 0° <b>∡</b> 7                  |                    |                                |  |                                     |            |
| evening set                  | -2938 Dec 10 j 18:16                         | 6° <b>₹</b> 753'32             |                    | conjunction                    | -2932 Jun 20 j 14:32                         | 3° <b>∏</b> 58′34                   | 0°17'52    |
|                              |  |                                |                    | minimum elong                  | -2932 Jun 20 j 14:31                         | 3° <b>Ⅱ</b> 58'33                   | 0°17'57    |
| conjunction                  | -2938 Dec 23 j 15:56                         | 9° <b>∡</b> 757'41             | -0°25'49           | max. Earth dist.               | -2932 Jun 20 j 17:29                         | 4° <b>Ⅱ</b> 00'11                   | 6.33297 AU |
| minimum elong                | -2938 Dec 23 j 15:54                         | 9° <b>х</b> 57′40              | 0°25'54            | morning rise                   | -2932 Jul 04 j 01:04                         | 6° <b>Ⅱ</b> 55'45                   |            |
| max. Earth dist.             | -2938 Dec 23 j 18:05                         | 9° <b>∡</b> 758'58             | 6.04536 AU         | retrograde                     | -2932 Nov 02 j 13:49                         | 24° <b>Ⅱ</b> 16′07                  |            |
| morning rise                 | -2937 Jan 05 j 16:05                         | 13° <b>х</b> °03′20            |                    | opposition                     | -2931 Jan 01 j 10:18                         | 19° <b>Ⅱ</b> 19'39                  | 0°55'11    |
|                              | -2937 Apr 01 j 09:06                         | ರ∘ರ                            |                    | min. Earth dist.               | -2931 Jan 01 j 16:01                         | 19° <b>Ⅱ</b> 17'46                  | 4.37298 AU |
|                              |  |                                |                    |                                |  |                                     |            |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, page 42 Attention, astronomical year style is used: The year -2931 in astronomical counting style is the year 2932 BCE in historical counting style.

| Attention, astronomical year style is used: The year -2931 in astronomical counting style is the year 2932 BCE in historical counting style. |  |  |              |                                |  |                                   |            |
|--|--|--|--------------|--------------------------------|--|-----------------------------------|------------|
| direct   | -2931 Mar 04 j 02:48                         | 14° <b>Ⅱ</b> 16′03                     |              | minimum elong                  | -2926 Dec 28 j 15:40                         | 15° <b>₹</b> 04'23                | 0°32'19    |
|  | -2931 Jun 29 j 15:30                         | 0ංම                                    |              | max. Earth dist.               | -2926 Dec 28 j 21:10                         | 15° <b>₹</b> 07'40                | 6.03292 AU |
| evening set  | -2931 Jul 09 j 17:58                         | 2° <b>©</b> 10'13                      |              | morning rise                   | -2925 Jan 10 j 17:05                         | 18° <b>≯</b> 11′08                |            |
|  |  |  |              |                                | -2925 Mar 05 j 14:32                         | 0° <b>ට</b>                       |            |
| conjunction  | -2931 Jul 22 j 22:16                         | 5° <b>©</b> 02'28                      | 0°55'35      | retrograde                     | -2925 May 22 j 05:01                         | 8° <b>る</b> 21'09                 |            |
| minimum elong  | -2931 Jul 22 j 22:13                         | 5° <b>5</b> 02'26                      | 0°55'41      | opposition                     | -2925 Jul 21 j 15:05                         | 3° <b>ට</b> 20'08                 |            |
| max. Earth dist.   | -2931 Jul 22 j 01:18                         | 4° <b>ॐ</b> 51'01                      | 6.39957 AU   | min. Earth dist.               | -2925 Jul 21 j 00:28                         |                                   | 4.00424 AU |
| morning rise   | -2931 Aug 04 j 23:15                         | 7° <b>©</b> 53'03                      |              |                                | -2925 Aug 18 j 08:44                         | 30°₹ <b>҂</b> 7                   |            |
| retrograde   | -2931 Dec 03 j 04:37                         | 24°950'04                              |              | direct                         | -2925 Sep 18 j 02:36                         | 28° <b>∡</b> ¹26'55               |            |
| opposition   | -2930 Feb 01 j 10:35                         |  | 1°39'42      | _                              | -2925 Oct 18 j 15:01                         | 0°₹                               |            |
| min. Earth dist.   | -2930 Feb 02 j 07:37                         | 19° <b>©</b> 50'01                     | 4.41188 AU   | evening set                    | -2924 Jan 20 j 16:43                         | 17° <b>る</b> 49'13                |            |
| direct   | -2930 Apr 04 j 23:17                         | 14°954'00                              |              |                                | 2024 5 1 02 : 22 42                          | 200750110                         | 1000100    |
|  | -2930 Jul 28 j 18:06                         | 0° <b>Ω</b>                            |              | conjunction                    | -2924 Feb 02 j 22:42                         | 20°る59'19                         |            |
| evening set  | -2930 Aug 10 j 04:49                         | 2° <b>Ω</b> 40'41                      | C 40655 477  | minimum elong                  | -2924 Feb 02 j 22:39                         | 20°る59'17                         |            |
| max. Earth dist.   | -2930 Aug 21 j 09:25                         | 5°870/35                               | 6.40655 AU   | max. Earth dist.               | -2924 Feb 04 j 08:53                         |                                   | 5.99297 AU |
|  | 2020 A 22:00-27                              | 50 020100                              | 1017114      | morning rise                   | -2924 Feb 16 j 07:49                         | 24° <b>る</b> 11'07                |            |
| conjunction  | -2930 Aug 23 j 00:27                         | 5° <b>Ω</b> 29'00<br>5° <b>Ω</b> 28'59 |              |                                | -2924 Mar 12 j 09:47                         | 0° <b>≈</b><br>14° <b>≈</b> 37'17 |            |
| minimum elong<br>morning rise  | -2930 Aug 23 j 00:25<br>-2930 Sep 04 j 17:14 | 8° <b>Ω</b> 15'58                      | 1-1/18       | retrograde<br>min. Earth dist. | -2924 Jun 27 j 15:55<br>-2924 Aug 25 j 09:22 | 9°≈42'26                          | 4.00278 AU |
| morning rise   |  |  |              |                                |  | 9°≈33'00                          |            |
| retrograde   | -2930 Oct 06 j 18:13<br>-2929 Jan 03 j 05:30 | 15° <b>Ω</b><br>25° <b>Ω</b> 16'34     |              | opposition<br>direct           | -2924 Aug 26 j 13:14<br>-2924 Oct 23 j 11:53 | 9 ≈33 00<br>4°≈37'51              | -1 30 03   |
| opposition   | -2929 Mar 04 j 21:22                         | 23° <b>Ω</b> 24'54                     | 1056145      | direct                         | -2924 Oct 25 j 11:35<br>-2923 Jan 16 j 14:46 | 4 ≈3731<br>15°≈                   |            |
| min. Earth dist.   | -2929 Mar 06 j 04:07                         |  | 4.38788 AU   | evening set                    | -2923 Feb 25 j 19:51                         | 15 <b>≈</b><br>24° <b>≈</b> 01'04 |            |
| direct   | -2929 May 06 j 14:26                         | 15°Ω23'53                              | 4.36766 AU   | evening set                    | -2923 FC0 23 j 19.31                         | 24 20104                          |            |
| uncet  | -2929 Aug 26 j 02:50                         | 0° <b>m</b> )                          |              | conjunction                    | -2923 Mar 11 j 08:57                         | 27°≈12'40                         | -1°18'32   |
| evening set  | -2929 Sep 10 j 02:26                         | 3° Mp 16'04                            |              | minimum elong                  | -2923 Mar 11 j 08:58                         | 27°≈12'40                         |            |
| max. Earth dist.   | -2929 Sep 20 j 20:44                         | -                                      | 6.35243 AU   | max. Earth dist.               | -2923 Mar 13 j 09:18                         |                                   | 6.02847 AU |
| max. Earth dist.   | 2929 Sep 20 j 20.11                          | 5 <b>11</b> (5)5)                      | 0.332 13 110 | max. Earth dist.               | -2923 Mar 23 j 05:18                         | 0° <b>\</b>                       | 0.02017110 |
| conjunction  | -2929 Sep 22 j 16:47                         | 6° Mp 04'14                            | 1°17'27      | morning rise                   | -2923 Mar 25 j 00:58                         | 0° <b>)</b> 25'34                 |            |
| minimum elong  | -2929 Sep 22 j 16:49                         | 6° Mp 04'15                            |              | retrograde                     | -2923 Aug 02 j 15:47                         | 20° <b>)</b> €23'28               |            |
| morning rise   | -2929 Oct 05 j 05:01                         | 8° mp 51'34                            | , -,         | min. Earth dist.               | -2923 Sep 29 j 22:33                         |                                   | 4.07180 AU |
| retrograde   | -2928 Feb 04 j 11:58                         | 26° m/21'15                            |              | opposition                     | -2923 Oct 01 j 05:54                         | 15° <b>)</b> 18′12                |            |
| opposition   | -2928 Apr 05 j 11:51                         | 21° <b>m</b> ) 29'27                   | 1°41'11      | direct                         | -2923 Nov 28 j 12:15                         | 10° <b>)</b> 19'49                |            |
| min. Earth dist.   | -2928 Apr 06 j 19:22                         | 21° mp 19'27                           |              | evening set                    | -2922 Apr 03 j 19:42                         | 29° <b>)</b> € 24'42              |            |
| direct   | -2928 Jun 06 j 16:16                         | 16° Mp 31'06                           |              | · ·                            | -2922 Apr 06 j 09:25                         | $0^{\circ}\mathbf{\Upsilon}$      |            |
|  | -2928 Sep 19 j 04:56                         | 0∘ <b>⊽</b>                            |              |                                |  |                                   |            |
| evening set  | -2928 Oct 10 j 06:52                         | 4° <b>≏</b> 40'26                      |              | conjunction                    | -2922 Apr 17 j 13:45                         | 2° <b>Y</b> 34'10                 | -0°59'20   |
| max. Earth dist.   | -2928 Oct 21 j 04:52                         | 7° <b>£</b> 09'46                      | 6.25115 AU   | minimum elong                  | -2922 Apr 17 j 13:49                         | 2° <b>Y</b> 34'12                 | 0°59'20    |
|  |  |  |              | max. Earth dist.               | -2922 Apr 19 j 10:08                         | 2° <b>Ƴ</b> 59'41                 | 6.12446 AU |
| conjunction  | -2928 Oct 22 j 20:07                         | 7° <b>≏</b> 32'14                      | 0°55'07      | morning rise                   | -2922 May 01 j 08:48                         | 5° <b>Ƴ</b> 43'55                 |            |
| minimum elong  | -2928 Oct 22 j 20:10                         | 7° <b>£</b> 32'15                      | 0°55'07      | retrograde                     | -2922 Sep 05 j 17:59                         | 24° <b>Y</b> 44'09                |            |
| morning rise   | -2928 Nov 04 j 09:06                         | 10° <b>≏</b> 24'04                     |              | min. Earth dist.               | -2922 Nov 03 j 05:46                         | 19° <b>Ƴ</b> 48'17                | 4.18368 AU |
| retrograde   | -2927 Mar 09 j 16:53                         | 28° <b>≏</b> 43'51                     |              | opposition                     | -2922 Nov 04 j 04:06                         | 19° <b>Ƴ</b> 40'41                | -1°01'10   |
| opposition   | -2927 May 09 j 17:47                         | 23° <b>≏</b> 50'06                     | 0°54'02      | direct                         | -2921 Jan 02 j 12:41                         | 14° <b>Ƴ</b> 39'18                |            |
| min. Earth dist.   | -2927 May 10 j 16:42                         | 23° <b>≏</b> 42'46                     | 4.19103 AU   |                                | -2921 Apr 24 j 18:06                         | $9^{\circ}$ 8                     |            |
| direct   | -2927 Jul 09 j 19:57                         | 18° <b>≏</b> 54'32                     |              | evening set                    | -2921 May 09 j 14:01                         | 3° <b>8</b> 15'41                 |            |
|  | -2927 Oct 09 j 00:39                         | 0° <b>M</b>                            |              |                                |  | 4.4                               |            |
| evening set  | -2927 Nov 11 j 14:24                         | 7°M29'37                               |              | conjunction                    | -2921 May 23 j 07:50                         | 6° <b>8</b> 19'57                 |            |
| max. Earth dist.   | -2927 Nov 23 j 10:42                         | 10°M15'54                              | 6.13149 AU   | minimum elong                  | -2921 May 23 j 07:51                         | 6° <b>8</b> 19'58                 | 0°20'17    |
|  |  |  |              | max. Earth dist.               | -2921 May 24 j 09:14                         | 6° <b>8</b> 34'10                 | 6.24376 AU |
| conjunction  | -2927 Nov 24 j 07:05                         | 10°M27'52                              | 0°14'44      | morning rise                   | -2921 Jun 06 j 00:29                         | 9° <b>8</b> 23'26                 |            |
| minimum elong  | -2927 Nov 24 j 07:06                         | 10°M27'52                              | 0°14'40      |                                | -2921 Jul 01 j 22:58                         | 15° <b>8</b>                      |            |
| behind sun begin   | -2927 Nov 24 j 03:30                         | 10°M25'46                              |              | retrograde                     | -2921 Oct 07 j 20:32                         | 27° <b>8</b> 22'55                |            |
| behind sun end   | -2927 Nov 24 j 10:42                         | 10°M29'58                              |              | asc. node                      | -2921 Nov 21 j 03:19                         | 24° <b>8</b> 22'35                | 0000101    |
| morning rise   | -2927 Dec 07 j 00:56                         | 13°M26'59                              |              | opposition                     | -2921 Dec 06 j 10:50                         | 22° <b>8</b> 23'03                | 0°02'31    |
|  | -2927 Dec 13 j 17:15                         | 15°M                                   |              | min. Earth dist.               | -2921 Dec 06 j 02:16                         | 22° <b>8</b> 25'55                | 4.29896 AU |
| dogo m - J -   | -2926 Mar 02 j 17:26                         | 0°⊀7<br>2°.7110/21                     |              | direct                         | -2920 Feb 05 j 01:56                         | 17° <b>8</b> 19'51                |            |
| desc. node   | -2926 Mar 28 j 17:53                         | 2°× <b>7</b> 19'31                     |              | ovening set                    | -2920 May 16 j 19:42                         | 0°Ⅱ<br>5°Ⅲ20/25                   |            |
| retrograde   | -2926 Apr 14 j 19:03                         | 2° <b>х</b> 46'49<br>30°RM             |              | evening set                    | -2920 Jun 11 j 15:56                         | 5° <b>Ⅱ</b> 29'35                 |            |
| opposition   | -2926 May 28 j 08:02<br>-2926 Jun 14 j 15:30 | 30°KIIL<br>27°ML49'48                  | -0°13'55     | conjunction                    | -2920 Jun 25 j 03:50                         | 8° <b>Ⅱ</b> 27'08                 | 0°23'44    |
| min. Earth dist.   | -2926 Jun 14 j 15:30<br>-2926 Jun 14 j 20:50 | 27°11L49'48<br>27°11L48'04             | 4.07657 AU   | minimum elong                  | -2920 Jun 25 j 03:30<br>-2920 Jun 25 j 03:48 | 8° <b>II</b> 27'08                | 0°23'49    |
| direct   | -2926 Jun 14 j 20:30<br>-2926 Aug 13 j 07:28 | 22°M56'21                              | 7.0703/ AU   | max. Earth dist.               | -2920 Jun 25 j 03:48<br>-2920 Jun 25 j 02:17 | 8° <b>П</b> 2/0/                  | 6.34663 AU |
| anoct  | -2926 Oct 21 j 12:26                         | 0° <b>√</b>                            |              | morning rise                   | -2920 Jul 23 j 02.17<br>-2920 Jul 08 j 13:06 | 11° <b>II</b> 23'14               | 0.54005 AU |
| evening set  | -2926 Dec 15 j 17:10                         | 11° <b>х</b> 59'18                     |              | retrograde                     | -2920 Nov 06 j 20:32                         | 28° <b>I</b> 38'32                |            |
|  |  | 0710                                   |              | opposition                     | -2919 Jan 05 j 17:00                         | 23° <b>II</b> 42'37               | 1°02'38    |
| conjunction  | -2926 Dec 28 j 15:42                         | 15° <b>∡</b> ¹04'25                    | -0°32'15     | min. Earth dist.               | -2919 Jan 06 j 02:08                         | 23° <b>I</b> I39'37               | 4.38213 AU |
| -  | 3  | *                                      |              |                                | ,  | •                                 |            |

| •                                  | ical year style is used: Th                  |                                  | _          | ` //             |  | , .                                      | 150 15      |
|------------------------------------|--|----------------------------------|------------|------------------|--|--|-------------|
| direct                             | -2919 Mar 08 j 13:43                         | 18° <b>Ⅲ</b> 39'01               |            |                  | -2914 Sep 22 j 03:56                         | 0° <b>∡</b> 7                            |             |
|                                    | -2919 Jun 12 j 22:08                         | 0ಂತಾ                             |            | evening set      | -2914 Dec 20 j 17:56                         | 17° <b>∡</b> *09'18                      |             |
| evening set                        | -2919 Jul 14 j 03:25                         | 6° <b>5</b> 31'28                |            | -                | -  |  |             |
| max. Earth dist.                   | -2919 Jul 26 j 05:30                         | 9° <b>5</b> 09'23                | 6.40327 AU | conjunction      | -2913 Jan 02 j 17:34                         | 20° <b>х</b> 15′14                       | -0°38'30    |
|                                    |  |                                  |            | minimum elong    | -2913 Jan 02 j 17:31                         | 20° <b>х</b> 15′12                       | 0°38'35     |
| conjunction                        | -2919 Jul 27 j 06:31                         | 9° <b>5</b> 23'02                | 0°59'41    | max. Earth dist. | -2913 Jan 03 j 05:04                         | 20° <b>≯</b> 22'07                       | 6.02411 AU  |
| minimum elong                      | -2919 Jul 27 j 06:27                         | 9° <b>5</b> 23'00                | 0°59'46    | morning rise     | -2913 Jan 15 j 19:53                         | 23° <b>х</b> 22′47                       |             |
| morning rise                       | -2919 Aug 09 j 06:18                         | 12° <b>©</b> 12'59               |            |                  | -2913 Feb 13 j 13:25                         | 0°ಕ                                      |             |
| retrograde                         | -2919 Dec 07 j 10:34                         | 29° <b>5</b> 09'23               |            | retrograde       | -2913 May 27 j 14:35                         | 13° <b>る</b> 36'49                       |             |
| opposition                         | -2918 Feb 05 j 17:50                         | 24°5516'25                       | 1°43'51    | opposition       | -2913 Jul 26 j 22:05                         | 8° <b>る</b> 35'14                        |             |
| min. Earth dist.                   | -2918 Feb 06 j 16:40                         | 24°509'02                        | 4.41025 AU | min. Earth dist. | -2913 Jul 26 j 05:21                         |  | 4.00150 AU  |
| direct                             | -2918 Apr 09 j 07:06                         | 19° <b>©</b> 13'43               |            | direct           | -2913 Sep 23 j 07:04                         | 3° <b>る</b> 41'51                        |             |
|                                    | -2918 Jul 11 j 22:09                         | 0°Ω<br>7°Ω01115                  |            | evening set      | -2912 Jan 25 j 22:21                         | 23° <b>る</b> 04'33                       |             |
| evening set<br>max. Earth dist.    | -2918 Aug 14 j 11:54<br>-2918 Aug 25 j 14:57 | 7° <b>Ω</b> 01'15                | 6.39959 AU | conjunction      | -2912 Feb 08 j 05:08                         | 26° <b>る</b> 14'52                       | 1011120     |
| max. Earm dist.                    | -2918 Aug 23 J 14.37                         | 9 862/30                         | 0.39939 AU | minimum elong    | -2912 Feb 08 j 05:06                         | 26°る14'51                                |             |
| conjunction                        | -2918 Aug 27 j 06:43                         | 9° <b>Ω</b> 49'29                | 1°18'35    | max. Earth dist. | -2912 Feb 08 j 03:00<br>-2912 Feb 09 j 17:21 |  | 5.99603 AU  |
| minimum elong                      | -2918 Aug 27 j 06:43                         | 9° <b>Ω</b> 49'28                | 1°18'40    | morning rise     | -2912 Feb 21 j 15:25                         | 20 <b>3</b> 3031<br>29° <b>3</b> 26'57   | 3.77003 110 |
| morning rise                       | -2918 Sep 08 j 22:33                         | 12° <b>Ω</b> 36'22               | 1 10 10    | morning rise     | -2912 Feb 23 j 23:15                         | 0°≈                                      |             |
| morning rise                       | -2918 Sep 19 j 23:36                         | 15° <b>Ω</b>                     |            |                  | -2912 May 06 j 18:08                         | 15° <b>≈</b>                             |             |
| retrograde                         | -2917 Jan 07 j 15:44                         | 29° <b>Ω</b> 40'36               |            | retrograde       | -2912 Jul 02 j 18:53                         | 19° <b>≈</b> 50'26                       |             |
| opposition                         | -2917 Mar 09 j 08:28                         | 24°Ω49'03                        | 1°56'34    |                  | -2912 Aug 29 j 22:39                         | 15°R≈                                    |             |
| min. Earth dist.                   | -2917 Mar 10 j 16:06                         | 24° <b>Ω</b> 38'58               | 4.37611 AU | min. Earth dist. | -2912 Aug 30 j 10:31                         |  | 4.01147 AU  |
| direct                             | -2917 May 11 j 00:14                         | 19° <b>Ω</b> 48′23               |            | opposition       | -2912 Aug 31 j 16:23                         | 14° <b>≈</b> 45'51                       | -1°57'35    |
|                                    | -2917 Aug 08 j 21:51                         | 0° <b>m</b> )                    |            | direct           | -2912 Oct 28 j 14:31                         | 9° <b>≈</b> 50'16                        |             |
| evening set                        | -2917 Sep 14 j 10:30                         | 7° <b>m</b> 43'34                |            |                  | -2912 Dec 25 j 03:16                         | 15° <b>≈</b>                             |             |
| max. Earth dist.                   | -2917 Sep 25 j 02:50                         | 10°M 06'40                       | 6.33667 AU | evening set      | -2911 Mar 03 j 01:39                         | 29° <b>≈</b> 10′50                       |             |
|                                    |  |                                  |            |                  | -2911 Mar 06 j 13:39                         | 0° <b>∀</b>                              |             |
| conjunction                        | -2917 Sep 27 j 00:22                         | 10°M/32'11                       | 1°15'36    |                  |  |  |             |
| minimum elong                      | -2917 Sep 27 j 00:24                         | 10° Mp 32'12                     | 1°15'37    | conjunction      | -2911 Mar 16 j 15:40                         | 2° <b>∺</b> 22'12                        |             |
| morning rise                       | -2917 Oct 09 j 12:38                         | 13° <b>m</b> 20'08               |            | minimum elong    | -2911 Mar 16 j 15:41                         | 2° <b>∺</b> 22'13                        |             |
|                                    | -2916 Jan 15 j 08:48                         | 0∘ <b>ত</b>                      |            | max. Earth dist. | -2911 Mar 18 j 16:38                         | 2° <b> </b>                              | 6.04181 AU  |
| retrograde                         | -2916 Feb 09 j 05:57                         | 0° <b>ჲ</b> 57'03                |            | morning rise     | -2911 Mar 30 j 08:11                         | 5° <b>)</b> (34′43                       |             |
|                                    | -2916 Mar 05 j 04:17                         | 30°R Mp                          | 100 (11 5  | retrograde       | -2911 Aug 07 j 14:14                         | 25° <b>)</b> (24'45                      | 100016 177  |
| opposition                         | -2916 Apr 10 j 05:11                         | 26° m 05'03                      | 1°36'17    | min. Earth dist. | -2911 Oct 04 j 21:07                         |  | 4.08816 AU  |
| min. Earth dist.                   | -2916 Apr 11 j 12:08                         | 25° m 55'12                      | 4.28819 AU | opposition       | -2911 Oct 06 j 02:47                         | 20° <b>升</b> 19'36<br>15° <b>升</b> 20'45 | -1°42'52    |
| direct                             | -2916 Jun 11 j 06:20<br>-2916 Sep 01 j 00:02 | 21°Mp07'03<br>0° <b>⊆</b>        |            | direct           | -2911 Dec 03 j 13:25<br>-2910 Mar 20 j 11:46 | 15 <b>π</b> 2045                         |             |
| evening set                        | -2916 Sep 01 j 00.02<br>-2916 Oct 14 j 18:43 | 0 <u>aa</u><br>9° <b>ჲ</b> 20'56 |            | evening set      | -2910 Mar 20 j 11:46<br>-2910 Apr 08 j 21:44 | 0 γ<br>4° <b>Υ</b> 21'07                 |             |
| max. Earth dist.                   | -2916 Oct 25 j 20:24                         | 11° <b>⊆</b> 52'59               | 6.23124 AU | evening set      | -2910 Apr 00 j 21.44                         | 4 1210/                                  |             |
| max. Darm dist.                    | 2510 000 25 j 20.21                          | 11 = 52 57                       | 0.23121110 | conjunction      | -2910 Apr 22 j 16:04                         | 7° <b>Ƴ</b> 29'55                        | -0°54'44    |
| conjunction                        | -2916 Oct 27 j 08:27                         | 12° <b>₽</b> 13'42               | 0°50'17    | minimum elong    | -2910 Apr 22 j 16:08                         | 7° <b>Υ</b> 29'57                        |             |
| minimum elong                      | -2916 Oct 27 j 08:30                         | 12° <b>♀</b> 13'43               | 0°50'16    | max. Earth dist. | -2910 Apr 24 j 11:03                         | 7° <b>Υ</b> 54'31                        | 6.14256 AU  |
| morning rise                       | -2916 Nov 08 j 21:50                         | 15° <b>≏</b> 06'35               |            | morning rise     | -2910 May 06 j 11:04                         | 10° <b>Ƴ</b> 38'50                       |             |
|                                    | -2915 Jan 24 j 06:16                         | $0^{\circ}$ M                    |            | retrograde       | -2910 Sep 10 j 07:03                         | 29° <b>Y</b> 29'39                       |             |
| retrograde                         | -2915 Mar 14 j 17:22                         | 3°M35'34                         |            | opposition       | -2910 Nov 08 j 18:08                         | 24° <b>Y</b> 26'40                       | -0°52'47    |
|                                    | -2915 May 04 j 09:40                         | 30° <b>ŖΩ</b>                    |            | min. Earth dist. | -2910 Nov 07 j 20:53                         | 24° <b>Y</b> 33'53                       | 4.20181 AU  |
| opposition                         | -2915 May 14 j 18:08                         | 28° <b>≏</b> 41′26               | 0°45'12    | direct           | -2909 Jan 07 j 05:58                         | 19° <b>Ƴ</b> 24'59                       |             |
| min. Earth dist.                   | -2915 May 15 j 14:29                         | 28° <b>≏</b> 34'55               | 4.17146 AU |                  | -2909 Apr 07 j 00:33                         | $9^{\circ}$ 8                            |             |
| direct                             | -2915 Jul 14 j 14:59                         | 23° <b>≏</b> 46'18               |            | evening set      | -2909 May 14 j 10:27                         | 7° <b>8</b> 57'02                        |             |
|                                    | -2915 Sep 18 j 08:12                         | 0° <b>M</b>                      |            |                  |  |  |             |
| evening set                        | -2915 Nov 16 j 08:33                         | 12°M26'04                        |            | conjunction      | -2909 May 28 j 03:36                         | 11° <b>8</b> 00'21                       |             |
|                                    | -2915 Nov 27 j 06:46                         | 15°M                             |            | minimum elong    | -2909 May 28 j 03:37                         | 11° <b>8</b> 00'21                       | 0°14'07     |
| max. Earth dist.                   | -2915 Nov 28 j 08:25                         | 15° <b>™</b> 15'07               | 6.11404 AU | behind sun begin | -2909 May 27 j 23:49                         | 10° <b>8</b> 58'14                       |             |
| . ,.                               | 2015 N 20:01 50                              | 1.50 <b>M</b> 2.5122             | 0000104    | behind sun end   | -2909 May 28 j 07:26                         | 11° <b>8</b> 02'28                       | ( 2(0(2 AII |
| conjunction                        | -2915 Nov 29 j 01:50                         | 15°M25'22                        | 0°08'04    | max. Earth dist. | -2909 May 29 j 00:00                         | 11° <b>8</b> 11'43                       | 6.26062 AU  |
| minimum elong                      | -2915 Nov 29 j 01:50                         | 15°M25'22                        | 0°08'00    | morning rise     | -2909 Jun 10 j 19:32                         | 14° <b>8</b> 02'47                       |             |
| behind sun begin<br>behind sun end | -2915 Nov 28 j 18:39<br>-2915 Nov 29 j 09:02 | 15°M21'09<br>15°M29'35           |            |                  | -2909 Jun 15 j 03:15<br>-2909 Sep 07 j 08:18 | 15° <b>8</b><br>0°Ⅲ                      |             |
| morning rise                       | -2915 Nov 29 j 09:02<br>-2915 Dec 11 j 20:47 | 18°M25'41                        |            | asc. node        | -2909 Sep 0/j 08:18<br>-2909 Oct 01 j 08:28  | 1° <b>∏</b> 43'06                        |             |
| morning 1150                       | -2913 Dec 11 j 20.47<br>-2914 Feb 03 j 11:51 | 18 1162341<br>0° <b>√</b>        |            | retrograde       | -2909 Oct 01 j 08:28<br>-2909 Oct 12 j 06:29 | 1° <b>Ⅱ</b> 43'06<br>1° <b>Ⅱ</b> 54'47   |             |
| desc. node                         | -2914 Feb 03 j 11:51<br>-2914 Feb 04 j 13:55 | 0° <b>₹</b> 12'06                |            | ronograde        | -2909 Oct 12 j 00:29<br>-2909 Nov 15 j 22:58 | 30° <b>₹</b> 8                           |             |
| retrograde                         | -2914 Pc0 04 j 13:33<br>-2914 Apr 20 j 01:37 | 7° <b>×</b> 754'04               |            | opposition       | -2909 Nov 13 j 22:38<br>-2909 Dec 10 j 20:17 | 26° <b>8</b> 55'32                       | 0°11'32     |
| opposition                         | -2914 Jun 19 j 21:20                         | 2° <b>×</b> <sup>7</sup> 56'24   | -0°24'08   | min. Earth dist. | -2909 Dec 10 j 15:16                         |  | 4.31320 AU  |
| min. Earth dist.                   | -2914 Jun 19 j 23:05                         |                                  | 4.06280 AU | direct           | -2908 Feb 09 j 16:39                         | 21° <b>8</b> 52'11                       | - /         |
|                                    | -2914 Jul 14 j 03:08                         | 30°RM₊                           |            |                  | -2908 Apr 28 j 04:05                         | 0°II                                     |             |
| direct                             | -2914 Aug 18 j 09:00                         | 28°M03'05                        |            | evening set      | -2908 Jun 16 j 06:28                         | 9° <b>Ⅱ</b> 59'01                        |             |
|                                    | -  |                                  |            |                  | -  |  |             |

Planetary Phenomena of Jupiter from -3400 through -2898 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -2908 in astronomical counting style is the year 2909 BCE in historical counting style. -2908 Jun 29 i 17:23 12°**I**55'42 0°29'28 conjunction -2903 Dec 03 i 20:15 20°M21'43 0°01'24 conjunction -2908 Jun 29 j 17:21 12°**I**55'41 0°29'34 -2903 Dec 03 j 20:16 20°M21'44 0°01'21 minimum elong minimum elong -2908 Jun 29 j 12:49 12°**Д**53'12 6.35716 AU -2903 Dec 03 j 12:13 max. Earth dist. behind sun begin 20°M17'00 -2908 Jul 13 j 01:19 15°**Ⅲ**50′52 -2903 Dec 04 j 04:19 behind sun end 20°M26'27 morning rise -2908 Sep 27 j 08:07 max. Earth dist. -2903 Dec 03 j 08:16 0ಂತಾ 20°M14'40 6.10138 AU 3°502'18 -2908 Nov 11 j 02:01 retrograde desc. node -2903 Dec 15 j 08:22 23°M04'27 -2908 Dec 26 j 05:47 30°R∏ morning rise -2903 Dec 16 j 15:58 23°M22'59 opposition -2907 Jan 10 j 00:39 28°**Ⅲ**06'53 1°09'47 -2902 Jan 14 j 18:37 0°**∡**  $28^{\circ}\Pi03'24$ min. Earth dist. -2907 Jan 10 j 11:17 4.38856 AU retrograde -2902 Apr 25 j 07:24 12°**х** 57′53 direct -2907 Mar 12 j 23:07 23°**Ⅲ**03′22 opposition -2902 Jun 25 j 01:07 7°**х** 59'43 -0°33'58 -2907 May 24 j 15:34 0ಂತಾ min. Earth dist. -2902 Jun 25 j 00:34 7°**≯**59'53 4.05385 AU -2902 Aug 23 j 09:19 evening set -2907 Jul 18 j 13:49 10°954'56 direct 3°**х**¹06'32 -2902 Dec 25 j 16:59 max. Earth dist. -2907 Jul 30 j 11:36 13°930'37 6.40500 AU evening set 22°**х¹**14'33 conjunction -2907 Jul 31 j 15:35 13°9545'55 1°03'30 conjunction -2901 Jan 07 j 17:21 25°**∡**1'03 -0°44'18 minimum elong -2907 Jul 31 j 15:32 13°9545'53 1°03'34 minimum elong -2901 Jan 07 j 17:18 25°**х** 21′01 0°44'23 morning rise -2907 Aug 13 j 14:09 16°935'18 max. Earth dist. -2901 Jan 08 j 07:29 25°**渘**¹29'30 6.01946 AU -2907 Oct 24 j 00:39  $0^{\circ}\Omega$ morning rise -2901 Jan 20 j 20:52 28°**∡**¹29'16 retrograde -2907 Dec 11 j 19:18 3°**£**31'49 -2901 Jan 27 j 06:24 0°궁 -2906 Jan 30 j 12:15 30°R55 retrograde -2901 Jun 01 j 17:33 18°る45'35 opposition -2906 Feb 10 j 02:52 28°939'14 1°47'30 min. Earth dist. -2901 Jul 31 j 05:31 13°る50'05 4.00188 AU min. Earth dist. -2906 Feb 11 i 04:06 28°931'07 4.40739 AU opposition -2901 Aug 01 i 01:23 13°る43'27 -1°33'55 direct -2906 Apr 13 j 17:49 23°936'50 direct -2901 Sep 28 i 07:17 8°る49'52 -2906 Jun 22 j 05:15  $0^{\circ}\Omega$ evening set -2900 Jan 31 i 00:33 28°る12'06 -2906 Aug 18 j 20:28 11°**Ω**25'28 -2900 Feb 07 j 13:57 0°≈ evening set -2906 Aug 29 j 20:18 13°**Ω**50′25 max. Earth dist. 6.39217 AU -2900 Feb 13 j 08:24 1°≈22'37 -1°14'13 conjunction -2906 Aug 31 j 14:23 14°Ω13'37 1°19'32 -2900 Feb 13 j 08:22 1°≈22'36 1°14'18 conjunction minimum elong -2906 Aug 31 j 14:22 -2900 Feb 14 j 23:33 14°**Ω**13'36 1°19'36 max. Earth dist. 1°≈45'59 6.00116 AU minimum elong -2906 Sep 04 j 02:31 15°€ -2900 Feb 26 j 19:28 4°≈34'48 morning rise -2906 Sep 13 j 05:32 -2900 Apr 13 j 15:04 17°**Ω**00'30 15°≈ morning rise -2906 Nov 19 j 20:27 -2900 Jul 07 j 20:01 0° m retrograde 24°≈54'57 -2900 Sep 04 j 10:15 -2905 Jan 12 j 03:50 4° Mp 08'35 20°≈00'06 4.02076 AU retrograde min. Earth dist. -2905 Mar 08 j 06:11 30°**Ŗ**€ -2900 Sep 05 j 15:39 opposition 19°≈50'07 -1°58'09 -2905 Mar 13 j 21:18 29°**Ω**17'06 1°55'44 -2900 Oct 26 j 02:40 opposition 15°R≪ -2905 Mar 15 j 04:53 29°**Ω**07'02 4.36487 AU -2900 Nov 02 j 15:48 min. Earth dist. direct 14°≈54'05 -2900 Nov 10 j 04:35 direct -2905 May 15 j 11:04 24°**Ω**16'49 15°≈ -2905 Jul 19 j 08:58 0° m -2899 Feb 17 j 21:05 0°**)**€ evening set -2905 Sep 18 j 19:47 12° Mp 14'46 evening set -2899 Mar 08 j 03:49 4° **)** 11'59 max. Earth dist. -2905 Sep 29 j 13:57 14° Mp 39'22 6.32269 AU conjunction -2899 Mar 21 j 18:38 7°**¥**23'07 -1°15'53 -2905 Oct 01 j 09:29 15° m 03'51 1°13'19 -2899 Mar 21 j 18:40 7°**¥**23'09 1°15'55 conjunction minimum elong -2905 Oct 01 j 09:31 15° m 03'52 1°13'20 -2899 Mar 23 j 20:00 7°**¥**52'01 6.05432 AU minimum elong max. Earth dist. -2905 Oct 13 j 21:30 17° **m** 52'18 -2899 Apr 04 j 11:46 10°**¥**35′18 morning rise morning rise -2905 Dec 13 j 04:15 -2899 Jul 29 j 21:36  $0^{\circ}\Upsilon$ 0∘**⊽** 0°**Y**17'48 retrograde -2904 Feb 14 i 00:11 5°**♀**35'55 retrograde -2899 Aug 12 i 07:36 opposition -2904 Apr 14 j 23:51 0°**2**43'47 1°30'45 -2899 Aug 25 i 15:00 30°R**)**€ min. Earth dist. -2904 Apr 16 i 05:53 0°**2**34'14 4.27242 AU opposition -2899 Oct 10 j 19:46 25° ¥ 12'51 -1°37'39 -2904 Apr 20 j 17:59 30°R ₩ min. Earth dist. -2899 Oct 09 i 14:29 25°**)** €22'51 4.10262 AU direct -2904 Jun 15 j 21:42 25° m 46'19 direct -2899 Dec 08 j 08:15 20° **★** 13'34 -2904 Aug 09 j 03:46 0∘**⊽** -2904 Oct 19 j 07:16 14°**£**03'36 evening set -2904 Oct 30 j 10:27 16°**△**37'08 6.21520 AU max. Earth dist. conjunction -2904 Oct 31 j 21:09 16°**♀**57'09 0°45'07 minimum elong -2904 Oct 31 j 21:12 16°**♀**57'11 0°45'05 -2904 Nov 13 j 11:15 19°**≙**51'00 morning rise -2904 Dec 30 j 20:45  $0^{\circ}M$ -2903 Mar 19 j 17:21 retrograde 8°M27'57 -2903 May 19 j 18:28 opposition 3°M33'22 0°36'04 -2903 May 20 j 11:45 min. Earth dist. 3°**M**27'49 4.15632 AU -2903 Jun 19 j 19:41 30°R<u>₽</u> direct -2903 Jul 19 j 11:01 28°**£**38'35 -2903 Aug 17 j 21:02 0°M -2903 Nov 10 j 22:22 15°M⋅ -2903 Nov 21 j 02:07 17°M21'33 evening set